City of Sandy

Agenda

Planning Commission Meeting

Meeting Location: City Hall- Council Chambers, 39250 Pioneer Blvd., Sandy, Oregon 97055

Meeting Date: Monday, June 24, 2019

Meeting Time: 7:00 PM

Page

1. ROLL CALL

2. APPROVAL OF MINUTES

2.1. Planning Commission Minutes 3 - 5

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3. REQUESTS FROM THE FLOOR - CITIZEN COMMUNICATION ON NON- AGENDA ITEMS

4. OLD BUSINESS

4.1. 18-057 DR/CUP Dutch Bros Design Review/Variance/Conditional Use Permit 6 - 897

Staff recommends the Planning Commission hold a public hearing to take public testimony regarding the proposal. Staff recommends the Planning Commission approve the proposed conditional use, a drive-through facility, as well as the proposed Mainor Partition with modifications as recommended in this report including but not limited to the following (required order of submission and completion of improvements/inspections will be detailed in the final order):

Staff recommends the approval of the following 3 variances/adjustments with associated conditions:

a) Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district. Staff recommends the Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18 feet with the condition the proposed, or approved alternative, landscaping, pedestrian access, civic space canopy and drive-through canopy are implemented to the development.

b) Variance B: To construct a flat roof with parapet features on the proposed

primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less. Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, or approved alternative, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.

c) Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent. Staff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent with the condition that the proposed civic spaces, or approved alternative, be incorporated at time of development.

- Pdf

5. NEW BUSINESS

6. ITEMS FROM COMMISSION AND STAFF

7. ADJOURN

MINUTES
Planning Commission Meeting
Monday, June 10, 2019 City Hall- Council Chambers, 39250 Pioneer Blvd., Sandy, Oregon 97055 7:00 PM

COMMISSIONERS PRESENT: Don Carlton, Commissioner, Ron Lesowski, Commissioner, Hollis MacLean-Wenzel, Commissioner, John Logan, Commissioner, Chris Mayton, Commissioner, and Todd Mobley, Commissioner

COMMISSIONERS ABSENT: Jerry Crosby, Commissioner

STAFF PRESENT: Kelly O'Neill, Planning Director

MEDIA PRESENT:

1. Roll Call

2. Requests From the Floor - Citizen Communication on Non- Agenda Items

3. OLD BUSINESS

4. NEW BUSINESS

4.1. 18-046 DR/VAR Stow-A-Way Mini Storage

Staff Report - 0148

Vice-Chairman Carlton opened the public hearing on File No. 18-046 DR (Stow-A-Way storage facility) at 7:01 p.m. Carlton noted that this is a quasi-judicial public hearing. He called for any abstentions, conflicts of interest, ex-parte contact, challenges to the jurisdiction of the Planning Commission, or any challenges to any individual member of the Planning Commission. With no declarations noted, Vice-Chairman Carlton went over the public hearing procedures for a quasi-judicial public hearing and called for the staff report.

Staff Report: Planning & Building Director Kelly O'Neill Jr. provided a brief background of the continuance request from the applicant's representative, Mike Robinson. David Doughman explained additional details regarding the public hearing and explained the potential options for Planning Commission

regarding the staff report, applicant report, and public testimony.

Planning Commission discussed the options for the hearing and decided to hear an abbreviated presentation from staff, followed by the applicant presentation, and taking public testimony.

Associate Planner James Cramer summarized the staff report by presenting an abbreviated slide show as requested by the Commission.

Applicant Presentation: Mike Robinson, Attorney for Schwabe, Williamson, and Wyatt, 1211 SW 5 th Avenue, Suite 1900, Portland, OR 97204 Mr. Robinson provided a brief background on their written continuance request and that they would like to return to Planning staff with an improved application by the end of June. With the continuance Mr. Robinson said the 120-day rule clock will be tolled for 42 days.

Proponent Testimony: None 2

Opponent Testimony: Mark Benson, 16355 Champion Way, Sandy, OR 97055 Mr. Benson said he thinks the integrity on Planning Commission is great and then summarized an email exchange from 2016 he submitted for the record. Mr. Benson summarized his grievances and said that taxes are not being collected because the buildings were never approved and have not been added to the property assessment. Mr. Benson then claimed he is over $300,000 into investment for the mini-storage facility. Mr. Benson stated the City should not grant the continuance and asked several Commissioners questions. Vice-Chairman Carlton gave Mr. Benson some insight into how the Planning Commission, applicant, and public should testify and that public testimony is not a question and answer session. Commissioner Lesowski stated the Planning Commission's role is to evaluate the land use proposal, not to issue business licenses or conduct administrative duties. Mr. Benson then stated he will soon be approaching City Council.

Staff Recap: Planning and Building Director Kelly O'Neill stated that by state law the City has to grant continuances if requested at the first evidentiary hearing and that City Council should be careful about communication with Mr. Benson or anyone else regarding Stow-A-Way as that will be exparte contact if the Planning Commission decision is appealed.

Applicant Recap: Mike Robinson stated they do not want to present additional testimony and would rather wait until the continued hearing on July 22, 2019.

Moved by Ron Lesowski, seconded by Hollis MacLean-Wenzel

Staff Report - 0148

Motion: To continue the hearing to July 22, 2019 at 7:00 PM
Moved by: Commissioner Lesowski
Seconded by: Commissioner MacLean-Wenzel
Yes votes: All Ayes
No votes: None
Abstentions: None The motion passed.

CARRIED.

5. Items from Commission and Staff

5.1.

Planning and Building Director Kelly O'Neill Jr. provided information on upcoming meetings and why certain continuances were granted to certain scheduled meetings. Commissioner Lesowki said he wanted to state for the record that the last time he had contact with Mr. Benson regarding potential business was 7 or 8 years ago.

6. Adjourn

6.1.

Motion: To adjourn
Moved by: Commissioner Logan
Seconded by: Commissioner Mayton
Yes votes: All Ayes
No votes: None
Abstentions: None The motion passed.

Vice-Chairman Carlton adjourned the meeting at 7:34 p.m.

Jerry Crosby

Chair, Jerry Crosby

Staff Report

Meeting Date: June 24, 2019

From James Cramer, Associate Planner

SUBJECT:

Background:
This is a second hearing of Case 18-057 DR which was continued from the April 22, 2019 Planning Commission hearing.

Braden Bernards with Cole Valley Partners submitted an application on behalf of CVP – Sandy, Oregon LLC seeking approval for a conditional use (CU) permit for a drive-through facility on the subject property (17.42.20(B)(3)). The proposal includes an 834 square foot, 41 feet 3 inches long building parallel to the front (south) property line. The applicant requests a special variance from Subsection 17.90.110(D)(1) to reduce the required 50 percent building frontage standard to 23 percent. The primary structure is proposed to be setback approximately 18 feet from the front (south) property line therefore the applicant requests a special variance from Subsection 17.42.30 which identifies a maximum front setback of 10 feet for properties within the C-1 zone district. In addition, the applicant requests a special variance to incorporate a flat roof with parapets when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

The proposal also includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two lots of record. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (to be the location of the proposed eating and drinking establishment) and a 0.15 acre lot fronting Pleasant Street (to be developed at a later date).

Recommendation:
Staff recommends the Planning Commission hold a public hearing to take public testimony regarding the proposal. Staff recommends the Planning Commission approve the proposed conditional use, a drive-through facility, as well as the proposed Mainor Partition with modifications as recommended in this report including but not limited to the following (required order of submission and completion of improvements/inspections will be detailed in the final order):

Staff recommends the approval of the following 3 variances/adjustments with associated conditions:
a) Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district. Staff recommends the

Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18 feet with the condition the proposed, or approved alternative, landscaping, pedestrian access, civic space canopy and drive-through canopy are implemented to the development.

b) Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less. Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, or approved alternative, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.

c) Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent. Staff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent with the condition that the proposed civic spaces, or approved alternative, be incorporated at time of development.

Code Analysis:
See Attached Staff Report and Exhibits. Updates to staff report are identified in red.

Budgetary Impact:
None.

SANDY
WHERE INNOVATION MEETS ELEVATION

39250 Pioneer Blvd
Sandy, OR 97055
503-668-5533

PLANNING COMMISSION
REVISED STAFF REPORT
TYPE III LAND USE PROPOSAL

SUBJECT: File No. 18-057 DR/CUP Dutch Bros Design Review/Variance/Conditional Use Permit

AGENDA DATE: June 24, 2019

DEPARTMENT: Planning Division

Application Submitted: December 3, 2018
Additional Submittal Items: January 29, March 8 and June 5, 2019
Application Complete: March 14, 2019

STAFF CONTACT: James A. Cramer, Associate Planner

EXHIBITS:

Applicant's Submittals

A. Land Use and Supplemental Application
B. List and Mailing Labels of Affected Property Owners
C. Written Narrative
D. Access Easement Agreement
E. Traffic Analysis Letter
F. Phase I Environmental Site Assessment
G. Stormwater Narrative
H. Draft Report of Geotechnical Engineering Services
I. Plan Sheets
   - Sheet A1.1: Reference Only Site Plan
   - Sheet A5.0: Building Elevations
   - Sheet A5.1: Building Elevations
     - 3D Rendering
   - Sheet E1.0: Photometric Plan
   - Sheet C2.0: Site Plan
   - Sheet C3.0: Grading Plan
   - Sheet C4.0: Utility Plan - South
   - Sheet C4.1: Utility Plan - North
   - Sheet C5.0: Details
     - F-350 Crew Cab Turning Template
     - Passenger Vehicle Turning Template
     - Loading Van Turning Template
     - Passenger Queue
   - Sheet L10: Landscape Plan
   - Sheet L11: Landscape Plan
   - Sheet L20: Plant Spacing Plan
   - Sheet EXH-1: Partition Exhibit

J. Summary Drawing
- Sheet 1: Summary – Building Signs & Wall-Mounted Menu Signs
- Sheet 2: Pylon Sign, Directional Signs & Plate-Mounted Menu Signs

Factory Drawing 2818A
- Sheet 1: Manufacturing & Install
- Sheet 2: Conceptual Night View
- Sheet 3: Installation

Factory Drawing 2818B
- Sheet 1: Manufacturing & Install
- Sheet 2: Installation
- Sheet 3: Installation

Factory Drawing 2818C
- Sheet 1: Manufacturing & Install
- Sheet 2: Installation
- Sheet 3: Installation
- Sheet 4: Installation

Factory Drawing 2818D
- Sheet 1: Manufacturing & Install
- Sheet 2: Installation

Factory Drawing 2818E
- Sheet 1: Manufacturing & Install
- Sheet 2: Installation

Factory Drawing 2818F
- Sheet 1: Illuminated Menu Sign – Plate-Mounted
- Sheet 2: Back-lit Menu Board – Frame
- Sheet 3: Light Box Detail
- Sheet 4: Installation Orientation Detail
- Sheet 5: Installation

Factory Drawing 2818G
- Sheet 1: Illuminated Menu Sign – Wall-Mounted
- Sheet 2: Light Box Detail
- Sheet 3: Installation
- Sheet 4: Installation

Agency Comments

K. City Engineer (March 22, 2019)
L. Transportation Engineer (March 22, 2019)
M. Oregon Department of Transportation ODOT (March 22, 2019)
N. Public Works Director (March 25, 2019)

Public Comments

O. Galen and Margaret Francher (April 8, 2019)
P. Daniel Valverde (April 15, 2019)

Supplemental Documents Provided by Staff

Q. Survey Name: SN27314

Additional Applicant Submittals (June 5, 2019)

R. Updated Narrative
S. Storm Management Plan
T. Arborist Report
U. Architectural Drawings
V. Summary Drawings
W. Civil Drawings
X. Renderings
Y. Landscape Plan
Z. Survey
AA. Partition Exhibit
BB. Photometrics
CC. Contaminated Media Management Plan
DD. Easement Language (between 7-11 and subject property)
EE. Geotechnical Report
FF. Phase II Environmental Assessment
GG. Stormwater Narrative
HH. Traffic Analysis Letter
II. Turning Movement Drawing

Additional Agency Comments
JJ. City Engineer (June 11, 2019)
KK. Public Works Director (May 20, 2019)
LL. Public Works Director (June 10, 2019)

Additional Public Comments
MM. Carrie Richter (April 18, 2019)
NN. Tracy Brown (April 22, 2019)

Additional Supplemental Documents Provided by Staff
OO. Special Transportation Area Agreement

I. BACKGROUND

A. PROCEEDING

Type III Conditional Use, Type III Design Review, three Type III Special Variances, and Type I Land Division (Minor Partition).

B. FACTUAL INFORMATION

1. PROJECT NAME: Dutch Bros Design Review/Variance/Conditional Use Permit

2. APPLICANT/REPRESENTATIVE: Braden Bernards with Cole Valley Partners

3. OWNER: CVP – Sandy, Oregon, LLC

4. LEGAL DESCRIPTION: T2S R4E Section 13 AC, Tax Lot 5500

5. SITUS ADDRESS: 39625 Proctor Blvd.

6. PROPERTY LOCATION: Located on the north side of Proctor Blvd. two parcels west of SE Ten Eyck Rd. adjacent to the existing 7-Eleven retail business.

7. PROPERTY SIZE: The overall site is approximately 0.65 acres. The proposal includes a minor partition request to divide the existing parcel into two lots of record. The proposed partition includes a 0.50 acre lot fronting Proctor Blvd. and a 0.15 acre lot fronting Pleasant Street.

8. PROPOSAL: Braden Bernards with Cole Valley Partners submitted an application on behalf of CVP – Sandy, Oregon LLC seeking approval for a conditional use (CU) permit for a drive-through facility on the subject property (17.42.20(B)(3)). The proposal includes an 834 square foot, 41 feet 3 inches long building parallel to the front (south) property line. The applicant requests a special variance from Subsection 17.90.110(D)(1) to reduce the required 50 percent building frontage standard to 23 percent. The primary structure is proposed to be setback approximately 18 feet from the front (south) property line therefore the applicant requests a special variance from Subsection 17.42.30 which identifies a maximum front setback of 10 feet for properties within the C-1 zone district. In addition, the applicant requests a special variance to incorporate a flat roof with parapets when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

   The proposal also includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two lots of record. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (to be the location of the proposed eating and drinking establishment) and a 0.15 acre lot fronting Pleasant Street (to be developed at a later date).

9. COMPREHENSIVE PLAN DESIGNATION: Retail/Commercial

10. ZONING DISTRICT DESIGNATION: C-1, Central Business District

11. SERVICE CONSIDERATIONS: The proposal includes a 15-foot-wide utility easement along the west property line of the proposed northern lot of record to benefit the southern portion of the property (proposed to be an independent lot through a minor partition). Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and be tied into the services available with Pleasant Street. The City Engineer recommends the utility easement be expanded to 20 feet in width.

12. RESPONSE FROM GOVERNMENTAL AGENCIES, UTILITY PROVIDERS, CITY DEPARTMENTS AND THE GENERAL PUBLIC:
    a. City Manager – No comments received
    b. Public Works Director – Exhibit N KK & LL
    c. Utility Billing – No comments received
    d. Sandy Police Department – No comments received
    e. Building Official – No comments received
    f. Transit Director – No comments received

g. City Engineer– Exhibits K & JJ
h. Transportation Engineer – Exhibit L
i. SandyNet Manager – No comments received
j. PGE – No comments received
k. Wave Broadband – No comments received
l. County Police Department – No comments received
m. NW Natural Gas – No comments received
n. Fire District No. 72 – No comments received
o. Oregon Department of Transportation (ODOT) – Exhibit M
p. US Postal Service – No comments received

C. PUBLIC COMMENTS

- Galen and Margaret Francher sent an email asking that the City adhere closely to the design standards of 17.90.110 as it is amongst the first impressions entering Sandy's core area.

D. APPLICABLE CRITERIA:

Sandy Municipal Code (SMC): 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.42 Central Business District, C-1; 17.66 Adjustments and Variances; 17.68 Conditional Uses; 17.84 Improvements with Development; 17.90 Design Standards; 17.92 Landscaping and Screening; 17.94 Drive-up Uses; 17.98 Parking, Loading, and Access Requirements; 17.100 Land Division; and Chapter 15.30 Dark Sky Ordinance.

E. BACKGROUND INFORMATION/HISTORY

The property was previously used as a bulk petroleum storage and retail service station from the 1930s through the 1980s before being abandoned by Sandy Oil Company. In February of 1989 prospective buyers discovered petroleum contamination within the property's soil and shallow groundwater. The Oregon Department of Environmental Quality (DEQ) removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site in 1994. The funding for this remediation came from the Orphan Site Account and the site was officially designated as an Orphan in June 1995 and listed on the DEQ's Environmental Cleanup Site Information Database as Site #1691.

In June 1999, the DEQ had a Site Investigation and Removal Assessment completed on the site where benzene and other gasoline constituents were found to be mitigating off-site in groundwater therefore vapor barriers were installed. After various site testing the DEQ issued a conditional No Further Action (NFA) stating that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathways and demonstrates their effectiveness.

The property has been vacant since the Sandy Oil Company vacated the site in 1989. The property is located in-between two retail establishments within the Central Business District of the City of Sandy, Oregon. The site currently has frontage on both Pioneer Blvd./HWY 26 and Pleasant Street. The property to the east, 7-Eleven, currently utilizes the ingress/egress located on the subject property to access their site.

F. PROCEDURAL CONSIDERATIONS

This request is being processed as a Type III Conditional Use, Type III Design Review, three Type III Special Variances, and a Type I Land Division (Minor Partition). Notification of the proposal was mailed to property owners within 300 feet of the subject property and to affected agencies on April 3, 2019 and a correction to the notice was mailed on April 10, 2019. A legal notice was published in the Sandy Post on April 10, 2019. At the April 22, 2019 Planning Commission hearing, per the request of two parties, the Planning Commission granted a continuance of Case No. 18-057 (Exhibits MM & NN). The continued hearing date was set as June 24, 2019. The 120-day clock was extended to September 12, 2019. This staff report is revised based on additional information received since the April 22, 2019 public hearing.

II. ANALYSIS OF CODE COMPLIANCE

CHAPTER 17.42 – CENTRAL BUSINESS DISTRICT (C-1)

The subject property is located within the Central Business District (C-1) zone district. The C-1 zone district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. Per this section of code, it is not intended for intensive automobile or industrial uses. This district is intended to provide the principal focus for civil and social functions within the community and to provide all basic services and amenities required to keep the downtown the vital center of our community.

17.42.10 PERMITTED USES

RESPONSE: *Within the submitted narrative (Exhibit C) the applicant has identified the intended primary use of proposed parcel I (PPI) to be an eating and drinking establishment while proposed parcel II (PPII) will remain vacant for future development. Subsection 17.42.10 permits an eating and drinking establishment outright as a primary use with the exclusion that the use does not include a drive-up/drive-through use. Staff finds the proposed primary use of an eating and drinking establishment meets the permitted uses in the C-1 zone district. The applicant has applied for a Conditional Use for the drive-through use which is further explained in Subsections 17.42.20 and 17.68 of this report.*

17.42.20 MINOR CONDITIONAL USES AND CONDITIONAL USES

RESPONSE: *The proposed drive-through facility is identified as a Conditional Use within Subsection 17.42.20(B)(C). To be approved, an applicant is required to complete a Type III approval process and meet the regulations of Chapter 17.68 – Conditional Uses which are represented within this staff report. Staff finds that the C-1 zone district allows the opportunity for a drive-through facility and the applicant has applied for and supplied the required documentation. Please see Subsection 17.68 of this report for detailed analysis of the requested Conditional Use.*

17.42.30 DEVELOPMENT STANDARDS

Commercial	
Lot Area	No minimum
Lot Dimension	No minimum
Setbacks	No minimum; maximum 10 ft.
Lot Coverage	No maximum

Landscaping	10% minimum (includes required civic space in Section 17.90.110.)
Structure Height	45 ft. maximum
Off-Street Parking	See Chapter 17.98
Design Review Standards	See Section 17.90.110

RESPONSE: *The existing site is approximately 0.65 acres. The proposal includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two lots of record, PPI and PPII. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (PPI) and a 0.15 acre lot fronting Pleasant Street (PPII).*

This review includes a design review for an eating and drinking establishment on PPI with a total of 17 percent landscaping coverage while PPII will remain vacant for future land development. The following are the approximate setbacks associated with the proposed structure on PPI per submitted plans (Exhibit I):

Primary Structure
- Front (South): 18 feet
- Side (West): 64 feet
- Rear (North): 77 feet (70 feet to proposed covered civic space)
- Side (East): 75 feet (60 feet to proposed covered civic space)

Drive-Through Canopy
- Front (South): 2.33 feet
- Side (West): 83 feet
- Rear (North): N/A attached to south façade of the proposed primary structure
- Side (East): 75 feet

The proposed primary structure meets the side and rear setback requirements; however, the structure does not meet the maximum 10-foot front setback requirement of the C-1 zone district. The applicant has requested special variances from Subsection 17.42.30 to allow the proposed 18 foot front (south) setback which is further detailed within Chapter 17.66 of this report. The proposed drive-through canopy is proposed to be 2.33 feet from the front (south) property line; however, the proposed conditional use, a drive-through facility, requires a conditional use be approved therefore the canopy cannot be considered when determining compliance with the front setback. Without approval of the conditional use, a drive-through facility, the proposed canopy and associate stacking/que lane will not be incorporated to the site development resulting in a setback that exceeds the maximum 10 foot setback for properties within the C-1 zone district; therefore, the applicant has applied for a Type III Conditional Use which is further detailed in Chapter 17.68 as Variance A of this report.

CHAPTER 17.66 – ADJUSTMENTS AND VARIANCES

17.66.60 VARIANCES

Variances are a means of requesting a complete waiver or major adjustment to certain development standards. They may be requested for a specific lot or as part of a land division application. The Type II

variance process is generally reserved for major adjustments on individual lots, while variances to development standards proposed as part of a land division are processed as a Type III application (requiring a public hearing).

RESPONSE: *The applicant has requested the following three Type III Special Variances:*

Variance A: To construct the primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district.

Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent (32 percent including the covered civic area).

The applicant submitted additional analysis, which included justification, associated with the above requested special variances prior to the June 24, 2019 Planning Commission hearing. This information can be found within Exhibit R.

17.66.80 TYPE III SPECIAL VARIANCES

The Planning Commission may grant a special variance waiving a specified provision under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

Variance A:

Subsection 17.42.30 does not have a minimum front setback distance while identifying a maximum front setback of 10 feet.

Request: There do not appear to be any unique characteristics of the subject property that differ from neighboring properties and the site planning is of the applicant's making so a Type II Variance request would have to be denied. Therefore, the applicant requests a Type III Special Variance to increase the maximum front setback from 10 feet to 18 feet. This result is an 80 percent variation from the maximum front setback identified within Subsection 17.72.30 of the development code.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The intent of the maximum setback distance in the C-1 zone district is to emphasize a "village" scale and character in new development. Village scale means development is compact and walkable, building entrances are oriented to the street sidewalk or a plaza, and large building masses are broken down through a combination of design elements such as articulation, combinations of complementary building materials and detailing. Including a maximum setback encourages development that enhances the pedestrian environment through design, scale, orientation and ultimately assists in complying with the Sandy Style design Subsection 17.90.00(C).*

The proposal includes a conditional use request, detailed within Chapter 17.68 of this report, for a drive-through facility to be placed between the primary structure and sidewalk. The proposal included incorporating both a covered and uncovered civic space to the east of the primary structure with a dedicated and direct connection between the right-of-way and primary use. These civic spaces, as well as the proposed drive-through canopy, include architectural features designed to emphasize the Sandy Style design aesthetic and overall pedestrian environment. In addition to the dedicated pedestrian connection and Sandy Style architectural elements, the proposal includes enhanced landscaping, detailed within Chapter 17.92 of this report, to be implemented the entire length of the site's frontage (south property line). The intention of the landscaping is to provide screening and separation between the proposed drive-through lane and the pedestrian infrastructure located in the right-of-way as well as to provide additional design elements to enhance the pedestrian environment. Staff believes the proposal will not violate the intent of the code nor be detrimental to public welfare.

RECOMENDATION: *The intention of the maximum setback for properties within the C-1 zone district is to emphasize a "village" scale and pedestrian environment through design/site planning. While the proposal includes a variance to the maximum setback distance implemented to achieve the intent of Subsection 17.42.30, it includes direct and dedicated pedestrian access as well as enhanced architectural elements and landscaping to create an active, welcoming pedestrian environment.* ***Staff recommends the Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18 feet with the following condition: the development includes the proposed pedestrian access, civic space canopy and drive-through canopy or an alternative design be approved by staff. Should the variance and/or proposed conditional use, see Section 17.68 of this report for details, not be approved, the applicant shall redesign the site plan to meet this development standard.***

Variance B

Section 17.90.110(C)(1) requires primary roof forms within the C-1 zone district to have a roof pitch of 6:12 while secondary roof forms are permitted to be constructed at a 4:12 roof pitch on all new buildings with a span of 50-feet or less. Subsection 17.90.110(C)(6) requires that all roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Subsection 17.90.110(C)(8) allows the following exception to pitched roofs: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form.

Section 17.10.30 identifies the meaning of specific words and terms. Within this section the term "span (roof)" is defined as, *"The horizontal distance between the outside faces of bearing wall plates measured at the shortest dimension across the building."*

Request: The applicant requests a Type III Special Variance to construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

A. The unique nature of the proposed development is such that:
1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The intention of this code requirement is to express elements that reflect Cascadian architecture through the use of sloped roofs and to provide visual interest from adjacent right-of-way. The subject property is located on a major arterial street with high visibility. The length of the proposed primary structure measures 41 feet 3 inches with an additional 16-foot long covered civic space for a total length of 57 feet 3 inches (east-west) while the greatest width of the proposed structure is 24 feet 3 inches (north-south). While the primary structure itself does not exceed 50 feet in length staff acknowledges the civic space has been incorporated into the design of the primary structure. For the purposes of determining the roof span, staff has used the definition provided with Section 17.10.30 which identifies the roof span as, "The horizontal distance between the outside faces of bearing wall plates measured at the shortest dimension across the building." Based on this dimension it is determined the roof span shall be the north-south dimension of 24 feet 3 inches.*

The covered civic space includes a drive-through canopy projecting south from the front (southern) façade. Both the proposed civic space and drive-through canopy have been designed with 6:12 pitched gable roof elements to compliment the proposed parapet. Both the civic space and drive-through canopy have been designed to complement the primary structure's proposed parapet roof line in efforts to retain the Sandy Style elements the code strives to achieve. While the intentions of the roof pitch exceptions of Subsection 17.90.110(C)(8) are for structures extending more than 50 feet; the applicant expresses that to incorporate a 6:12 roof pitch and effectively screen rooftop equipment, per Subsection 17.90.110(C)(6), becomes difficult. The applicant has submitted a Sight Line Analysis (Exhibit U) to visually represent how the proposed parapet walls will properly screen the roof top equipment further supporting the standards of Section 17.90.110(C)(6). They go on to express concern that to use a 6:12

roof pitch may take away from the intended Cascadian aesthetic (Exhibit C). Staff believes the elimination of the pitched roof on the primary structure, with the incorporation of the proposed roof pitch over the civic space and drive-through canopy, will not violate the intent of the code nor be detrimental to public welfare.

RECOMENDATION: *The intention of this code requirement is to construct building elements that reflect Cascadian architecture through the use of sloped roofs to achieve the Sandy Style aesthetic. The subject property is located on a major arterial street with high visibility. Additional 6:12 pitched roof features have been incorporated on secondary features to complement the proposed parapet section of the development. By designing the primary structure with a flat roof with parapets to screen equipment and incorporating the required roof pitch on the structure's secondary features, the proposal achieves the Sandy Style aesthetic and it does not seem necessary to provide the required roof pitch on the primary structure.* ***Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.***

Variance C

Subsection 17.90.110(D) details requirements regarding building orientation and entrances. These requirements are intended to maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style.

Subsection 17.90.110(D)(1) requires buildings to be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off-street parking on a parcel as required by Section 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).

Request: The applicant requests a Type III Special Variance to reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The property has a total frontage length of 177.83 linear feet along Proctor Blvd. per Survey Name: SN27314 (Exhibit Q). Using this dimension, the site is required to have a total building frontage length of 88.92 feet to meet the 50 percent minimum requirement of Subsection 17.90.110(D)(1). The proposal includes a 41 foot 3 inch in length primary structure which results in a 23 percent building frontage. Including the 16 foot long covered civic space to the overall building frontage results in a total 57 foot 3 inch or 32 percent building frontage for the site.*

The intent of incorporating building orientation and entrance standards is to maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style. In addition, incorporating these elements provides for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. While the proposed building does not meet the 50 percent minimum standard, additional elements such as covered and uncovered civic areas as well as internal pedestrian pathways have been incorporated to meet the intent of this code section. Based on this analysis staff believes the proposal does not violate the intent of the code nor will it be detrimental to public welfare.

RECOMENDATION: *The intention of incorporating building orientation and entrance standards is to ultimately enhance and encourage the pedestrian environment. While the proposal does not meet this numeric standard, additional elements have been incorporated onsite to warrant the approval of the reduced building frontage.* ***Staff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent (32 percent including the covered civic space) with the condition that the proposed covered civic spaces be incorporated at time of development.***

CHAPTER 17.68 – CONDITIONAL USES

17.68.00 INTENT

Certain uses listed in each zoning district require special review to determine what their effects may be to the surrounding properties, neighborhood, and community as a whole. The Minor Conditional Use Permit (Type II) and Conditional Use Permit (Type III) processes provide an opportunity to allow a use when potential adverse effects can be mitigated or deny a use if concerns cannot be resolved.

It is the intent of this chapter to permit minor conditional uses or conditional uses that are consistent with the Comprehensive Plan, subject to procedures and criteria intended to mitigate potentially negative impacts.

Procedures and review criteria for conditional development are established for the following purpose:

A. Permit certain types of public and private development that provides a community service in locations related to their service areas.
B. Permit commercial development in locations related to its service area.
C. Ensure that a conditional use is compatible with its immediate area and the affected part of the community

17.68.10 PROCEDURES

The applicant completed a series of pre-application meetings dated: March 7, 2018; May 31, 2018; and July 26, 2018. A formal application for a TYPE III Conditional Use was submitted on December 3, 2018. The submittal ultimately received confirmation of completeness on March 14, 2019 after staff received Exhibits A-J associated with this report thus confirming the proposal has met the requirements of Subsection 17.68.10.

17.68.20 REVIEW CRITERIA

The Planning Commission (Conditional Use Permit) through a Type III process may approve an application, approve with modifications, approve with conditions, or deny an application for a conditional use permit after a public hearing. The applicant must submit evidence substantiating that all 17.68 - 3 Revised by Ordinance 2013-11 effective 12/18/13 requirements of this code relative to the proposed use are satisfied and consistent with the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council.

The following criteria and compatibility factors shall be considered:

A. The use is listed as either a minor conditional use or conditional use in the underlying zoning district or has been interpreted to be similar in use to other listed conditional uses.

RESPONSE: *The subject property is zoned Central Business District (C-1). The proposal includes a drive-through facility, which is a conditional use in the C-1 zone district. Criterion A is satisfied.*

B. The characteristics of the site are suitable for the proposed use considering the size, shape, location, topography, and natural features.

RESPONSE: *The proposed site is suitable regarding the size, shape, location, topography, and natural features of the site. The site can accommodate parking requirements, landscaping requirements, stormwater detention, and other site demands typical of an eating and drinking establishment with a drive-through facility. Criterion B is satisfied.*

C. The proposed use is timely considering the adequacy of the transportation systems, public facilities and services existing or planned for the area affected by the use.

RESPONSE: *Water and sanitary sewer are available to serve the site and proposed to be extended from Pleasant Street. Electric connection is available to the property via an existing utility pole located in the right-of-way adjacent to the south property line.*

The subject property currently has two street frontages, Proctor Blvd./US HWY 26 and Pleasant St. providing vehicular and pedestrian access to the site. Proctor Blvd./US HWY 26 is a major arterial designed to accommodate higher volumes of traffic. Per the submitted traffic analysis, the drive-through facility will predominantly capture "pass-by" trips which occurs when a vehicle leaves an adjacent roadway (such as Proctor Blvd.), to patronize an establishment then continue in their original direction on the same adjacent roadway. Criterion C is satisfied.

D. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, precludes, or impairs the use of surrounding properties for the primary uses listed in the underlying zoning district.

RESPONSE: *All abutting parcels to the subject site are within City limits and are zoned Central Business District (C-1) which permit the same uses and requires the same site and building design regulations. The site is located at the east end of Sandy's downtown center and is adjacent to the first major intersection when vehicles enter the downtown westbound.*

Adjacent properties are as followed:

North	*Single-Family Residential*
	Vacant
	Professional or general business office (All County Surveyors and Planners)
East	*Retail – Convenience Market/Store (7-Eleven)*
South	*Automotive Fueling Station (ARCO)*
West	*Retail – Mattress World*

A 7-Eleven convenience store is known for short, efficient visits from patrons via vehicular and/or pedestrian visits. This 7-Eleven establishment shares an access easement designed for ingress/egress with the subject property while the Mattress World retail store can be seen as a specialty store with the potential to generate fewer trips than a drive-through or convenience store facility. To the south of the subject property, across Proctor Blvd./US HWY 26, a fueling station (ARCO) has been developed with an interior convenience store for patrons. North of the subject property, located on Pleasant Street, a legal non-conforming single-family home and a professional office building currently exists.

E. The proposed use will not result in the use of land for any purpose which may create or cause to be created any public nuisance including, but not limited to, air, land, or water degradation, noise, glare, heat, vibration, or other considerations which may be injurious to the public health, safety, and welfare.

RESPONSE: *The existing 7-Eleven convenience store has been in place for an extended period of time. The subject property has been vacant for almost three decades providing minimal barrier from potential nuisances generated by Proctor Blvd./US HWY 26 traffic. Additionally, the proposal includes a trash enclosure between the internal vehicular maneuvering area and the neighboring residence along with landscaping to form a six-foot hedge in order to create barriers to mediate possible vehicular disturbance to the north adjacent properties. Additional details regarding the trash enclosure can be found in Section 17.90.100(J) of this report while additional analysis of the landscaping buffer can be found in Section 17.92.80 of this report. Staff believes the proposed conditional use and adjacent uses are similar in nature. The proposed site design includes elements to reduce potential nuisances to adjacent properties, and therefore compliments the existing character and functionality of adjacent development.*

F. The proposed use will be reasonably compatible with existing or planned neighboring uses based on review of the following:
1. Basic site design (organization of uses on the site)

RESPONSE: *The proposal includes a drive-through facility oriented between the public right-of-way and the proposed primary structure with a vehicular stacking/que lane that extends the length of the west and north property lines. Within the center of the site is an 834 square foot building with a covered and uncovered civic area on the east façade. The site includes a dedicated pedestrian pathway from the public right-of-way to the proposed civic area. The proposed site is compatible with the intent of the code and adjacent properties.*

2. Visual elements (scale, structural design and form, materials, and so forth)

RESPONSE: *The proposal includes various elements such as masonry wainscoting, pitched roof features, timber beams and a varied façade to create visual elements in keeping with the Sandy Style of the code and adjacent properties.*

3. Noise

RESPONSE: *The proposal has included landscaping barriers on the north and south property lines to assist in reducing noise emitted from the proposed drive-through facility. The landscaping on the south property line also provides a means of minimizing the traffic noise generated by Proctor Blvd/US HWY 26 for future patrons utilizing the proposed civic space.*

4. Noxious odors

RESPONSE: *The neighboring properties include a 7-Eleven convenience store and a fueling station both of which are auto oriented uses therefore it is reasonable to conclude the proposed use will not create additional noxious odors to surrounding uses. Additionally, the site has been designed to provide open space to allow for vehicular exhaust ventilation helping to reduce the potential of noxious odors being produced by the use of the property.*

5. Lighting

RESPONSE: *The proposal includes interior lighting of the parking lot, pedestrian pathway and civic space which shall be compatible with code requirements as well as neighboring properties. Detailed analysis of the proposed lighting can be found within Section 17.90.100(H) and 15.30 of this report.*

6. Signage

RESPONSE: The applicant will be required to obtain a permit for any proposed signage.

7. Landscaping for buffering and screening

RESPONSE: *The proposal exceeds the minimum landscaping requirements for the C-1 zoning district and provides a variety of plant materials along the north and south property lines to provide screening of the proposed drive-through facility. Specifically, the proposal includes three 5-foot tall Shore Pine trees as well as approximately forty evergreen shrubs to be planted. The proposed evergreen shrubs will be approximately 3-feet in height at maturity and placed sporadically in the landscape area between the right-of-way (i.e. sidewalk) and the proposed drive-through vehicular isle. It can be concluded that the proposed landscaping will provide visual separation between the pedestrian environment and the proposed on-site vehicular drive isle associated with the requested conditional use. This proposed landscaping helps the proposal meet the intent of this section to create a pedestrian network that promotes public safety and aesthetics through effective landscaping/streetscape design.*

8. Traffic

RESPONSE: *Per the submitted traffic analysis, the drive-through facility will predominantly capture "pass-by" trips which occurs when a vehicle leaves an adjacent roadway (such as Proctor Blvd.), to patronize an establishment then continue in their original direction on the same adjacent roadway. The site is located at the east end of Sandy's central business district and is adjacent to the first major intersection when vehicles enter the downtown. The neighboring properties, a 7-Eleven convenience store and fueling station, are auto oriented*

businesses that generate similar traffic therefore any traffic generated by the proposed use will not negatively impact the surrounding uses.

9. Effects on off-street parking
RESPONSE: *The proposal should not adversely effect on-street or off-street parking capacity. The proposed use provides s quick service and includes a stacking/que lane to accommodate 15 vehicles. In addition, the site provides a total of 13 parking spaces for patrons utilizing the proposed civic space where amenities such as tables and benches are proposed. Additional analysis of onsite parking has been detailed within Section 17.98 of this report.*

10. Effects on air quality and water quality
RESPONSE: *The proposed improvements will not adversely affect air and water quality. The project will comply with all applicable state and federal environmental standards.*

RECOMENDATION: *The proposed conditional use is in keeping with surrounding uses fronting Proctor Blvd./US HWY 26 and has included elements within its design to mediate potential nuisances to adjacent properties to the north. Additionally, the proposal includes elements to enhance the pedestrian environment remaining in keeping with the intent of the C-1 zone district.* ***Staff recommends the Planning Commission approve the proposed Conditional Use, a drive-through facility to compliment the proposed primary use, an eating and drinking establishment.***

CHAPTER 17.84 – IMPROVEMENTS REQUIRED WITH DEVELOPMENT

This chapter provides general information regarding improvements required in association with development, and it clarifies the timing, extent, and standards for public and private improvements.

17.84.20 TIMING OF IMPROVEMENTS

A. All improvements required by the standards in this chapter shall be installed concurrently with development, as follows:
   1. Where a land division is proposed, each proposed lot shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to approval of the final plat.
   2. Where a land division is not proposed, the site shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures.

RESPONSE: *Submission of preliminary street and utility plans during the land use review process is solely for compliance with the data requirements of Section 17.100.60.* ***Preliminary plat approval does not connote utility or public improvements plan approval which will be reviewed and approved separately upon submittal of public improvement construction plans.***

17.84.30 PEDESTRIAN AND BICYCLIST IMPROVEMENTS

A. Sidewalks shall be required along both sides of all arterial, collector, and local streets, as follows:

1. Sidewalks shall be a minimum of 5 ft. wide on local streets. The sidewalks shall be separated from curbs by a tree planting area that provides separation between sidewalk and curb, unless modified in accordance with Subsection 3 below.
2. Sidewalks along arterial and collector streets shall be separated from curbs with a planting area, except as necessary to continue an existing curb-tight sidewalk. The planting area shall be landscaped with trees and plant materials approved by the City. The sidewalks shall be a minimum of 6 ft. wide.
3. Sidewalk improvements shall be made according to city standards, unless the city determines that the public benefit in the particular case does not warrant imposing a severe adverse impact to a natural or other significant feature such as requiring removal of a mature tree, requiring undue grading, or requiring modification to an existing building. Any exceptions to the standards shall generally be in the following order.
   a) Narrow landscape strips
   b) Narrow sidewalk or portion of sidewalk to no less than 4 feet in width
   c) Eliminate landscape strips
   d) Narrow on-street improvements by eliminating on-street parking
   e) Eliminate sidewalks
4. The timing of the installation of sidewalks shall be as follows:
   a) Sidewalks and planted areas along arterial and collector streets shall be installed with street improvements, or with development of the site if street improvements are deferred.
   b) Sidewalks along local streets shall be installed in conjunction with development of the site, generally with building permits, except as noted in (c) below.
   c) Where sidewalks on local streets abut common areas, drainageways, or other publicly owned or semi-publicly owned areas, the sidewalks and planted areas shall be installed with street improvements.

RESPONSE: *This proposal indicates that sidewalk infrastructure is to be improved within the right-of-way fronting Pleasant Street. The improvements proposed include a curb-tight sidewalk at a maximum width of 8 feet with two tree wells measuring 4 feet in length and width.* ***Tree wells shall have grate covers in conformance to Appendix F and designed to accommodate ADA accessibility to ensure the required 5-foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 5-foot width from the tree well grate to the back of (south) of proposed side walk. The sidewalk on Pleasant Street shall be designed in accordance with the design recommended in the Pleasant Street Master Plan.***

Additionally, this proposal requires sidewalk improvements within the right-of-way fronting Proctor Blvd./US HWY 26. The improvements proposed include a curb-tight sidewalk at a maximum width of 8 feet with four tree wells measuring 4 feet in length and width. ***Proposed tree wells and sidewalk scoring shall have patterns and paver bands that comply with Appendix F and designed to accommodate ADA accessibility to ensure the required 5 foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 5 foot width from the tree well grate to the back of (south) of proposed side walk.***

Street tree analysis has been completed and is documented within Section 17.92 of this report.

B. Safe and convenient pedestrian and bicyclist facilities that strive to minimize travel distance to the extent practicable shall be provided in conjunction with new development within and between new subdivisions, planned developments, commercial developments, industrial areas, residential areas, public transit stops, school transit stops, and neighborhood activity centers such as schools and parks, as follows:
   1. For the purposes of this section, "safe and convenient" means pedestrian and bicyclist facilities that: are reasonably free from hazards which would interfere with or discourage travel for short trips; provide a direct route of travel between destinations; and meet the travel needs of pedestrians and bicyclists considering destination and length of trip.
   2. To meet the intent of "B" above, right-of-ways connecting cul-de-sacs or passing through unusually long or oddly shaped blocks shall be a minimum of 15 ft. wide with 8 feet of pavement.
   3. 12 feet wide pathways shall be provided in areas with high bicycle volumes or multiple use by bicyclists, pedestrians, and joggers.
   4. Pathways and sidewalks shall be encouraged in new developments by clustering buildings or constructing convenient pedestrian ways. Pedestrian walkways shall be provided in accordance with the following standards:
      a) The pedestrian circulation system shall be at least five feet in width and shall connect the sidewalk on each abutting street to the main entrance of the primary structure on the site to minimize out of direction pedestrian travel.
      b) Walkways at least five feet in width shall be provided to connect the pedestrian circulation system with existing or planned pedestrian facilities which abut the site but are not adjacent to the streets abutting the site.
      c) Walkways shall be as direct as possible and avoid unnecessary meandering.
      d) Walkway/driveway crossings shall be minimized. Internal parking lot design shall maintain ease of access for pedestrians from abutting streets, pedestrian facilities, and transit stops.
      e) With the exception of walkway/driveway crossings, walkways shall be separated from vehicle parking or vehicle maneuvering areas by grade, different paving material, painted crosshatching or landscaping. They shall be constructed in accordance with the sidewalk standards adopted by the City. (This provision does not require a separated walkway system to collect drivers and passengers from cars that have parked on site unless an unusual parking lot hazard exists).
      f) Pedestrian amenities such as covered walk-ways, awnings, visual corridors and benches will be encouraged. For every two benches provided, the minimum parking requirements will be reduced by one, up to a maximum of four benches per site. Benches shall have direct access to the circulation system.

RESPONSE: *8-foot wide sidewalks with 4-foot wide, covered planter wells are proposed on both frontages of the proposed development. The sidewalk infrastructure shall be raised from vehicular traffic as well as provide a direct path free of unnecessary maneuvering to encourage a safe pedestrian environment. Proctor Blvd./US HWY 26 currently has a dedicated bicycle lane within the right-of-way, separated from the proposed sidewalk infrastructure.*

Detailed analysis of the proposed pedestrian and bicyclist improvements shall be completed during the construction plans review process.

17.84.40 TRANSIT AND SCHOOL BUS TRANSIT REQUIREMENTS

A. Development sites located along existing or planned transit routes shall, where appropriate, incorporate bus pull-outs and/or shelters into the site design. These improvements shall be installed in accordance with the guidelines and standards of the transit agency. School bus pull-outs and/or shelters may also be required, where appropriate, as a condition of approval for a residential development of greater than 50 dwelling units where a school bus pick-up point is anticipated to serve a large number of children.

B. New developments at or near existing or planned transit or school bus transit stops shall design development sites to provide safe, convenient access to the transit system, as follows:
   1. Commercial and civic use developments shall provide a prominent entrance oriented towards arterial and collector streets, with front setbacks reduced as much as possible to provide access for pedestrians, bicycles, and transit.
   2. All developments shall provide safe, convenient pedestrian walkways between the buildings and the transit stop, in accordance with the provisions of 17.84.30 B.

RESPONSE: *The site is located within the Central Business District (C-1) of the City and is near the existing SAM Transit Station available to the public. With improved sidewalk and crossing infrastructure, staff does not believe the proposal warrants any additional amenities or additional improvements.*

17.84.50 STREET REQUIREMENTS

A. Traffic evaluations may be required of all development proposals in accordance with the following:
   1. A proposal establishing the scope of the traffic evaluation shall be submitted for review to the City Engineer. The evaluation requirements shall reflect the magnitude of the project in accordance with accepted traffic engineering practices. Large projects should assess all nearby key intersections. Once the scope of the traffic evaluation has been approved, the applicant shall present the results with and an overall site development proposal. If required by the City Engineer, such evaluations shall be signed by a Licensed Professional Civil Engineer or Licensed Professional Traffic Engineer licensed in the State of Oregon.
   2. If the traffic evaluation identifies level-of-service conditions less than the minimum standard established in the Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered concurrent with a development proposal.

RESPONSE: *The submitted Traffic Analysis Letter (TAL) (Exhibit E) was completed by Lancaster Engineering and is dated November 28, 2018. The traffic assumptions are based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Pass-by trips and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. The trip generation during morning peak hours is projected to generate 48 new trips, with 24 trips entering and exiting the site. The daily expected increase is a total of 231 primary trips. The Traffic Engineer sited that the City of Sandy development standards for access, driveway width, minimum intersection spacing, and sight distance have been met and no mitigations are necessary or recommended. The City's contracted Traffic Engineer confirmed the transportation system can accommodate the proposed use without mitigation (Exhibit L).*

The applicant provided the City with an updated TAL (Exhibit HH). The findings of this document indicate the site is projected to generate 14 trips during the peak hour. A raised pedestrian crossing is provided within the drive-through que lane/aisle and the traffic engineer finds that, "Since the

crosswalk is at grade with the sidewalk, the pedestrian is more prominent in the driver's field of vision. Additionally, vehicles will need to come to a complete stop at the drive-through window before exiting at the site access. These factors make this crossing a safe route for vulnerable roadways users." The site shares an ingress/egress pint with the abject property to the east, 7-Eleven. The traffic engineer who completed the updated TAL determined it is not anticipated that this conflict point will cause queues to extend onto the public roadway.

D. Development sites shall be provided with access from a public street improved to City standards in accordance with the following:
   1. Where a development site abuts an existing public street not improved to City standards, the abutting street shall be improved to City standards along the full frontage of the property concurrent with development.
   2. Half-street improvements are considered the minimum required improvement. Three-quarter-street or full-street improvements shall be required where traffic volumes generated by the development are such that a half-street improvement would cause safety and/or capacity problems. Such a determination shall be made by the City Engineer.
   3. To ensure improved access to a development site consistent with policies on orderly urbanization and extension of public facilities the Planning Commission or Director may require off-site improvements concurrent with development. Off-site improvement requirements upon the site developer shall be reasonably related to the anticipated impacts of the development.
   4. Reimbursement agreements for ¾ street improvements (i.e., curb face to curb face) may be requested by the developer per Chapter 12 of the SMC.
   5. A ½ street improvement includes curb and pavement 2 feet beyond the center line of the right-of-way. A ¾ street improvement includes curbs on both sides of the side and full pavement between curb faces.

RESPONSE: *The proposed street network adjacent to the subject property are existing and currently improved. The existing improvements generally comply with City standards.* ***Detailed analysis of the existing right-of-way infrastructure shall be submitted and reviewed during the construction plans review process.*** *Any work to be completed within highway right-of-way (Proctor Blvd./US HWY 26) requires an ODOT Miscellaneous Permit to be completed.*

17.84.60 PUBLIC UTILITY EXTENSIONS

A. All development sites shall be provided with public water, sanitary sewer, and storm drainage.
B. Where necessary to serve property as specified in "A" above, required public utility installations shall be constructed concurrent with development.
C. Off-site public utility extensions necessary to fully serve a development site and adjacent properties shall be constructed concurrent with development.
D. As necessary to provide for orderly development of adjacent properties, public utilities installed concurrent with development of a site shall be extended through the site to the edge of adjacent property(ies).
E. All public utility installations required with development shall conform to the City's facilities master plans.
F. Private on-site sanitary sewer and storm drainage facilities may be considered provided all the following conditions exist:
   1. Extension of a public facility through the site is not necessary for the future orderly development of adjacent properties;

2. The development site remains in one ownership and land division does not occur (with the exception of land divisions that may occur under the provisions of 17.84.50 F above);
3. The facilities are designed and constructed in accordance with the Uniform Plumbing Code and other applicable codes, and permits and/or authorization to proceed with construction is issued prior to commencement of work.

RESPONSE: *The applicant's utility plan (Exhibit I, Sheets C4.0 and C4.1) depicts the location and type of proposed public utilities including water and sanitary sewer.* ***All public utility installations shall conform to the City's facilities master plans. All public sanitary sewer and waterlines shall be a minimum of 8 inches in diameter and all stormwater drains shall be a minimum of 12 inches in diameter. No building permits will be issued until all public utilities, including sanitary sewer are available to serve the development. The applicant shall pay plan review, inspection, and permit fees as determined by the Public Works Director.***

Staff recommends the applicant revise the utility plan to include broadband fiber locations for SandyNet utilities to be installed.

17.84.80 FRANCHISE UTILITY INSTALLATIONS

These standards are intended to supplement, not replace or supersede, requirements contained within individual franchise agreements the City has with providers of electrical power, telephone, cable television, and natural gas services (hereinafter referred to as "franchise utilities").

RESPONSE: *Private utility services will be submitted for review and approval by service providers and City staff in association with construction plans, and all utility lines will be extended to the perimeter of the site.* ***All franchise utilities shall be installed underground and in conformance with City standards. The applicant shall call the PGE Service Coordinators at 503-323-6700 when the developer is ready to start the project.***

17.84.100 MAIL DELIVERY FACILITIES

RESPONSE: *The applicant will need to coordinate with the United States Postal Service (USPS) to locate mail facilities and these will be approved by the City and USPS.* ***Mail delivery facilities shall be provided by the applicant in conformance with 17.84.100 and the standards of the USPS. The applicant shall submit a mail delivery plan to the City and USPS for review and approval prior to installation of mailboxes.***

CHAPTER 17.90 – Design Standards

17.90.110 DOWNTOWN AND VILLAGE COMMERCIAL (C-1 AND C-3) DESIGN STANDARDS

Development in the C-1 and C-3 districts shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

Response: The subject property is located within the C-1 zone district.

A. Site Layout and Vehicle Access

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.110-C and 17.90.110-D)

1. All lots shall abut or have cross access to a dedicated public street. ***Response:*** *The subject property abuts Proctor Blvd./US HWY 26 and Pleasant Street.*
2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley. ***Response:*** *N/A*
3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.110(C). When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required. ***Response:*** *Proposed parking is located in the rear of the proposed primary structure.*
4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation. ***Response:*** *The subject property and the adjacent property to the east, the 7-Eleven convenience store, currently share an ingress/egress access point onto Proctor Blvd./US HWY 26.* ***The applicant shall record a cross access easement agreement with the County Recorder or supply the City with a copy of an existing recorded easement demonstrating cross access is granted.***
5. Urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, shall be used to calm traffic and protect pedestrians in parking areas. ***Response:*** *The applicant proposes a new pedestrian connection from Proctor Blvd./US HWY 26 to the proposed civic space and ordering counter of the primary structure. This pedestrian path will cross the proposed vehicular stacking/que lane. This pedestrian path will be elevated and incorporates a concrete surface to delineate itself from the vehicular travel area which is asphalt. These efforts are to create a safe path for protecting pedestrians.*
6. Where openings occur between buildings facing Proctor Boulevard or Pioneer Boulevard, pedestrian ways shall connect the street sidewalk to any internal parking areas. Development shall avoid creating barriers to pedestrian circulation. ***Response:*** *The proposal includes a pedestrian pathway from Proctor Blvd./US HWY 26 to the internal civic space and around the primary structure to the proposed onsite parking lot.*
7. Parking lots may include public alley accessed garages at the rear property line, except where a setback is required for vision clearance or to conform to other city standards. ***Response:*** *N/A*
8. Raised walkways or painted crossings from the public street sidewalk to the building entrance(s) are required. Crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or be painted (e.g., colored concrete inlay in asphalt). ***Response:*** *The applicant proposes a new pedestrian connection from Proctor Blvd./US HWY 26 to the proposed civic space and ordering counter of the primary structure. This pedestrian path will cross the proposed vehicular stacking/que lane. This pedestrian path will be elevated and incorporates a concrete surface to delineate itself from the vehicular travel area which is asphalt. These efforts are to create a safe traffic path for protecting pedestrians.*
9. Joint use of access points and interconnections and cross-over easements between parcels shall be required, where the City determines it is practicable and necessary. A development approval may be conditioned to require a joint use access easement and interconnecting driveways or

alleys to comply with access spacing and other applicable code requirements. ***Response:*** *The subject property and the adjacent property to the east, the 7-Eleven convenience store, share an ingress/egress access point onto Proctor Blvd./US HWY 26 via an established access easement. ODOT has responded that the applicant must obtain a State Highway Approach Permit for access to the state highway (Proctor Blvd./US HWY 26) as well as the applicant shall record a cross-over access easement to the adjacent property with the County Accessor.*

10. Connection to Adjacent Properties: The location of any real improvements to the property must provide for a future street and pedestrian connection to adjacent properties where the City determines this is practicable and necessary. ***Response:*** *The proposed partition results in two parcels (PPI and PPII). PPI will have frontage on Proctor Blvd./US HWY 26 while PPII will have frontage on Pleasant Street. Both properties are zoned C-1 encouraging a mixture of commercial use oriented to enhancing the pedestrian environment. To provide future opportunity for pedestrian connectivity, the proposed utility easement on PPII shall include pedestrian access.*
11. Through lots and corner lots may be permitted with two access points, one onto each abutting street, where necessary to serve a centralized, shared parking facility. Such access points must conform to the above access spacing requirements and parking must be internalized to the property. ***Response:*** *N/A*
12. Free-standing buildings shall be connected to one another with a seamless pedestrian network that provides access to building entrances and civic spaces. ***Response:*** *The proposal includes only one primary building.*

B. Building Facades, Materials, and Colors

Intent: To provide building façades, materials and colors consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, Color Palettes (Appendices C and D), and photos (Appendix E)

1. **Articulation**. The Sandy Style includes asymmetrical building forms, which by definition require buildings to be articulated, varied, and provide visual interest. This standard is met by dividing elevations of a structure visible from an abutting public street or pedestrian way into smaller areas or planes to minimize the appearance of bulk as viewed from the street as follows:

   a. All elevations visible from an abutting public street or pedestrian way shall be divided into distinct planes no more than 30 lineal feet long to include the following:

   1. Wall planes meeting this standard shall include a feature or variation in the wall plane that projects or recedes at least six (6) inches from the adjacent plane, for a length of at least four (4) feet. Changes in plane may include but are not limited to recessed entries, bays, secondary roof forms (e.g., gables, lower roof sheds, dormers and towers), canopies, awnings, projections, recesses, alcoves, pergolas, porticos, roof overhangs, or other features consistent with the Sandy Style.
   2. Wall planes shall incorporate at least one visually contrasting and complementary change in materials or changes in texture or patterns, including trim, moldings, or other ornamental devices.

3. The lower and upper floors of multi-story buildings shall be clearly delineated by using pedestrian shelters, change in siding materials, heavy timber or natural wood accents (e.g., brackets, paneling or other detailing).

RESPONSE: *The proposed elevations of the structure include varying wall planes that do not exceed 30 feet in length as well as a gabled vehicle canopy for the requested conditional use, a drive-through facility, and gabled pedestrian canopy for the proposed civic space to project perpendicularly from the south and east facades of the structure. The proposal includes a three-foot-high brick wainscoting with siding on the main structure. The façade also includes stone, brick and wood framed canopy features within the overall design. The proposed building is a single story; however, timber elements have been incorporated into the civic space canopy area as well as varying materials on the façade fronting the proposed civic space. The proposed features are complimentary with the Sandy Style aesthetic.*

2. **Pedestrian Shelters.** Buildings must incorporate pedestrian shelters, as follows:

a. Pedestrian shelters shall be provided over the building's primary entrance(s) and pedestrian areas (i.e., sidewalks and civic spaces) abutting the subject building.
b. Features such as canopies, arcades, awnings, roofs overhangs, covered porches, alcoves, and/or porticoes are required.
c. Pedestrian shelters must extend at least five (5) feet over the pedestrian area.
d. Shelters designed with gables (e.g., over building entrances) are preferred over flat shelters, and must comply with the roof pitch standards in Section 17.90.110(C). Dome or bubble shaped awnings are not permitted.

RESPONSE: *The proposal includes a gabled covered pedestrian civic space on the east façade of the building. On the north elevation a pedestrian ordering window is proposed. The north elevation includes a gabled cover that complements the east façade's cover and extends more than 5 feet from the building's façade. The west elevation includes two separate doors to the interior; one door is to gain access to the interior for employees and the second is for access to a restroom facility.* ***The proposal shall incorporate pedestrian shelters to meet the above criteria on the west elevation.***

3. **Building Materials.** Exterior building materials shall convey an impression of strength and durability consistent with the Sandy Style, as follows:

a. Buildings on the same site shall be architecturally unified. This provision shall apply to new construction, additions, and remodeling such that buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. Unity does not mean repetition or mirroring of building elevations.
b. Strong base materials such as natural stone (e.g., basalt, granite, river stone), split- faced rusticated concrete block, or brick are required. Cultured stone may be allowed if it has a stone texture and is similar in appearance and durability to natural stone. A building's base must extend at least 36 inches but not more than 60 inches above the adjacent finished grade and be included on those sides of the building visible from the abutting public street. If the site contains a grade differential making construction of a minimum 36-inch base impracticable, the reviewing body may allow portions of the base to be less than 36-inches.
c. Foundations shall be designed to match the scale of the building being supported. Examples include sheathing the foundation structure with base materials and wall siding.

d. Siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, or a combination of these materials. Stucco, synthetic stucco, and metal are permitted only as specified below. Vinyl, plastic or similar siding is not permitted.

   1) Where wood siding is used, it shall consist of horizontal (e.g., lap, v-groove, or tongue-and-groove) siding, vertical (board and batten) siding, shingles, or combinations thereof. Vertical grooved (i.e., T1-11) sheet siding and similar materials are prohibited.
   2) Where board-and-batten siding is used, battens shall be a minimum of 2-inches wide x 1-inch deep and spaced 24 inches apart or closer; rough-sawn boards (specialty panel) are preferred over panels having a resin overlay.
   3) Where masonry siding is used, it shall consist of brick, stone, or rusticated concrete block, and must incorporate decorative patterns over not less than 15 percent of every elevation where it is used. Examples of decorative patterns include multi-toned masonry units, such as brick, stone, or cast stone, in layered or geometric patterns or split-faced concrete block to simulate rusticated stone-type construction. Changes in pattern should be used to accentuate breaks in building stories, corners, windows, structural bays, and building tops (e.g., parapets where flat roofs are allowed).
   4) Where metal siding is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation (e.g., wainscoting or other accent paneling). Metal must be architectural grade and have a non-reflective (burnished or painted) finish conforming to the approved Color Palette. Metal may also be used for flashing, gutters, downspouts, brackets, lighting, and signage and similar functional elements.
   5) Where stucco or synthetic stucco is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation.

e. Building elevations facing a public right-of-way or civic space shall incorporate at least three (3) of the following features: Using these features may also address other code requirements, such as those related to building articulation, change in relief, pedestrian shelters, and storefront elements.

   1. Exposed, heavy timbers;
   2. Exposed natural wood color beams, posts, brackets and/or trim (e.g., eaves or trim around windows);
   3. Natural wood color shingles (e.g., used as siding or to accent gable ends);
   4. Metal canopies;
   5. Heavy metal brackets (e.g., cast iron or similar appearance), which may be structural brackets or applied as cosmetic detailing; *and,*
   6. Similar features, consistent with the Sandy Style.

f. Materials required on elevations visible from an abutting public street must turn the building corner and incorporate appropriate transitions onto elevations not requiring these materials for a distance of not less than two (2) feet.

RESPONSE: *The proposal includes a three-foot-high brick wainscoting with a horizontal, composite wood siding on all facades of the main structure. The pillars designed to support the proposed civic and vehicle canopies have incorporated a three-foot-tall stone base to add another*

element compatible with the Sandy Style. Per the applicant's narrative (Exhibit C), exposed foundations will be minimal for this project and explains that where practical and allowed by code, exposed foundations are to be covered by the base material. ***The applicant shall demonstrate the foundation design meets the standards of Subsection 17.90.110(B)(3)(c) at the time of building permit review.*** *The public right-of-way elevation (south) and civic space elevation (east) include four of the required elements: exposed heavy timbers; exposed natural wood color beams, posts and brackets; metal canopies; and heavy metal brackets. The design elements within this section are incorporated in whole and consistent on each façade of the proposed building to create a more unified expression throughout the development.*

4. **Colors.** Building exteriors shall comply with the following standards:

a) Permitted colors include warm earth tones (tans, browns, reds, grays and greens) conforming to the Color Palette provided in Appendix C.
b) High-intensity primary colors, metallic colors and black, may be utilized as trim and detail colors only, not to exceed one (1) percent of the surface area of any elevation. Such color shall not be used as primary wall colors.
c) Day-glow colors, highly reflective colors, and similar colors are not permitted.

RESPONSE: *Per the applicant's narrative the color and material palette are intended to meet the criteria of this section of code with no high-intensity primary or metallic colors being used.* ***The applicant shall submit updated plans indicating proposed colors that are in conformance with the Color Palette in Appendix C.***

C. Roof Pitch, Materials, and Parapets

Intent: To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1) Except as provided in subsections 17.90.110(C)(8), below, pitched (gabled or hipped) roofs are required on all new buildings with a span of 50-feet or less. Gable and hipped roof forms must achieve a pitch not less than the following:

Zoning District	Primary Roof Forms (Minimum)	Secondary Roof Forms (minimum)
C-1, C-3	6:12	4:12

2) As provided above, "Primary Roof Forms" are those that individually comprise 20 percent or more of the total surface area of a roof elevation. Secondary roof forms (e.g., dormers, towers, cupolas, etc.) are those that comprise less than 20 percent of the roof elevation. See also, Section 17.74.20 Vertical Projections.
3) When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street.

4) Pitched roof surfaces visible from an abutting public street shall provide a secondary roof form (e.g. dormer) in the quantity specified below. Secondary roof forms may be located anywhere on the roof, although grouping these features is preferred.

Roof Length	Number of Secondary Roof Forms
30 – 40 feet	1
41 – 80 feet	2
81 feet and greater	4

5) Visible roof materials must be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D.
6) All roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Roof plans and elevations must show proposed equipment locations, approximate dimensions, and line of sight from public rights-of-way and civic spaces. The reviewing body may require additional equipment setbacks, screen walls, or other mitigation to ensure compliance.
7) A-frame buildings and Mansard-style roofs are not permitted.
8) Exception to Pitched Roof: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form. An alternative roof form includes an "applied pitched roof" or flat roof constructed over the building or portion of the building as specified below. An example when a pitched roof is considered impractical would be the need to have large rooftop stove vents over the kitchen portion of a restaurant. Roof forms constructed under this exception shall comply with the standards below.

b. Flat Roof: Flat roofs shall comply with the following standards:

1) Sandy Style stepped parapets and detailed coursing shall be provided on those elevations visible from an abutting public street. Parapets shall be varied so that the length of a parapet does not exceed 30 feet without a change in the parapet height of at least 2 feet or as necessary to hide rooftop equipment.
2) Average parapet height shall not exceed 15 percent of the supporting wall height, and the maximum parapet height shall not at any point exceed one-third (1/3) of the height of the supporting wall;
3) A cornice projecting at least six (6) inches from the building face shall be provided at the roofline of all elevations visible from abutting public rights-of- ways and pedestrian ways;
4) Parapet corners shall be stepped and the parapet be designed to emphasize the center or primary entrance(s), unless the primary entrance is at the corner of the building.

RESPONSE: *The primary structure is proposed to have a flat roof; therefore, the applicant has requested a Special Variance (Variance B). For additional details regarding this request see the*

analysis of Variance B in Section 17.66.80 of this report. The subject property is located on a major arterial street with high visibility. Additional 6:12 pitched roof features have been incorporated on secondary features to complement the proposed parapet section of the building. One of these canopy features has been incorporated with the gable oriented to the right-of-way (Proctor Blvd./US HYW 26) on the south facade. By designing the primary structure with a flat roof with parapets to screen equipment and incorporating the required roof pitch on the structure's secondary features, the proposal achieves the Sandy Style aesthetic. The applicant has submitted a Sight Line Analysis (Exhibit U) to visually represent how the proposed parapet walls will properly screen the roof top equipment further supporting the standards of Section 17.90.110(C)(6). In addition, the proposal includes a 6-inch brick cornice surrounding the parapet. ***The applicant shall update the plans to demonstrate compliance with Subsection 17.90.110(C)(8)(b)(2).***

D. Building Orientation and Entrances

Intent: To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Buildings shall be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off- street parking on a parcel as required by SDC 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).
2. Where parking is placed between a front façade and a street, a landscaped berm and/or architectural features, such as a knee wall, colonnade, arbor, trellis and/or similar device, shall be placed behind the sidewalk to partially screen the parking area from the sidewalk. The partial screen shall be designed to achieve at least 50 percent opacity at the time of installation, with openings for walkways connecting to the building's primary entrance.
3. Ground floor spaces shall face a public street and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel). Where the reviewing authority determines that facing the building to a street is not practical, it may require the building to face a civic space.
4. Buildings located at the intersection of two streets shall use a corner building entrance; where a corner entrance is not practical due to the internal functioning of the building space or due to physical constraints of the site (e.g., topography, accessibility, or similar circumstances), a building entrance must be provided within 40 feet of the corner. The building corner must use detailing that emphasizes the corner location and is consistent with the Sandy Style. Examples of acceptable detailing include a rounded or chamfered (beveled) corner, weather protecting canopy, plaza, sculpture, and/or similar pedestrian-oriented features.
5. Upper story residential units shall have an entrance separate from the ground floor (commercial) space and conform to applicable building codes.
6. Buildings shall provide at least two elevations where the pedestrian environment is "activated". An elevation is "activated" when it meets the window transparency requirements in subsection 17.90.110(E), below, and contains a customer entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway or civic space. Where providing a

customer entrance on two (2) elevations is not practical, the reviewing body may allow a single entrance.

7. Primary entries shall face a public street or a civic space and shall be spaced not more than 30 feet apart on average. Ancillary shops shall provide entries every 30 feet, on average.
8. Primary entrances shall be architecturally emphasized and visible from the abutting public right-of-way or civic space and shall be sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches or art, should also be used to emphasize an entrance.

RESPONSE: *The proposal does not meet the 50 percent building frontage requirement associated with Subsection 17.90.100(D)(1) and have requested a variance from this standard. Should the variance be granted, the proposal will be considered in conformance with the above standard. For additional details regarding this request see the analysis of Variance C in Section 17.66.80 of this report. The required parking associated with the use is located to the rear of the proposed primary structure. The proposal is unique in that the use does not offer interior space for patrons therefore the use will rely heavily on the civic space they provide which is evaluated in Section 17.90.110(G) of this report. The proposal includes an elevated pedestrian pathway from the right-of-way (Proctor Blvd./US HWY 26) to the proposed civic space which is adjacent to the primary structure where patrons have access to an ordering window providing an enhanced pedestrian experience for patrons of the site. In addition to the civic space the proposal incorporates 40 percent window transparency on the south façade, 41 percent on the east where the majority of the civic space is located, and 33 percent on the north façade where the ordering window is proposed. This confirms the proposal meets the building activation standards associated with the C-1 zone district. The proposed civic space on the north and east elevations will include a gabled feature as well as enhanced transparency along both facades to enhance the pedestrian environment and character of the development.*

E. Windows

Intent: To promote business vitality, public safety and aesthetics through effective window placement and design, consistent with the Sandy Style. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, and 17.90.110-I, and representative photos in Appendix E.

1) **Unified Design**. Building plans must provide for unity in window placement and design so that all sides of a building relate to one another and multiple buildings on a development site relate to one another.
2) **Ground Floor Windows**. The ground floor elevation of all new buildings shall contain display areas, windows, and doorways along street frontages and where the building abuts a civic space as follows: Lots with multiple street frontages are required to meet this standard on only two frontages.

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

a. Windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished

grade. Where the internal functions of a building preclude windows at this height, the reviewing body may approve locating windows above or below this height. Display boxes affixed to a building's exterior are not counted in meeting the above standard.

b. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented.
c. Windows with any dimension exceeding six (6) feet shall be divided into smaller panes (e.g., 2 foot by 2 foot grid) with real divided panes, vinyl inserts or applied dividers.
d. Windows shall have trim or moldings at least three (3) inches in width around them, or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills.

4) **Prohibited Windows.** The following window types are prohibited:

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

1. Darkly tinted windows, mirrored windows, and similar windows are prohibited adjacent to street sidewalks, civic spaces and walkways.
2. Glass curtain windows are not permitted facing public right-of-ways, except where the reviewing body finds that such windows are consistent with the Sandy Style.

RESPONSE: *While not each façade has incorporated windows, the proposed window elements of the project are observed to be in a logical and unified design throughout the overall exterior of the building. As detailed in the previous section of this report, the proposal incorporates 40 percent window transparency on the south façade, 41 percent on the east where the majority of the civic space is located, and 33 percent on the north façade where the ordering window is to be located meeting the above code requirement. The proposed window pane orientation meets code standards as well as meeting the requirement that all windows exceeding six feet in length are divided into smaller panes to conform to the above referenced standards. The applicant has expressed the proposal will include clear glass and 4-inch trim/molding around all windows (Exhibit U).*

F. Landscaping and Streetscape Design

Intent: To promote business vitality, public safety and aesthetics through effective landscaping and streetscape design, consistent with the Sandy Style; and to provide for a pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, and Downtown Sandy Streetscape Design)

1. The provisions of Chapter 17.92, Landscaping and Screening General Standards shall apply except in the C-1 Zoning District where conformance with the Downtown Sandy Streetscape Design, as illustrated in Appendix F is required.
2. Where any conflict arises between provisions of the Sandy Streetscape Design and other city standards (e.g., sidewalk width, materials, or similar specifications), the Streetscape Design shall

prevail. All applicable provisions of Chapter 17.92 Landscaping and Screening General Standards must be met, except as modified by the Downtown Sandy Streetscape Design.

RESPONSE: *The proposal includes street trees planted in tree wells located within the right-of-way as opposed to the traditional landscape strip as these two frontages do not have landscaping strips. The streetscape on Proctor Blvd./US HWY 26 is required to conform to the standards of Appendix F - Streetscape Design Detail, therefore the* ***applicant shall update the plans to indicate conformance with the sidewalk tree grate and lighting details identified in Appendix F. Additionally, the streetscape on Pleasant Street shall conform to the standards of the Pleasant Street Master Plan.***

The proposed landscaping (Exhibit Y) abutting Proctor Blvd./US HWY 26 includes four street trees to be located within tree wells designed as part of the sidewalk infrastructure. On the subject property the proposal includes three 5-foot tall Shore Pine trees as well as approximately forty evergreen shrubs to be planted. The proposed evergreen shrubs will be approximately 3-feet in height at maturity and placed sporadically in the landscaping area between the right-of-way (i.e. sidewalk) and proposed drive-through vehicular isle. It can be concluded that the proposed landscaping will provide visual separation between the pedestrian environment and the proposed on-site vehicular drive isle associated with the requested conditional use. This proposed landscaping helps the proposal meet the intent of this section to create a pedestrian network that promotes public safety and aesthetics through effective landscaping/streetscape design.

The applicant will be required to obtain a permit from ODOT to place trees within the highway right-of-way.

G. Civic Space

Intent: To connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for the public, consistent with Sandy's Downtown Streetscape Design. (See Figures 17.90.110-H and 17.90.110-I).

1. Not less than three (3) percent of the ground floor area of every development shall be improved as civic space.
2. All civic spaces shall have dimensions of not less than eight (8) feet across and have a surface area of not less than 64 square feet. No civic space is required if the size of this space results in an area of less than 64 square feet.
3. Civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review.
4. The highest priority locations for civic space are those areas with the highest pedestrian activity (e.g., street corners and mid-block pedestrian access ways) that have a western or southern exposure.
5. Unless impractical, civic spaces shall abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Where a right-of-way connection is not possible, the owner must provide a public access way easement to the civic space. Civic spaces shall not be gated or closed to public access, unless otherwise required by the city.

6. Exceptions: Building additions and remodels subject to Type I Design Review are not required to set aside or improve civic space, though they are encouraged to do so.

RESPONSE: *The ground floor area of the proposed use is 834 square feet which results in a total need of approximately 25 square feet of civic space which would result in an exemption from the requirement for civic space as the space results in less than 64 square feet. The proposal includes a total of 868 square feet of civic space. The civic space includes both a covered and uncovered patio as well as a pedestrian pathway leading from the right-of-way (Proctor Blvd./US HWY 26) to the civic space which is elevated, as well as a contracting material from the vehicular asphalt. While the proposed civic space is not located between the primary structure and the right-of-way due to the proposed conditional use, a drive-through facility, the proposed location is logically located on the east façade for visibility and provides an enhanced pedestrian pathway.*

To emphasize a "village" scale and character (Objective B within Section 17.90.00(C)(3)) by connecting the proposed development to the adjacent right-of-way, the application has been revised to now include two benches along the front (south) property line facing Proctor Blvd. (Exhibit Y). The benches will each be 6-feet in length and be anchored to concrete. A single bench will be placed on both sides of the proposed on-site raised pedestrian connection required by Section 17.90.110(A)(8).

H. Lighting

Intent: To promote business vitality, public safety and aesthetics through effective outdoor lighting, consistent with the Sandy Style.

1. Streetscape lighting shall conform to the Downtown Sandy Streetscape Design and the requirements of Chapter 15.30, Dark Sky Ordinance.
2. Exterior lighting must be an integral part of the architectural design and must complement any ornamental street lighting and remain in context with the overall architectural character of the district. On-site light fixtures conforming to the Sandy Style are encouraged.
3. Lighting must be adequate for safety purposes. Walkways, parking lots, and building entrances should be illuminated at 1.5 – 2.0 foot candles.

RESPONSE: *Section 17.90.110(H.3) specifies that walkways and parking lots should be illuminated at 1.5 – 2.0-foot candles. The updated Photometric Plan (Exhibit BB) details parking lot illumination at 0.15 to 1.17-foot candles and walkway illumination at 0.51 to 2.09 foot candles. The applicant is proposing to use a decorative light fixture that cascades light downward from the light fixtures which will be mounted on a 15-foot-tall pole. All outdoor lighting systems has been designed so that the area 10 feet beyond the property line of the premises receives no more than .25 (one quarter) of a foot-candle of light from the proposed listing system. Lighting is discussed further in Chapter 15.30 (Dark Sky) of this document.*

I. Safety and Security

Intent: To promote natural surveillance of public spaces for safety and security.

1. Locate windows in a manner that enables tenants, employees and police to watch over pedestrian, parking and loading areas.

2. In commercial, public and semipublic development, including civic spaces, locate windows in a manner that enables surveillance of interior activity from the public right- of-way.
3. Provide street address numbers measuring a minimum of six (6) inches high, which clearly locates buildings and their entries for patrons and emergency services.
4. Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way and other public areas. (See also, subsection H Lighting.)

RESPONSE: *The proposed parking area is located adjacent to the north elevation of the proposed building. The north elevation for Building 1 (Exhibit I, Sheet A5.1) identifies windows along the eastern portion of the north façade where a pedestrian ordering window will be located and the remainder shall incorporate cohesive materials as the remainder of the building. The proposed use is unique as no internal space is proposed for patrons, therefor the proposed windows appear adequate regarding employee safety. Real windows would allow visibility from the Dutch Bros interior to the pedestrian entrance and parking area. The proposed windows along the east façade of the proposed building will allow visibility between the proposed eating and drinking assembly area and the proposed civic space. In addition, the proposal includes windows on the south façade where the pick-up window is proposed for the drive-through facility. Visibility of the civic space, parking lot and proposed drive-through from the internal assembly area is a desirable surveillance feature.* ***The applicant shall provide street address numbers measuring a minimum of six (6) inches high, which clearly locate buildings and their entries for patrons and emergency services. The applicant shall verify the location(s) of the address with the Building Official and emergency service providers.*** *On-site lighting is evaluated in Chapter 15.30 of this staff report. Lighting has been designed to illuminate driveways and building entrances.*

J. External Storage and Screening

Intent: To promote land use compatibility and aesthetics, particularly where development abuts public spaces.

1. Exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited.
2. Where such storage is allowed, it must be screened from view from public rights of way and civic spaces.
3. Mechanical, electrical, communications equipment including meters and transformers, and service and delivery entrances and garbage storage areas shall be screened from view from public rights-of-way and civic spaces.
4. Trash collection and recycling storage areas must be located within the structure or otherwise screened from view in an enclosed facility. Such facilities must be screened from view from public rights-of-way and civic spaces behind a screening wall constructed to match the materials used on the primary building(s) on the subject site.
5. Exceptions to the above provisions may be allowed through Design Review where no other practical alternative exists and such equipment is made to be visually subordinate to the proposed building and landscape, for example, through the use of common materials for screening walls or landscape berms. The reviewing body may require additional setbacks, screening walls or other mitigation, for aesthetic reasons and to minimize odors or noise impacts on adjoining properties, public rights-of-way or civic spaces.

RESPONSE: *The applicant is not proposing any outdoor storage areas. The mechanical equipment for the site is proposed to be located on the roof. The applicant has requested a special variance (Variance B within Section 17.66 of this report) to allow a flat pitched roof with parapets that will screen the equipment from view from the right-of-way.* ***The applicant shall submit line of sight analysis for the rooftop equipment prior to submitting building permits.*** *This land use proposal includes a garbage/recycle enclosure for screening purposes. The enclosure is 18 feet by 12 feet (length by width) and located in the northeast corner of PP1. The enclosure includes an eight foot – six inch tall stucco surround with two sets of synthetic wood gates for access to the dumpsters.* ***The applicant shall submit updated plans indicating proposed colors for the enclosure and associated gates that are in conformance with the Color Palette in Appendix C.***

CHAPTER 17.92 – LANDSCAPING AND SCREENING

17.92.10 GENERAL PROVISIONS

1. Where landscaping is required by this Code, detailed planting plans shall be submitted for review with development applications. No development may commence until the Director or Planning Commission has determined the plans comply with the purposes clause and specific standards in this chapter. All required landscaping and related improvements shall be completed or financially guaranteed prior to the issuance of a Certificate of Occupancy.
2. Appropriate care and maintenance of landscaping on-site and landscaping in the adjacent public right-of-way is the right and responsibility of the property owner, unless City ordinances specify otherwise for general public and safety reasons. If street trees or other plant materials do not survive or are removed, materials shall be replaced in kind within 6 months.
3. Significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development. Trees of 25-inches or greater circumference measured at a height of 4-1⁄2 ft. above grade are considered significant. Plants to be saved and methods of protection shall be indicated on the detailed planting plan submitted for approval. Existing trees may be considered preserved if no cutting, filling, or compaction of the soil takes place between the trunk of the tree and the area 5-ft. outside the tree's drip line. Trees to be retained shall be protected from damage during construction by a construction fence located 5 ft. outside the dripline.
4. Planter and boundary areas used for required plantings shall have a minimum diameter of 5- ft. (2-1⁄2 ft. radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of 7-1⁄2 ft.
5. In no case shall shrubs, conifer trees, or other screening be permitted within vision clearance areas of street, alley, or driveway intersections, or where the City Engineer otherwise deems such plantings would endanger pedestrians and vehicles.
6. Landscaped planters and other landscaping features shall be used to define, soften or screen the appearance of off-street parking areas and other activity from the public street. Up to 35 percent of the total required landscaped area may be developed into pedestrian amenities, including, but not limited to sidewalk cafes, seating, water features, and plazas, as approved by the Director or Planning Commission.
7. Required landscaping/open space shall be designed and arranged to offer the maximum benefits to the occupants of the development as well as provide visual appeal and building separation.
8. Balconies required for entrances and exits shall not be considered as open space except where such exits and entrances are for the sole use of the unit.

9. Roofed structures shall not be included as open space except for open unenclosed public patios, balconies, gazebos, or other similar structures or spaces.
10. Driveways and parking areas shall not be included as open space.
11. All areas not occupied by paved roadways, walkways, patios, or buildings shall be landscaped.
12. All landscaping shall be continually maintained, including necessary watering, weeding, pruning and replacing.

RESPONSE: *The applicant has submitted an updated landscape plan (Exhibit Y) with an associated detail sheet for additional planting information (Exhibit Y). The proposal includes a Type I Land Division (Minor Partition) request to subdivide the existing parcel into two lots (PPI and PPII). PPI is to be redeveloped with an eating and drinking establishment and proposed drive-through facility while PPII is to remain vacant for future development. While PPI is currently absent of trees, PPII has trees located within the proposed boundaries, therefore* ***the applicant shall install tree protection fencing located 5 feet outside of the dripline of all existing trees on site.*** *Per Section 17.92.10(L),* ***all landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing.***

Per the submitted Phase I Environmental Site Assessment (Exhibit F), the site has been previously treated for contaminated soil. The assessment also identifies evidence of undocumented fill on the site. On August 16, 2007, the Oregon Department of Environmental Quality (DEQ) determined that No Further Action was necessary at the project site, subject to the development restrictions in the Easement and Equitable Servitudes (EE&S) recorded for the project site. As described in the EE&S, a contaminated media management plan (CMMP) must be completed, reviewed and approved by DEQ prior to site development.

17.92.20 MINIMUM IMPROVEMENTS - LANDSCAPING AND SCREENING

The minimum landscaping area of a site to be retained in landscaping shall be as follows:

ZONING DISTRICT OR USE	PERCENTAGE
R-3	25%
Manufactured Home Park	20%
C -1 Central Business District	10%
C - 2 General Commercial	20%
C - 3 Village Commercial	10%
I - 1 Industrial Park	20%
I - 2 Light Industrial	15%
I - 3 Heavy Industrial	10%

RESPONSE: *The subject property is zoned Central Business District, C-1. Section 17.92.20 requires that a minimum of 10 percent of the site be landscaped in the C-1 zoning district. The submitted landscape plan (Exhibit Y) identifies the total property area (both parcels combined) at 28,184 square feet with a total landscaped area of 4,985 square feet which equates to a total of 17 percent of the site landscaped. The proposed 17 percent landscaping, with the exception of two street trees along Pleasant*

Street, is solely within the southern portion of the property known as PPI to be developed into an eating and drinking establishment with a drive-through facility.

In addition to the required percentage of landscaping there is a triangular 300 square foot area between the subject property's front (south) property line and the back of the required sidewalk along Proctor Blvd. This 300 square foot area is proposed to include landscaping and irrigation per Section 17.92.70 requirements and is not included in the overall 17 percent landscaping of the site.

17.92.30 REQUIRED TREE PLANTINGS

Planting of trees is required for all parking lots with 4 or more parking spaces, public street frontages, and along private drives more than 150 feet long. Trees shall be planted outside the street right-of-way except where there is a designated planting strip or City adopted street tree plan.

The City maintains a list of appropriate trees for street tree and parking lot planting situations. Selection of species should be made from the city-approved list. Alternate selections may be approved by the Director following written request. The type of tree used shall determine frequency of trees in planting areas. Trees in parking areas shall be dispersed throughout the lot to provide a canopy for shade and visual relief.

Area/Type of Planting	Canopy	Spacing
Street Tree	Medium	30 ft. on center
Street Tree	Large	50 ft. on center

- Trees may not be planted:
- Within 5 ft. of permanent hard surface paving or walkways, unless specific species, special planting techniques and specifications approved by the Director are used.
- Unless approved otherwise by the City Engineer:

    * Within 10 ft. of fire hydrants and utility poles
    * Within 20 ft. of street light standards
    * Within 5 ft. from an existing curb face
    * Within 10 ft. of a public sanitary sewer, storm drainage or water line

- Where the Director determines the trees may be a hazard to the public interest or general welfare.
- Trees shall be pruned to provide a minimum clearance of 8 ft. above sidewalks and 12 ft. above street and roadway surfaces.

RESPONSE: *Section 17.92.30 requires trees to be planted along public street frontages. Based on the proposed planter area width the requirement will be medium sized trees spaced 30 feet on center for both Proctor Blvd./US HWY 26 and Pleasant Street. The updated Landscape Plan (Exhibit Y) detail street trees along both frontages of the subject property. Along Pleasant Street, which has approximately 89.4 feet of frontage, the proposal includes two Japanese Snowbell tree species at a distance of 30 feet from center. Along Proctor Blvd./US HWY 26 which has approximately 177.8 feet of frontage of which 28 feet is an access drive, there are four Japanese Snowbell tree species proposed. Due to an existing electrical pole the four trees are divided into two sets on either side which conform to the standard that they are planted at a distance of 30 feet to center. The proposed*

street trees will be planted within tree wells located within the right-of-way as opposed to the traditional landscape strip as these two frontages do not have landscaping strips. The streetscape on Proctor Blvd./US HWY 26 is required to conform to the standards of Appendix F - Streetscape Design Detail, therefore the ***applicant shall update the plans to indicate conformance with the sidewalk tree grate detail identified in Appendix F. The applicant will be required to obtain a permit from ODOT to place trees within the highway right-of-way. All street trees shall be a minimum of 1.5-inches in caliper measured 6 inches above the ground and shall be planted per the City of Sandy standard planting detail.***

The parking lot is proposed to contain Trident Maple tree species within the internal parking area. One Trident Maple will be located just east of the proposed civic space and the remaining two maples are at the end of two separate parking space aisles. ***All trees shall include tree ties with twine, loosely tied so as not to damage the trunk and shall be removed after one growing season (or a maximum of 1 year).***

17.92.40 IRRIGATION

Landscaping shall be irrigated, either with a manual or automatic system, to sustain viable plant life.

RESPONSE: *The submitted landscaping plans (Exhibit I, Sheets L10 and L11) indicates the "all planting areas" shall be equipped with an automatic drip irrigation system. All trees on the subject property shall be equipped with drip loops on separate zone.* ***The applicant shall demonstrate compliance with this proposal at time of building permit.***

17.92.50 TYPES AND SIZES OF PLANT MATERIALS

A. At least 75% of the required landscaping area shall be planted with a suitable combination of trees, shrubs, or evergreen ground cover except as otherwise authorized by Chapter 17.92.10 F.
B. Plant Materials. Use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged where possible.
C. Trees shall be species having an average mature spread of crown greater than 15 feet and having trunks which can be maintained in a clear condition with over 5 feet of clear wood (without branches). Trees having a mature spread of crown less than 15 feet may be substituted by grouping the same so as to create the equivalent of a 15-foot crown spread.
D. Deciduous trees shall be balled and burlapped, be a minimum of 7 feet in overall height or 1 1⁄2 inches in caliper measured 6 inches above the ground, immediately after planting. Bare root trees will be acceptable to plant during their dormant season.
E. Coniferous trees shall be a minimum five feet in height above ground at time of planting.
F. Shrubs shall be a minimum of 1 gallon in size or 2 feet in height when measured immediately after planting.
G. Hedges, where required to screen and buffer off-street parking from adjoining properties shall be planted with an evergreen species maintained so as to form a continuous, solid visual screen within 2 years after planting.
H. Vines for screening purposes shall be a minimum of 1 gallon in size or 30 inches in height immediate after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.

I. Groundcovers shall be fully rooted and shall be well branched or leafed. If used in lieu of turf in whole or in part, ground covers shall be planted in such a manner as to provide complete coverage in one year.
J. Turf areas shall be planted in species normally grown as permanent lawns in western Oregon. Either sod or seed are acceptable. Acceptable varieties include improved perennial ryes and fescues used within the local landscape industry.
K. Landscaped areas may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, decorative hard paving and gravel areas, interspersed with planted areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscape area.

RESPONSE: *The Landscape Plan (Exhibit I, Sheets L10 and L11) identifies the following street trees at 2.0- inch caliper:*

- *Japanese Snowbell (common name)*

In addition, the Landscape Plan identifies the following plantings within the site:

- *Three, Kentuky Coffeetrees (common name) at 1.5-inch caliper*
- *Ten, Shore Pine (common name) at 5 feet tall*
- *Six, Golden Privet (common name)*

Street trees are typically required to be a minimum caliper of 1.5- inches measured 6 inches from grade. The applicant is proposing 2.0-inch caliper street trees meeting the code requirement.

The Landscape Plan identifies various areas of landscaping throughout the site that will receive either a Northwest Ornamental Planting Mix, Standard Shrub and Groundcover Mix or Stormwater Plantings. A plant schedule is located within the submitted landscaping plans (Exhibit Y) identifying the proposed planting types and the associated size at planting. All proposed plants meet the minimum 1 gallon in size requirement established within this section of the Development Code.

The applicant shall update the Landscape Plans to remove the Golden Privet from the "Tree" category of the Plant Schedule and add it to the "Shrubs" category.

17.92.60 REVEGETATION IN UNLANDSCAPED OR NATURAL AREAS

A. Areas where natural vegetation has been removed or damaged through grading or construction activity in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements shall be replanted.
B. Plant material shall be watered at intervals sufficient to assure survival and growth.
C. The use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged to reduce irrigation and maintenance demands.

RESPONSE: *The proposal includes a Type I Land Division (Minor Partition) to subdivide the property into two legal lots of record (PPI and PPII). PPII is proposed to remain undeveloped.* ***The applicant shall maintain all unlandscaped and/or revegetated areas for a period of two (2) years following the date of recording of the final plat associated with those improvements***.

17.92.70 LANDSCAPING BETWEEN PUBLIC RIGHT-OF-WAY AND PROPERTY LINES

Except for portions allowed for parking, loading, or traffic maneuvering, a required setback area abutting a public street and open area between the property line and the roadway in the public street shall be landscaped. That portion of the landscaping within the street right-of-way shall not count as part of the lot area percentage to be landscaped.

RESPONSE: *There is a portion of property, approximately 300 square feet in area, that lies between the property line and the improved sidewalk within the right-of-way. While this area is not included in the proposal's landscape requirement it has been noted by the applicant within their updated narrative (Exhibit R) and incorporated into the overall landscape plan.* ***The future development of the site is responsible for incorporating landscaping within the 300 square foot area to match the on-site proposed landscaping to create a cohesive design along the frontage of the property.***

17.92.80 BUFFER PLANTING - PARKING, LOADING AND MANUEVERING AREAS

Buffer plantings are used to reduce building scale, provide transition between contrasting architectural styles, and generally mitigate incompatible or undesirable views. They are used to soften rather than block viewing. Where required, a mix of plant materials shall be used to achieve the desired buffering effect.

Buffering is required in conjunction with issuance of construction permits for parking areas containing 4 or more spaces, loading areas, and vehicle maneuvering areas. Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Decorative walls and fences may be used in conjunction with plantings but may not be used by themselves to comply with buffering requirements. Exception: truck parking lots are exempt from parking bay buffer planting requirements.

RESPONSE: *The adjacent properties are within the same zoning district, C-1, therefore there are no buffer requirements associated with the development. The properties to the north of the proposal include a legal non-conforming single-family home as well as a professional office building. The proposal includes planting a total of six Golden Privet shrub species with a planting height of five-feet tall along the north property line. Additionally, within this area, three 5-feet tall Shore Pine tree species will be planted to provide additional screening between the proposed use and the adjacent property to the northeast.*

To increase screening between PPI and the adjacent single-family home to the north the proposal includes planting 15 Mock Orange shrubs pruned to form a six-foot hedge along the north property line extending west from the proposed Shore Pine tree canopy. These planting efforts will help to buffer the proposed conditional use, a drive-through facility, from the neighboring properties to the north.

17.92.130 PERFORMNCE BOND

If weather conditions or other circumstances beyond the control of the developer or owner make completion of the landscaping impossible prior to desired occupancy, an extension of up to 6 months may be applied for by posting "security" equal to 120% of the cost of the landscaping, assuring installation within 6 months. "Security" may consist of a performance bond payable to the city, cash, certified check, time certificates of deposit, assignment of a saving account, letter of credit, or other such assurance of access to funds necessary for completion as shall meet the approval of the City Attorney. Upon acceptance of the security, the developer or owner may be allowed occupancy for a period of up to 180 days. If the installation of the landscaping improvement is not completed within 180 days, the City shall have access to the security to complete the installation and/or revoke occupancy. Upon completion of the installation by the city, any portion of the remaining security minus administrative charges of 30% shall be returned to the owner. Costs in excess of the posted security shall be assessed against the property and the City shall thereupon have a valid lien against the property, which will come due, and payable.

RESPONSE: *The applicant has the option to defer the installation of street trees and/or landscaping for weather-related reasons. Staff recommends the applicant utilize this option rather than install trees and landscaping during the dry summer months.* ***If the applicant chooses to postpone street tree and/or landscaping installation, the applicant shall post a performance bond equal to 120 percent of the cost of the landscaping, assuring installation within 6 months. The cost of street trees shall be based on the street tree plan and at least $500 per tree. The cost of landscaping shall be based on the average of three estimates from three landscaping contractors; the estimates shall include as separate items all materials, labor, and other costs of the required action, including a two-year maintenance and warranty period.***

CHAPTER 17.94 - DRIVE-UP USES

17.94.00 INTENT

These provisions are established to ensure safe, functional drive-up uses while not impeding flow of traffic. For purposes of this section, a vehicle shall be considered no less than twenty feet in length.

The width and turning radius of drive-up aisles shall be approved through the Type I design review process.

> ***RESPONSE:*** *The proposal includes a request for a drive-through facility to be approved as a conditional use. Conditional uses are processed as a Type III review which requires Planning Commission approval. The proposal has been processed according to the Type III procedure requirements.*

17.94.20 MINIMUM REQUIREMENTS

1. Parking maneuvers shall not occur in the stacking area. The stacking area shall not interfere with safe and efficient access to other parking areas on the site or adjacent properties.
2. Drive-up aisles and windows must be located a minimum of fifty feet from residential zones to avoid adverse impacts.
3. All restaurant facilities, except short term food service, providing drive-up service shall provide at least two designated parking spaces immediately beyond the service window or provide other

satisfactory methods to allow customers requiring excessive waiting time to receive service while parked.
4. The grade of the stacking area to the drive-up shall not exceed a slope of twelve percent.
5. The drive-up shall be designed to provide as much natural ventilation as possible to eliminate the buildup of exhaust gasses.
6. The sound level of communications systems shall not exceed fifty-five decibels at the property line and shall otherwise comply with provisions of the Sandy Municipal Code regarding sound levels.

Response: *The proposal includes a dedicated stacking/que lane that separates itself from the parking and maneuvering area by a raised curb which includes a pedestrian pathway and, in some areas, landscaping. No properties within 50 feet of the drive-up isle are zoned residential. The proposed use, a coffee shop, can be considered a short-term food/beverage service therefore the proposal does not require two designated parking spaces immediately beyond the service window associated with the drive-through facility. Additionally, staff finds the proposal to include additional parking. Parking analysis can be within Section 17.98 of this report, which allows the use to dedicate two proposed spaces in the future should such a need be warranted. The grade of the stacking/que lane does not exceed a four percent slope per submitted plans (Exhibit I, Sheet C3.0). The stacking lane extends the perimeter of the north, west and south property lines and is predominantly surrounded by landscaping and/or sidewalk paths providing the ability for natural ventilation for vehicle exhaust. The proposed drive-through facility will not be utilizing a communication system to capture patron's orders; rather the use will utilize employees on foot to capture orders. Should the use install and use a communications system associated with the drive-through facility, they shall demonstrate the system does not exceed fifty-five decibels at the property line.*

17.94.30 STACKING DISTANCE

Drive-up window uses shall provide a minimum stacking area clear of the public right-of-way and parking lot aisles from the window serving the vehicles as follows:

1. Banks. Each lane shall provide a minimum capacity for 5 vehicles.
2. Restaurants. Each lane shall provide a minimum capacity for 8 vehicles.
3. Short-Term Food Service. Each lane shall provide a minimum capacity for 3 vehicles. Short Term Food Service is defined as a facility serving espresso, ice cream, or other single-service product. A maximum of one designated parking space located at the end of the stacking area may be substituted for one required stacking space for small convenience food stops only.

D. Other Drive-up Uses:

4. Automotive Fueling Stations. Each lane shall provide a minimum capacity for 4 vehicles.
5. Other Uses. Each lane shall provide a minimum capacity for 2 to 8 vehicles, as determined through the design review process.

Response: *The proposed use, a coffee shop, is considered short-term food service therefore the site is required to have a minimum stacking/que lane that accommodates three vehicles. The proposed drive-through facility has a capacity of 15 vehicles each with a length of 19 feet.*

CHAPTER 17.98 – PARKING, LOADING, AND ACCESS REQUIREMENTS

17.98.20 OFF-STREET PARKING REQUIREMENTS

RESPONSE: *Section 17.98.20 requires eating and drinking establishments to have a total of 1 parking space per 250 sq. ft. of gross floor area or 1 per 4 fixed seats or stools, plus 1 per 2 employees. The proposal includes an 834 square-foot interior space, 868 square-foot civic area with patron seating and the applicant has identified that the proposed use will have 10 employees. Based on this information the site is required to have a total of 12 parking spaces. The proposal includes a total of 13 parking spaces including one ADA space. Commercial zoned properties are not permitted to exceed the minimum off-street vehicle parking required by more than 30 percent. The proposal meets code requirements with regards to the number of parking spaces.*

17.98.50 SETBACKS

A. Parking areas, which abut a residential zoning district, shall meet the setback of the most restrictive adjoining residential zoning district.

B. Required parking shall not be located in a required front or side yard setback area abutting a public street except in industrial districts. For single family and two-family dwellings, required off-street parking may be located in a driveway.

C. Parking areas shall be setback from a lot line adjoining a street the same distance as the required building setbacks. Regardless of other provisions, a minimum setback of 5 feet shall be provided along the property fronting on a public street. The setback area shall be landscaped as provided in this code.

RESPONSE: *The proposed parking has been located to the rear of the proposed building and is not abutting a residentially zoned property.*

17.98.60 DESIGN, SIZE AND ACCESS

All off-street parking facilities, vehicular maneuvering areas, driveways, loading facilities, accessways, and private streets shall conform to the standards set forth in this section.

A. Parking Lot Design. All areas for required parking and maneuvering of vehicles shall have a durable hard surface such as concrete or asphalt.

B. Size of Space.
   1. A standard parking space shall be 9 feet by 18 feet.
   2. A compact parking space shall be 8 feet by 16 feet.
   3. Handicapped parking spaces shall be 13 feet by 18 feet. Accessible parking shall be provided for all uses in compliance with the requirements of the State of Oregon (ORS 447.233) and the Americans with Disabilities Act.
   4. Parallel parking spaces shall be a length of 22 feet.
      No more than 35 percent of the parking stalls shall be compact spaces

C. Aisle Width.

Parking Aisle	Single Sided One-Way	Single Sided Two-Way	Double Sided One-Way	Double Sided Two-Way
90 degree	20 feet	22 feet	25 feet	25 feet
60 degree	20 feet	20 feet	20 feet	20 feet
45 degree	20 feet	20 feet	20 feet	20 feet
Parallel	12 feet	12 feet	16 feet	16 feet

RESPONSE: *This section of code was analyzed by reviewing the submitted site plan (Exhibit I, Sheet C2.0). The proposed ground covering for the parking area is an approved material, asphalt. The site does not propose any parallel parking spaces; however, the proposal provides a total of 13, 90-degree parking spaces. The 90-degree parking spaces measure 9 feet wide by 18 feet deep while the single ADA parking space measures 9 feet wide by 18 feet deep with an 8-foot-wide by 18 feet deep dedicated stripped area adjacent to the parking stall.* ***The proposal includes one ADA parking space that is 9 foot wide by 18 feet deep with an adjacent 8 foot by 18 stripped access aisle and ramp to meet Oregon Revise Statue (ORS) 447.233.***

The proposal includes a 25-foot-wide drive aisle which meets the minimum requirement for a double-sided two-way drive aisle with 90-degree parking.

17.98.70 ON-SITE CIRCULATION

1. Groups of more than three (3) parking spaces shall be permanently striped.
2. Backing and Maneuvering. Except for a single family dwelling or two family dwelling, groups of more than 3 parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles enter the right-of-way (except for alleys) in a forward manner. Parking spaces shall not have backing or maneuvering movements for any of the parking spaces occurring across public sidewalks or within any public street, except as approved by the City Engineer. Evaluations of requests for exceptions shall consider constraints due to lot patterns and impacts to the safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

RESPONSE: The applicant shall stripe the proposed parking spaces per State of Oregon (ORS 447.233) and the Americans with Disabilities Act. *The City of Sandy Public Works Director, Mike Walker, stated the following in Exhibit N:*

"*Staff requested that the applicant submit a site plan showing the location of the parking and maneuvering areas on the 7-11 site and show the path of a passenger car backing out of the westernmost spaces on the 7-11 site and exiting the lot via the shared approach.*

Since the 7-11 site also has an approach onto SE Ten Eyck Rd. at the east edge of the site we also asked that the applicant show the path of the same vehicle backing out of the spots and exiting to the east and to show the dimensions for the existing spaces and the distance between the end of the stall and the right-of-way line.

Finally(,) we asked the applicant to submit a narrative discussion of these movements for both sites and identify any on-site conflicts that that could impact traffic on US 26 westbound. I didn't see any of the requested information in the applicant's submittal.

The applicant shall submit the requested information and analysis outlined above and in the January 22nd email to the applicant's traffic consultant. If conditions are identified that would affect operation of the shared approach and traffic on US 26 westbound the applicant shall propose and incorporate mitigation measures to address any impacts."

17.98.80 ACCESS TO ARTERIAL AND COLLECTOR STREETS

A. Location and design of all accesses to and/or from arterials and collectors (as designated in the Transportation System Plan) are subject to review and approval by the City Engineer. Where practical, access from a lower functional order street may be required. Accesses to arterials or collectors shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions may be granted by the City Engineer. Evaluations of exceptions shall consider posted speed of the street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
B. No development site shall be allowed more than one access point to any arterial or collector street (as designated in the Transportation System Plan) except as approved by the City Engineer. Evaluations of exceptions shall consider posted speed of street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
C. When developed property is to be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in A and B above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.

RESPONSE: *The subject property has a single ingress/egress access onto Proctor Blvd./US HWY 26 which is shared with the east adjacent property, 7-Eleven. The submitted narrative states, "On January 31, 2019 ODOT approved the driveway approach." ODOT submitted comments (Exhibit M) dated March 22, 2019 indicating that a State Highway Approach Permit is required for access to the state highway for the proposed use. Additionally, ODOT expressed that the applicant "shall record a cross-access easement to the adjacent properties with the state highway frontage with the County Assessor to facilitate future shared access." These requirements were concurred by the City Engineer (Exhibit K).* ***The applicant shall obtain a State Highway Approach Permit from ODOT as well as record a cross-access easement to the adjacent properties with state highway frontage with the County to facilitate future shared access or provide evidence that these requirements have been fulfilled. Any work within ODOT right-of-way must first obtain an ODOT Miscellaneous Permit.***

17.98.100 DRIVEWAYS

A. A driveway to an off-street parking area shall be improved from the public roadway to the parking area a minimum width of 20 feet for a two-way drive or 12 feet for a one-way drive but in either case not less than the full width of the standard approach for the first 20 feet of the driveway.

B. A driveway for a single-family dwelling shall have a minimum width of 10 feet.

C. A driveway for a two-family dwelling shall have a minimum width of 20 feet. A driveway approach must be constructed in accordance with applicable city standards and the entire driveway must be paved with asphalt or concrete.

D. Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve feet for their entire length and width but such clearance may be reduced in parking structures.

E. No driveway shall traverse a slope in excess of 15 percent at any point along the driveway length.

F. The location and design of the driveway shall provide for unobstructed sight per the vision clearance requirements. Requests for exceptions to these requirements will be evaluated by the City Engineer considering the physical limitations of the lot and safety impacts to vehicular, bicycle, and pedestrian traffic.

RESPONSE: *A minimum width of 20 feet for a two-way driveway is required and per the submitted Traffic Analysis Letter (Exhibit E) the site has a 40-foot-wide driveway from the right-of-way to the parking area. Based on this analysis, and confirmation from the City's Traffic Engineer consultant (Exhibit L), the proposal meets code requirements for driveway width. The submitted grading plan (Exhibit I, Sheet C3.0) indicated the driveway slope is at 3.5 percent slope.* ***The driveway approach on Proctor Blvd. shall be modified to meet ADA requirements.***

The submitted Traffic Analysis Letter (Exhibit E) indicates that the intersection sight distance (ISD) requirement is 280 feet based on the standards established in A Policy on Geometric Design of Highways and Street published in 2011. The calculated ISD exceeds 1,000 feet per the traffic engineer's calculations and confirmed by the City's Traffic Engineer consultant (Exhibit L).

17.98.120 LANDSCAPING AND SCREENING

A. Screening of all parking areas containing 4 or more spaces and all parking areas in conjunction with an off-street loading facility shall be required in accordance with zoning district requirements and Chapter 17.98. Where not otherwise specified by district requirement, screening along a public right-of-way shall include a minimum 5-ft. depth of buffer plantings adjacent to the right-of-way.
B. When parking in a commercial or industrial district adjoins a residential zoning district, a sight-obscuring screen that is at least 80% opaque when viewed horizontally from between 2 and 8 feet above the average ground level shall be required. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within 3 years after installation.
C. Except for a residential development which has landscaped yards, parking facilities shall include landscaping to cover not less than 10% of the area devoted to parking facilities. The landscaping shall be uniformly distributed throughout the parking area and may consist of trees, shrubs, and ground covers.
D. Parking areas shall be divided into bays of not more than 20 spaces in parking areas with 20 or more spaces. Between, and at the end of each parking bay, there shall be planters that have a minimum width of 5 feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. Truck parking and loading areas are exempt from this requirement.
E. Parking area setbacks shall be landscaped with major trees, shrubs, and ground cover as specified in Chapter 17.92.

F. Wheel stops, bumper guards, or other methods to protect landscaped areas shall be provided. No vehicle may project over a property line or a public right-of-way. Parking may project over an internal sidewalk, but a minimum clearance of 5 feet for safe pedestrian circulation is required.

RESPONSE: *As detailed in Section 17.98.50 of this report, parking on the subject property shall not be located in a required front or side yard setback area abutting a public street. The proposal has parking located to the rear of the building and does not violate the zone district's required side yard setback. The proposed parking area does not include parking bays that meet or exceed 20 consecutive spaces. There are two parking bays located on the site. The northern parking bay includes landscaped planters at both ends of the bay that meet the requirements of 17.92 – Landscaping and Screening. The south parking bay includes a landscape planter on the west end while the east end has a pedestrian pathway to meet the code requirements of Section 17.90.110(B)(2)(a) requiring pedestrian shelters over pedestrian sidewalks abutting buildings.*

17.98.130 PAVING

D. Parking areas, driveways, aisles and turnarounds shall be paved with concrete, asphalt or comparable surfacing, constructed to city standards for off-street vehicle areas.

E. Gravel surfacing shall be permitted only for areas designated for non-motorized trailer or equipment storage, propane or electrically powered vehicles, or storage of tracked vehicles.

RESPONSE: *The proposal includes asphalt for all parking and maneuvering areas. Concrete is proposed to be used for the pedestrian pathway that crosses the proposed drive-through facility's stacking/que lane. As required by Section 17.98.130,* ***all parking, driveway and maneuvering areas shall be constructed of asphalt, concrete, or other approved material****.*

17.98.140 DRAINAGE

Parking areas, aisles and turnarounds shall have adequate provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way and abutting private property.

RESPONSE: *Section 17.98.140 contains requirements for drainage. Section 17.100.250 of this report details the site's stormwater proposal and conditions of approval.*

17.98.150 LIGHTING

Artificial lighting shall be provided in all required off-street parking areas. Lighting shall be directed into the site and shall be arranged to not produce direct glare on adjacent properties. Light elements shall be shielded and shall not be visible from abutting residential properties. Lighting shall be provided in all bicycle parking areas so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or vehicle parking lots during all hours of use.

RESPONSE: *The proposed lighting for the site has been analyzed within Section 17.90.110(H) of this report.*

17.98.160 BICYCLE PARKING FACILITIES

Multi-family developments, industrial, commercial and community service uses, transit transfer stations, and park and ride lots shall meet the following standards for bicycle parking facilities. The intent of this section is to provide secure bicycle parking that is visible from a building's primary entrance and convenient to bicyclists.

A. Location.

1. Bicycle parking shall be located on-site, convenient to primary building entrances, and have direct access to both the public right-of-way and to the main entrance of the principal structure.
2. Bicycle parking areas shall be visible from building interiors where possible.
3. For facilities with multiple buildings or parking lots, bicycle parking shall be located in areas of greatest use and convenience to bicyclists.
4. If the bicycle parking area is located within the vehicle parking area, the bicycle facilities shall be separated from vehicular maneuvering areas by curbing or other barrier to prevent damage to parked bicycles.
5. Curb cuts shall be installed to provide safe, convenient access to bicycle parking areas.

B. Bicycle Parking Space Dimensions.

1. Each required bicycle parking space shall be at least 2 1⁄2 feet by 6 feet. If covered, vertical clearance of 7 feet must be provided.
2. An access aisle of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking. Vertical or upright bicycle storage structures are exempted from the parking space length.

C. Security.

1. Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be located.
2. Racks requiring user-supplied locks shall accommodate both cable and U-shaped locks. Racks shall be designed and installed to permit the frame and both wheels to be secured, with removal of the front wheel, or the frame and one wheel to be secured, if both wheels remain on the bicycle.
3. Bicycle racks shall be securely anchored to the ground or a structure and shall be designed to hold bicycles securely by means of the bicycle frame.
4. All outdoor bicycle parking facilities shall provide adequate shelter from precipitation where possible.

F. Signing. Where bicycle facilities are not directly visible and obvious from the public right-of- way, entry or directional signs shall be provided to direct bicyclists from the public right-of- way to the bicycle parking facility.

E. Exemptions. Temporary street side sales and temporary uses such as fireworks stands, Christmas tree sales lots, single-family and two-family residences are exempt from the standards.

RESPONSE: *The submitted narrative (Exhibit I) indicates the bicycle parking will be provided at a paved ribbon rack adjacent to the front public access to the building. At a minimum, 2 spaces will be*

provided per Table 117.98.20.8 however does not detail compliance with standards of Section 17.98.160 – Bicycle Parking Facilities. Additionally, the submitted site plans and renderings (Exhibit I) do not show the location or design of the proposed bike facilities. Bicycle Parking will be provided on a concrete surface adjacent to the patio in a highly visible area. At minimum, two spaces must be provided per Table 17.98.20.8. Four spaces are proposed by the applicant. The proposal meets this requirement.

CHAPTER 17.100 – LAND DIVISION

Chapter 17.100 presents review procedures, design standards, and improvement requirements for land division. Section 17.100.60 is the subsection relevant to the division of subdivisions.

17.100.40 MINOR AND MAJOR PARTITIONS

Approval of a partition is required for a land division of 3 or fewer parcels in a calendar year. Partitions, which do not require creation or extension of a street for access, is classified as a Type I minor partition. Partitions, which require creation or extension of a street for access is classified as a Type II, major partition.

C. Tentative Partition Plan. The tentative plan shall be a minimum of 8 1/2 x 11 inches in size and shall include the following information:

1. The date, north point, engineering scale, and legal description;
2. Name and address of the owner of record and of the person who prepared the partition plan;
3. Zoning, size and dimensions of the tract to be partitioned;
4. Size, dimensions and identification of proposed parcels (Parcel 1, Parcel 2, Parcel 3);
5. Approximate location of any structures on the tract to be partitioned, including setbacks to proposed parcel boundaries;
6. Location, names and widths of streets, sidewalks and bikeways within the tract to be partitioned and extending 400 feet beyond the tract boundaries;
7. Location, width and purpose of existing and proposed easements on the tract to be partitioned;
8. Location and size of sewer, water and drainage facilities proposed to serve the tract to be partitioned;
9. Natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
10. Approximate topography, particularly noting any area of steep slope;
11. A plan for future parcel redivision, if the proposed parcels are large enough to be redivided under the comprehensive plan or zoning designation.

RESPONSE: The applicant shall resubmit a tentative partition plan and include all the above requirements for consideration.

D. Approval Criteria. The Director or Planning Commission shall review the tentative plan for a minor or major partition based on the classification procedure (Type I, II or III) and the following approval criteria:

1. The proposed partition is consistent with the density, setback and dimensional standards of the base zoning district.

2. The proposed partition is consistent with the design standards set forth in this chapter.
3. Adequate public facilities are available or can be provided to serve the proposed partition.
4. All proposed improvements meet City standards.
5. The plan preserves the potential for future redivision of the parcels, if applicable.

RESPONSE: *The subject property is located within the C-1 zone district and proposed to be used for a commercial use. The table below details the development standards for a commercial development located within the C-1 zone district:*

Commercial	
Lot Area	No minimum
Lot Dimension	No minimum
Setbacks	No minimum [4]; maximum 10 ft.
Lot Coverage	No maximum
Landscaping	10% minimum (includes required civic space in Section 17.90.110.)
Structure Height	45 ft. maximum
Off-Street Parking	See Chapter 17.98
Design Review Standards	See Section 17.90.110

The proposed lots of record meet the above development standards. Public facilities are reasonably available to both of the proposed lots associated with the requested partition. Additionally, this review and associated conditions of approval act as confirmation that the proposed improvements shall meet City standards. ***The applicant shall adhere to the conditions of approval associated the Final Order issued by the Planning Commission following the scheduled public hearing or any thereafter hearing associated with File No. 18-057.***

E. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative partition plan as deemed necessary. In no event, however, shall the Director or Planning Commission require greater dedications or conditions than could be required if the entire tract were subdivided.
F. Approval of Tentative Partition Plan. When a tentative partition plan has been approved, all copies shall be marked with the date and conditions of approval. One copy shall be returned to the applicant, one copy shall be sent to the county and one copy shall be retained by the city.
G. Approval Signatures for Final Partition Map. Following review and approval of a final partition map, the Director shall:
    1. Review Plat for Accuracy. The Director may require field investigations to verify that the plat survey is accurate. The applicant shall be notified and afforded an opportunity to make corrections if needed.
    2. Sign the plat to certify that the map is approved.
    3. Notify the applicant that the partition map and accompanying documents have been approved and are ready for recording with the Clackamas County Recorder.
    4. Deliver the signed original to the applicant who shall deliver the original and two exact copies to the County Recorder's office. One recorded copy shall be returned to the City of Sandy immediately after recording is completed.
H. Effective Date for Final Partition Map Approval. The partition shall become final upon recording of the approved partition map together with any required documents with the County Recorder. Work

specifically authorized following tentative approval may take place prior to processing of the final partition map. The documents effectuating a partition shall become null and void if not recorded with the County Recorder within one year following approval.

I. Improvements. The same improvements shall be installed to serve each parcel of a partition as required of a subdivision. Improvement standards are set forth in Section 17.90. If the Director and City Engineer find a need to vary the improvement standards for a partition, the application shall be processed through a Type III hearing and may except specific improvements.

J. Exceptions to Improvements. Exceptions to improvements may be approved in transition areas or other areas as deemed appropriate by the city. In lieu of excepting an improvement, the Planning Commission may recommend to the city council that the improvement be installed in the area under special assessment financing or other facility extension policies of the city.

RESPONSE: *Per ODOT, and concurred by the City Engineer, a recorded cross-access easement on the subject property will need to be recorded. The beneficiaries of the cross-access easement will be the subject property and the east adjacent property, 7-Eleven.* ***The applicant shall record a cross-access easement to the adjacent properties with state highway frontage with the County to facilitate future shared access or provided evidence that these requirements have been fulfilled. The applicant shall provide the City with a copy of the recorded easement as well as identify the recorded easement on the tentative plat for review. The applicant shall coordinate with City staff to submit the appropriate easement and complete documentation for the approval of a tentative partition.***

17.100.70 LAND DIVISION DESIGN STANDARDS

All land divisions shall be in conformance with the requirements of the applicable base zoning district and this chapter, as well as with other applicable provisions of this Code. Modifications to these requirements may be accomplished through a Planned Development. The design standards in this section shall be used in conjunction with street design standards included in the City of Sandy Transportation System Plan and standards and construction specifications for public improvements as set forth in adopted Public Facilities Plans and the Sandy Municipal Code.

RESPONSE: *Staff completed and documented compliance with the base zone district, C-1, development standards within Section 17.100.40(D) of this report.*

17.100.100 STREETS GENERALLY

No subdivision or partition shall be approved unless the development has frontage or approved access to an existing public street. In addition, all streets shall be graded and improved in conformance with the City's construction standards, approved by the City Engineer, in accordance with the construction plans.

A. Street Connectivity Principle. The pattern of streets established through land divisions should be connected to: (a) provide safe and convenient options for cars, bikes and pedestrians; (b) create a logical, recognizable pattern of circulation; and (c) spread traffic over many streets so that key streets (particularly U.S. 26) are not overburdened.

RESPONSE: *The proposed development is conducive to walking and biking while accommodating motor vehicles. The proposed lots both have frontage on established public rights-of-way (Proctor Blvd./US HWY 26 and Pleasant Street) which provide a logical street pattern and efficient*

circulation of vehicular and pedestrian traffic. Both right-of-way frontages are required to provide enhanced sidewalk infrastructure to accommodate pedestrians in a safe environment.

B. Transportation Impact Studies. Transportation impact studies may be required by the city engineer to assist the city to evaluate the impact of development proposals, determine reasonable and prudent transportation facility improvements and justify modifications to the design standards. Such studies will be prepared in accordance with the following:
   1. A proposal established with the scope of the transportation impact study shall be coordinated with, and agreed to, by the city engineer. The study requirements shall reflect the magnitude of the project in accordance with accepted transportation planning and engineering practices. A professional civil or traffic engineer registered in the State of Oregon shall prepare such studies.
   2. If the study identifies level-of-service conditions less than the minimum standards established in the Sandy Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered as part of the land use decision for the proposal.

   RESPONSE: *The submitted Traffic Analysis Letter (TAL) (Exhibit E) was completed by Lancaster Engineering and is dated November 28, 2018. The traffic assumptions are based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Pass-by trips and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. The trip generation during morning peak hours is projected to be 48 trips, with 24 trips entering and exiting the site. During the evening peak hours, the site is projected to generate 8 primary trips, with 4 trips entering and exiting the site. The City's contracted Traffic Engineer confirmed the transportation system can accommodate the proposed use without mitigation (Exhibit L).*

C. Topography and Arrangement. All streets shall be properly related to special traffic generators such as industries, business districts, schools, and shopping centers and to the pattern of existing and proposed land uses.

   RESPONSE: *No reference to topographic concerns were noted within the TAL. The subject site is relatively flat.*

D. Street Spacing. Street layout shall generally use a rectangular grid pattern with modifications as appropriate to adapt to topography or natural conditions.

   RESPONSE: *The TAL referenced a design exception is proposed to grant access to Proctor Blvd. via the existing access driveway, located at 39695 Proctor Boulevard.*

E. Connections. Except as permitted under Exemptions, all streets, alleys and pedestrian walkways shall connect to other streets within the development and to existing and planned streets outside the development and to undeveloped properties which have no future street plan. Streets shall terminate at other streets or at parks, schools or other public land within a neighborhood.
   1. Where practicable, local roads shall align and connect with other roads when crossing collectors and arterials.
   2. Proposed streets or street extensions shall be located to provide direct access to existing or planned transit stops, and existing or planned neighborhood activity centers, such as schools, shopping areas and parks.
   3. Exemptions.

a. A future street plan is not required for partitions of residentially zoned land when none of the parcels may be redivided under existing minimum density standards.
b. Standards for street connections do not apply to freeways and other highways with full access control.
c. When street connection standards are inconsistent with an adopted street spacing standard for arterials or collectors, a right turn in/right turn out only design including median control may be approved. Where compliance with the standards would result in unacceptable sight distances, an accessway may be approved in place of a street connection.

RESPONSE: *Section 17.84.50 (D.) of this staff report contains requirements for right-of-way improvements.*

17.100.130 EASEMENTS

A minimum eight (8) foot public utility easement shall be required along property lines abutting a right-of-way for all lots within a partition or subdivision. Where a partition or subdivision is traversed by a watercourse, drainage way, channel or stream, the land division shall provide a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse, and such further width as determined needed for water quality and quantity protection.

RESPONSE: *The submitted Partition (Exhibit I, SheetEXH-1) does not include a minimum eight-foot public utility easement. The C-1 zoning district allows development to be constructed to the front property line (i.e. 0 foot setback). While Chapter 17.100 of the Development Code requires a minimum 8-foot public utility easement staff finds this section of the Development Code is in direct conflict with the base zone (C-1) setback allowances. In addition, the City of Sandy has development rights to the sidewalk infrastructure located within Proctor Blvd./US HWY 26 per the Special Transportation Area Agreement (Exhibit OO) with ODOT. Among other things, this agreement allows the City to permit the installation of public utilities within the right-of-way. Staff supports eliminating the required 8-foot easement as the intention of the base C-1 zoning district is to have structures in close proximity to the pedestrian environment, to emphasize the "village" design standards Chapter 17.90 intends to achieve. The City has the ability to permit the installation of utilities adjacent to the property in the right-of-way so the 8-foot easement is not necessary.*

17.100.210 STREET LIGHTING

RESPONSE: *Chapter 15.30 contains the City of Sandy's Dark Sky Ordinance. The applicant will need to install street lights along all street frontages wherever street lighting is determined insufficient. The applicant has identified the location of proposed fixtures on the Preliminary Street Plan and the Preliminary Utilities Plan (Exhibit C, Sheets 3 and 6),* ***but the locations of these fixtures shall be reviewed in detail with construction plans.***

17.100.230 WATER FACILITIES

The proposal includes a 15-foot-wide utility easement along the west property line of PPII to benefit PPI. Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and serve PPI. These utilities will be connected to existing infrastructure located along Pleasant Street.

RESPONSE: *The specific details of sanitary sewer and water facilities will be reviewed with construction plans. The applicant proposes a 15-foot wide utility easement extending the length of the west property line of PPII.* ***The applicant shall record the easement with Clackamas County and identify the record number upon the plat prior to final plat approval.***

17.100.240 SANITARY SEWERS

The proposal includes a 15-foot-wide utility easement along the west property line of PPII to benefit PPI. Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and serve PPI. These utilities will be connected to existing infrastructure located along Pleasant Street. The City Engineer recommends the utility easement be expanded to 20 feet in width.

RESPONSE: *See the analysis in Section 17.100.230 above.*

17.100.250 SURFACE DRAINAGE AND STORM SEWER SYSTEM

A. Drainage facilities shall be provided within the subdivision and to connect with off-site drainage ways or storm sewers. Capacity, grade and materials shall be by a design approved by the city engineer. Design of drainage within the subdivision shall take into account the location, capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas.
B. In addition to normal drainage design and construction, provisions shall be taken to handle any drainage from preexisting subsurface drain tile. It shall be the design engineer's duty to investigate the location of drain tile and its relation to public improvements and building construction.
C. The roof and site drainage from each lot shall be discharged to either curb face outlets (if minor quantity), to a public storm drain or to a natural acceptable drainage way if adjacent to the lot.

RESPONSE: *The site topography generally slopes from south to north and east to west, with the low point of the site in the northwest corner. The site has documented residual contamination from past use as a gas station. Due to this contamination, development requires the oversight of an environmental engineer and stormwater infiltration will be prohibited. The proposed detention system will be wrapped in an impermeable liner to minimize onsite infiltration. It is essential that this liner be designed to hold up to the contaminants found in the soil. The final determination of liner material will be based on the results of the environmental study.*

The proposed development will include an 834 square foot Dutch Brothers with a drive-through, parking lot and pedestrian patio (Exhibit S, Sheets C4.0-C4.1). The site is divided into three drainage basins that collect runoff in catch basins and convey it to a central treatment manhole with filter cartridges (Exhibit S, Sheet 3). Runoff is then conveyed to an underground detention system for detention and flow control. Runoff will drain out of the detention facility and tie into a new 12" stormwater main in Pleasant Street. Along the north end of the site, there is a short retaining wall. The drain pipe behind this wall will tie into the onsite stormwater system, downstream of the flow control manhole.

Per the tentative calculations provided in the submitted stormwater analysis it appears the proposal is in conformance with COP SWMM (Exhibit JJ). ***Prior to final building permit approval, the applicant shall demonstrate the proposal conforms to the COP SWMM and Chapters 13.18 and 13.20 of the***

Sandy Municipal Code. This analysis shall be submitted with building permits for review and approval.

17.100.260 UNDERGROUND UTILITIES

All subdivisions or major partitions shall be required to install underground utilities (including, but not limited to, electrical and telephone wiring). The utilities shall be installed pursuant to the requirements of the utility company.

RESPONSE: All new utility lines for future development shall be placed underground. *There is an existing utility pole located in the right-of-way adjacent to the south of the subject property. This utility pole includes overhead lines that serves the adjacent property to the west, 39565 Proctor Blvd./US HWY 26.* ***The applicant shall bury the existing utilities adjacent to the south of the property.***

17.100.300 EROSION CONTROL

Grass seed planting shall take place prior to September 30th on all lots upon which a dwelling has not been started but the ground cover has been disturbed. The seeds shall be of an annual rye grass variety and shall be sown at not less than four pounds to each 1000 square feet of land area.

RESPONSE: The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision. All erosion control and grading shall comply with Section 15.44 of the Municipal Code and as detailed below.

17.100.310 REQUIRED IMPROVEMENTS

The following improvements shall be installed at no expense to the city, consistent with the design standards of Chapter 17.84, except as otherwise provided in relation to oversizing.

A. Drainage facilities
B. Lot, street and perimeter monumentation
C. Mailbox delivery units
D. Sanitary sewers
E. Sidewalks
F. Street lights
G. Street name signs
H. Street trees
I. Streets
J. Traffic signs
K. Underground communication lines, including broadband (fiber), telephone, and cable. Franchise agreements will dictate whether telephone and cable lines are required.
L. Underground power lines
M. Water distribution lines and fire hydrants

RESPONSE: The applicant shall be responsible for the installation of all improvements detailed in Section 17.100.310, including fiber facilities. SandyNet requires the developer to work with the City

to ensure that broadband infrastructure meets the design standards and adopted procedures as described in Section 17.84.70.

CHAPTER 17.102 – URBAN FORESTRY

17.102.20 APPLICABILITY

This chapter applies only to properties within the Sandy Urban Growth Boundary that are greater than one acre including contiguous parcels under the same ownership.

A. General**:** No person shall cut, harvest, or remove trees 11 inches DBH or greater without first obtaining a permit and demonstrating compliance with this chapter.
   1. As a condition of permit issuance, the applicant shall agree to implement required provisions of this chapter and to allow all inspections to be conducted.
   2. Tree removal is subject to the provisions of Chapter 15.44, Erosion Control, Chapter 17.56, Hillside Development, and Chapter 17.60 Flood and Slope Hazard.

B. Exceptions: The following tree removals are exempt from the requirements of this chapter.
   1. Tree removal as required by the city or public utility for the installation or maintenance or repair of roads, utilities, or other structures.
   2. Tree removal to prevent an imminent threat to public health or safety, or prevent imminent threat to public or private property, or prevent an imminent threat of serious environmental degradation. In these circumstances, a Type I tree removal permit shall be applied for within seven days following the date of tree removal.

RESPONSE: *The provisions of this chapter do not apply due to the size of the property not exceeding one acre. Section 17.92.10(C) states, "significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development" therefore the applicant submitted an arborist report in association with the proposed site plan to determine the practicability of retaining existing trees on site.*

The submitted arborist report (Exhibit T) was conducted on May 9, 2019 to inspect the existing trees in regards to proposed construction. The report identified a total of 13 trees onsite. Of the 13 trees two were calculated at 11 inches DBH or greater (Trees # 5 and 6) with tree #5 being classified as in poor condition and therefore proposed to be removed. In addition to the removal of tree #5 the following trees will be removed due to the proposed construction activity: #1,2,3,4,8 and 13; while trees #9,10,11 and 12 will be removed to accommodate required frontage improvements along Pleasant Street.

Per the submitted arborist report, the planned construction should not interfere with the Critical Root Zones (CRZ) of the remaining trees (Trees #6 and #7) as they are located 10-15 feet from the excavation activities. ***The applicant proposes to retain trees #6 and #7 as they are located 10-15 feet from the excavation activity proposed on site.***

17.102.50 TREE RETENTION AND PROTECTION REQUIREMENTS

A. Tree Retention: The landowner is responsible for retention and protection of trees required to be retained as specified below:

1. At least three trees 11 inches DBH or greater are to be retained for every one-acre of contiguous ownership.
2. Retained trees can be located anywhere on the site at the landowner's discretion before the harvest begins. Clusters of trees are encouraged.
3. Trees proposed for retention shall be healthy and likely to grow to maturity, and be located to minimize the potential for blow-down following the harvest.
4. If possible, at least two of the required trees per acre must be of conifer species.
5. Trees within the required protected setback areas may be counted towards the tree retention standard if they meet these requirements.

RESPONSE: *As described within this report the subject property does not exceed one acre, therefore the applicant is not required to meet the tree retention standards in this chapter; however, the applicant has completed analysis to determine if trees can practicably be retained. The applicant has proposed to retain trees #6 and #7.*

B. Tree Protection Area: Except as otherwise determined by the Planning Director, all tree protection measures set forth in this section shall be instituted prior to any development activities and removed only after completion of all construction activity. Tree protection measures are required for land disturbing activities including but not limited to tree removal, clearing, grading, excavation, or demolition work.
   1. Trees identified for retention shall be marked with yellow flagging tape and protected by protective barrier fencing placed no less than 10 horizontal feet from the outside edge of the trunk.
   2. Required fencing shall be a minimum of six feet tall supported with metal posts placed no farther than ten feet apart installed flush with the initial undisturbed grade.
   3. No construction activity shall occur within the tree protection zone, including, but not limited to dumping or storage of materials such as building supplies, soil, waste items, equipment, or parked vehicles.

RESPONSE: The submitted arborist report (Exhibit T) recommends Tree protection fencing should be placed as far from retention trees as is practical to the south of the two retention trees as indicated on the map/site plans within the submitted Arborist Report (Exhibit T). The installation of the tree protection fencing shall occur prior to any earthwork or grading occurs on the site. The removal of the Tree Protection Fencing should be one of the last operations undertaken on the site.

*In order to protect the trees proposed for retention**, the applicant shall install protective fencing located 5 feet outside of the dripline around all trees to be retained on the subject property or supply an alternative tree protection plan approved by a certified arborist. Once the fencing is installed the applicant shall schedule an inspection. Protective fencing shall not be removed prior to the approval of a Final Certificate of Occupancy for the property.***

C. Inspection. The applicant shall not proceed with any tree removal or construction activity, except erosion control measures, until the City has inspected and approved the installation of tree protection measures. Within 15 days of the date of accepting an application for a Type I permit, the city shall complete an onsite inspection of proposed activities and issue or deny the permit. Within 15 days of is suing a Type II or Type III permit, the city shall complete an onsite inspection of proposed activities.

For ongoing forest operations, the permit holder shall notify the city by phone or in writing 24 hours prior to subsequent tree removal. The city may conduct an onsite re-inspection of permit conditions at this time.

RESPONSE: Inspections of retention tree fencing shall be completed prior to any earthwork or grading being conducted onsite.

CHAPTER 15.30 – DARK SKY ORDINANCE

All exterior lighting is required to conform to the requirements of this chapter.

RESPONSE: *Chapter 15.30 contains the City of Sandy's Dark Sky Ordinance. Internal lighting has been discussed with Section 17.90.110(H) of this report. The applicant will need to install street lights along all street frontages.* ***The applicant shall submit a plan identifying the locations of street lights along with specifications of proposed lighting fixtures to be reviewed in detail with construction plans. Full cut-off lighting shall be required and proposed street lighting on Proctor Blvd./US HWY 26 shall conform to the Streetlight Detail identified within Appendix F of the Development Code.***

CHAPTER 15.44 – EROSION CONTROL

15.44.20 AREA OF APPLICATION

This chapter applies to all ground disturbing activities within the city limits whether or not a permit is required, unless such activities are otherwise exempted by the Sandy Development Code. All non-permitted ground disturbing activities that are permanent or temporary in nature shall comply with this chapter unless otherwise noted.

RESPONSE: All on-site earthwork activities including any retaining wall construction should follow the requirements of the current edition of the Oregon Structural Specialty Code (OSSC). If the proposal includes a retaining wall, the applicant shall submit additional details on the proposed retaining wall for staff review and approval.

Site grading should not in any way impede, impound or inundate the adjoining properties. All the work within the public right-of-way and within the paved area should comply with American Public Works Association (APWA) and City requirements as amended. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. *The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision.* ***All erosion control and grading shall comply with Section 15.44 of the Municipal Code.***

The property was previously used as a bulk petroleum storage and retail service station from the 1930s through the 1980s before being abandoned by Sandy Oil Company. In February of 1989 prospective buyers discovered petroleum contamination within the property's soil and shallow groundwater. The Oregon Department of Environmental Quality (DEQ) removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site in 1994. The funding for this remediation came from the Orphan Site Account and the site was officially designated as an Orphan in June 1995 and listed on the DEQ's Environmental Cleanup Site Information Database as Site #1691.

In June 1999, the DEQ had a Site Investigation and Removal Assessment completed on the site where benzene and other gasoline constituents were found to be mitigating off-site in groundwater therefore vapor barriers were installed. After various site testing the DEQ issued a conditional No Further Action (NFA) stating that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathways and demonstrates their effectiveness. The NFA constitutes a historical recognized environmental condition (HREC) for the subject property.

The applicant submitted a Phase I Environmental Site Assessment with the original submittal which was dated November 2, 2019 (Exhibit F). Prior to the June 24, 2019 Planning Commission hearing the applicant submitted a Phase II Environmental Site Assessment (Exhibit FF). This exhibit identifies both the recommendation of the Phase I and results of the Phase II investigation. In addition, the following analysis includes the final recommendations made by Cascade Environmental Solutions whom preformed the assessment and investigation.

- *Phase I Recommendation #1 - thirteen (13) decommissioned underground storage tanks (ECSI #1691), historical removal of 1000-cubic yards of Petroleum Contaminated Soil (PCS), and 2007 DEQ issued NFA status for the Project Site. The NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.*

  Phase II Investigation Results – RBCs were exceeded for three pathways, for the occupational and urban residential receptor scenario. The risk-based analysis determined that the three pathways (RBCsw, RBCss and RBCtw) were not applicable for the project site, therefore the exceedances are not an environmental concern for the project site. The NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.

  *Recommendation – **A contaminated media management plan (CMMP) should be completed for the project site and approved by DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.***

- *Phase I Recommendation #2 – Undocumented fill in the vicinity of the former UST excavation #3 and #1.*

  Phase II Investigation Results – Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" below ground surface. No visual or olfactory indications of PCS were identified during the environmental investigation. Based on field observation, samples were not analyzed.

  Cascade Environmental Solutions, LLC Phase II ESA: Former Sandy Oil Page 9

*Recommendation – **A CMMP should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.***

- *Phase I Recommendation #3– Potential environmental impact related to the historical cleanup adjacent to the Mattress World site, to the west of the project site.*

  Phase II Investigation Results – Oregon DEQ was contacted, and the status of the site was verified. Due to the removal of the historic tank and PCS, the status of the site does not pose an environmental concern to the project site.

  Recommendation – None.

On August 16, 2007, the Oregon Department of Environmental Quality (DEQ) determined that No Further Action was necessary at the project site, subject to the development restrictions in the Easement and Equitable Servitudes (EE&S) recorded for the project site. As described in the EE&S, a contaminated media management plan (CMMP) must be completed, reviewed and approved by DEQ prior to site development.

The CMMP is designed for identifying and managing potentially contaminated soil encountered during excavation for redevelopment of the project site. The CMMP includes information on identification, response to, removal, temporary storage, transportation, and disposal of contaminated soil. It outlines the exceedance of the Risk-Based Concentrations for excavation and construction worker receptors (if any), and the potential exposure to contaminated soil during excavation and/or construction activities. Health and safety issues are also described (Exhibit CC).

15.44.50 APPLICANT'S RESPONSIBILITY

The developer, subsequent developers or property owners shall bear responsibility for the installation, construction, protection of all stockpiles on the site, materials transported from the site, maintenance including re-vegetation of all graded areas, inspection and disposition of erosion control measures. In order to meet the purpose of this chapter, the developer shall:

C. Apply permanent or temporary soil stabilization to denuded development site areas in conformance with the following schedule:

1. Between October 1 and April 30, all denuded sites shall immediately be provided with either temporary or permanent soil stabilization.
2. Between May 1 and September 30, temporary erosion and sediment control measures to reduce dust and sediment transport shall be applied as soon as practicable, but in no case more than seven days after ground disturbing activity occurs.
3. Ground cover shall be installed on any portion of a site that is denuded for more than six months. Sports fields or playgrounds surrounded by vegetative cover or permanently installed curbing are exempt from this requirement.
4. Temporary measures shall be maintained until permanent measures are established.

5. Plant replacement vegetative cover that does not include plants listed as nuisance or prohibited plants on the City of Portland Plant List (available in the Planning & Development office) or the City's Native Plant List. Agriculture, timber production or residential crop growing activities are exempted from this requirement.
6. Secure or protect soil stockpiles throughout the project with temporary or permanent soil stabilization measures. Depositions of soil may be subject to additional regulations requiring permit, review or erosion and sediment control.
7. Select BMPs from the *Erosion Control Manual*.

RESPONSE: *Section 15.44.50 contains requirements for maintenance of a site including re-vegetation of all graded areas.* ***The applicant's Erosion Control Plan shall be designed in accordance with the standards of Subsection 15.44.50(C)(1-7).***

III. SUMMARY AND CONCLUSION

Braden Bernards with Cole Valley Partners submitted an application on behalf of CVP – Sandy, Oregon LLC seeking approval to develop the site into an eating and drinking establishment to include a drive-through facility. The intended tenant is proposed to be Dutch Brother which is considered a *short-term food/beverage service.*

The applicant's submission includes the following special variance requests:

Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district.

Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent (32 percent including the covered civic area).

In addition to the special variance requests the applicant's submission includes consideration for a drive-through conditional use for the site. The proposal also includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two independent lots of record. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (to be the location of the proposed eating and drinking establishment) and a 0.15 acre lot fronting Pleasant Street (to be developed at a later date).

As detailed in this revised staff report, the proposed development of a Dutch Brothers generally complies with most Development Code requirements.

IV. RECOMMENDATION

Staff recommends the Planning Commission hold a public hearing to take public testimony regarding the proposal. Staff recommends the Planning Commission **approve** the proposed conditional use, a drive-through facility, as well as the proposed Minor Partition with modifications as recommended in this report including but not limited to the following (required order of submission and completion of improvements/inspections will be detailed in the final order):

1. Staff recommends the approval of the following three variances/adjustments with associated conditions:
   a) Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district. **Staff recommends the Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18 feet with the condition the proposed, or approved alternative, landscaping, pedestrian access, civic space canopy and drive-through canopy are implemented to the development.**

   b) Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less. **Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, or approved alternative, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.**

   c) Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent. **Staff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent with the condition that the proposed civic spaces, or approved alternative, be incorporated at time of development.**

2. Staff recommends the Planning Commission **approve** the proposed Conditional Use, a drive-through facility to compliment the proposed primary use, an eating and drinking establishment.

3. All public utility installations shall conform to the City's facilities master plans. All public sanitary sewer and waterlines shall be a minimum of 8 inches in diameter and all stormwater drains shall be a minimum of 12 inches in diameter. No building permits will be issued until all public utilities, including sanitary sewer are available to serve the development. The applicant shall pay plan review, inspection, and permit fees as determined by the Public Works Director.

4. The applicant shall be responsible for the installation of all improvements detailed in Section 17.100.310, including fiber facilities. SandyNet requires the developer to work with the City to ensure that broadband infrastructure meets the design standards and adopted procedures as described in Section 17.84.70.

5. All new utility lines for future development shall be placed underground. Utilities to access PPI shall be installed within the Proctor Blvd./US HWY 26 right-of-way and the applicant shall bury the existing service line to the Mattress World building if determined practicable by PGE. All franchise utilities shall be installed underground and in conformance with City standards. The applicant shall call the PGE Service Coordinators at 503-323-6700 when the developer is ready to start the project.

6. The applicant shall submit updated plans indicating proposed colors that are in conformance with the Color Palette in Appendix C. In addition, the applicant shall submit updated plans indicating proposed colors for the dumpster enclosure and associated gates are in conformance with the Color Palette in Appendix C and compliment the primary structure.

7. The applicant shall update the plans to demonstrate compliance with Subsection 17.90.110(C)(8)(b)(2).

8. The applicant shall provide street address numbers measuring a minimum of six (6) inches high, which clearly locate buildings and their entries for patrons and emergency services. The applicant shall verify the location(s) of the address with the Building Official and emergency service providers.

9. The applicant shall update the Landscape Plans to remove the Golden Privet from the "Tree" category of the Plant Schedule and add it to the "Shrubs" category.

10. All planted trees shall include tree ties with twine, loosely tied so as not to damage the trunk and shall be removed after one growing season (or a maximum of 1 year).

11. All landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing.

12. The applicant shall update the plans to indicate conformance with the sidewalk tree grate detail identified in Appendix F and designed to accommodate ADA accessibility to ensure the required 4-foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 4-foot width from the tree well grate to the back of (south) the proposed sidewalk.

13. The applicant shall demonstrate compliance with the irrigation standards of 17.92.40 at time of building permit.

14. The applicant shall stripe the proposed parking spaces as required to be striped per State of Oregon (ORS 447.233) and the Americans with Disabilities Act.

15. The applicant shall obtain a State Highway Approach Permit form ODOT.

16. All parking, driveway and maneuvering areas shall be constructed of asphalt, concrete, or other approved material.

17. Preliminary plat approval does not connote utility or public improvements plan approval which will be reviewed and approved separately upon submittal of public improvement construction plans.

18. Staff recommends the proposed Minor Partition be approved with the condition that the following actions are completed prior to final plat:

    a. The applicant shall record a cross-access easement with the adjacent property, 7-Eleven, with state highway frontage with the County Recorder to facilitate future shared access or provide evidence that these requirements have been fulfilled. The tentative plat shall include the record number associated with the access easement.

    b. To accommodate both the utilities and provide pedestrian access the applicant shall record an easement on the northern lot (PPII) along the west property line, record the easement with the County Recorder and update the submitted plans and tentative plat to include the record number associated with the easement.

    c. The applicant shall resubmit a tentative partition plan and include all the required information detailed in Subsection 17.100.40(C).

d. Once tentative approval is complete it is the responsibility of the applicant to submit the appropriate documentation for Final Plat review to the Planning and Building Director for review. Upon notification of Final Plat approval, the applicant shall record the plat with the County Recorder.

19. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision. All erosion control and grading shall comply with Section 15.44 of the Municipal Code and as detailed below.

20. The applicant shall submit a plan identifying the locations of street lights along with specifications of proposed lighting fixtures to be reviewed in detail with construction plans. Full cut-off lighting shall be required and proposed street lighting on Proctor Blvd./US HWY 26 shall conform to the Streetlight Detail identified within Appendix F of the development code.

21. All on-site earthwork activities including any retaining wall construction should follow the requirements of the current edition of the Oregon Structural Specialty Code (OSSC). If the proposal includes a retaining wall, the applicant shall submit additional details on the proposed retaining wall for staff review and approval.

22. Site grading should not in any way impede, impound or inundate the adjoining properties. All the work within the public right-of-way and within the paved area should comply with American Public Works Association (APWA) and City requirements as amended. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. All erosion control and grading shall comply with Section 15.44 of the Municipal Code.

23. A contaminated media management plan (CMMP) should be completed for the project site and approved by DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.

24. The applicant shall demonstrate at time of building permit the proposal conforms to the COP SWMM and Chapters 13.18 and 13.20 of the Sandy Municipal Code. This analysis shall be submitted with building permits.

25. The applicant shall install protective fencing located 5 feet outside of the dripline around all trees to be retained (trees #6 and #7) on the subject property or supply an alternative tree protection plan approved by a certified arborist.

26. Inspections of retention tree fencing shall be completed prior to any grading or earthwork being conducted onsite.

27. The applicant's Erosion Control Plan shall be designed in accordance with the standards of Subsection 15.44.50(C)(1-7) and the contaminated media management plan (CMMP).

28. If the applicant chooses to postpone street tree and/or landscaping installation, the applicant shall post a performance bond equal to 120 percent of the cost of the landscaping, assuring installation within 6 months. The cost of street trees shall be based on the street tree plan and at least $500 per

tree. The cost of landscaping shall be based on the average of three estimates from three landscaping contractors; the estimates shall include as separate items all materials, labor, and other costs of the required action, including a two-year maintenance and warranty period.

39250 Pioneer Blvd
Sandy, OR 97055
503-668-5533

PLANNING COMMISSION
STAFF REPORT
TYPE III LAND USE PROPOSAL

SUBJECT: File No. 18-057 DR/CUP Dutch Bros Design Review/Variance/Conditional Use Permit

AGENDA DATE: April 22, 2019

DEPARTMENT: Planning Division

Application Submitted: December 3, 2018
Additional Submittal Items: January 29 & March 8, 2018
Application Complete: March 14, 2019

STAFF CONTACT: James A. Cramer, Associate Planner

EXHIBITS:

Applicant's Submittals

A. Land Use and Supplemental Application
B. List and Mailing Labels of Affected Property Owners
C. Written Narrative
D. Access Easement Agreement
E. Traffic Analysis Letter
F. Phase I Environmental Site Assessment
G. Stormwater Narrative
H. Draft Report of Geotechnical Engineering Services
I. Plan Sheets
   - Sheet A1.1: Reference Only Site Plan
   - Sheet A5.0: Building Elevations
   - Sheet A5.1: Building Elevations
     - 3D Rendering
   - Sheet E1.0: Photometric Plan
   - Sheet C2.0: Site Plan
   - Sheet C3.0: Grading Plan
   - Sheet C4.0: Utility Plan - South
   - Sheet C4.1: Utility Plan - North
   - Sheet C5.0: Details
     - F-350 Crew Cab Turning Template
     - Passenger Vehicle Turning Template
     - Loading Van Turning Template
     - Passenger Queue
   - Sheet L10: Landscape Plan
   - Sheet L11: Landscape Plan
   - Sheet L20: Plant Spacing Plan
   - Sheet EXH-1: Partition Exhibit

J. Summary Drawing
   - Sheet 1: Summary – Building Signs & Wall-Mounted Menu Signs
   - Sheet 2: Pylon Sign, Directional Signs & Plate-Mounted Menu Signs

   Factory Drawing 2818A
   - Sheet 1: Manufacturing & Install
   - Sheet 2: Conceptual Night View
   - Sheet 3: Installation

   Factory Drawing 2818B
   - Sheet 1: Manufacturing & Install
   - Sheet 2: Installation
   - Sheet 3: Installation

   Factory Drawing 2818C
   - Sheet 1: Manufacturing & Install
   - Sheet 2: Installation
   - Sheet 3: Installation
   - Sheet 4: Installation

   Factory Drawing 2818D
   - Sheet 1: Manufacturing & Install
   - Sheet 2: Installation

   Factory Drawing 2818E
   - Sheet 1: Manufacturing & Install
   - Sheet 2: Installation

   Factory Drawing 2818F
   - Sheet 1: Illuminated Menu Sign – Plate-Mounted
   - Sheet 2: Back-lit Menu Board – Frame
   - Sheet 3: Light Box Detail
   - Sheet 4: Installation Orientation Detail
   - Sheet 5: Installation

   Factory Drawing 2818G
   - Sheet 1: Illuminated Menu Sign – Wall-Mounted
   - Sheet 2: Light Box Detail
   - Sheet 3: Installation
   - Sheet 4: Installation

Agency Comments

K. City Engineer (March 22, 2019)
L. Transportation Engineer (March 22, 2019)
M. Oregon Department of Transportation ODOT (March 22, 2019)
N. Public Works Director (March 25, 2019)

Public Comments

O. Galen and Margaret Francher (April 8, 2019)

Supplemental Documents Provided by Staff

P. Survey Name: SN27314

I. BACKGROUND

A. PROCEEDING

Type III Conditional Use, Type III Design Review, three Type III Special Variances, and Type I Land Division (Minor Partition).

B. FACTUAL INFORMATION

1. PROJECT NAME: Dutch Bros Design Review/Variance/Conditional Use Permit

2. APPLICANT/REPRESENTATIVE: Braden Bernards with Cole Valley Partners

3. OWNER: CVP – Sandy, Oregon, LLC

4. LEGAL DESCRIPTION: T2S R4E Section 13 AC, Tax Lot 5500

5. SITUS ADDRESS: 39625 Proctor Blvd.

6. PROPERTY LOCATION: Located on the north side of Proctor Blvd. two parcels west of SE Ten Eyck Rd. adjacent to the existing 7-Eleven retail business.

7. PROPERTY SIZE: The overall site is approximately 0.65 acres. The proposal includes a minor partition request to divide the existing parcel into two lots of record. The proposed partition includes a 0.50 acre lot fronting Proctor Blvd. and a 0.15 acre lot fronting Pleasant Street.

8. PROPOSAL: Braden Bernards with Cole Valley Partners submitted an application on behalf of CVP – Sandy, Oregon LLC seeking approval for a conditional use (CU) permit for a drive-through facility on the subject property (17.42.20(B)(3)). The proposal includes an 834 square foot, 41 feet 3 inches long building parallel to the front (south) property line. The applicant requests a special variance from Subsection 17.90.110(D)(1) to reduce the required 50 percent building frontage standard to 23 percent. The primary structure is proposed to be setback approximately 18 feet from the front (south) property line therefore the applicant requests a special variance from Subsection 17.42.30 which identifies a maximum front setback of 10 feet for properties within the C-1 zone district. In addition, the applicant requests a special variance to incorporate a flat roof with parapets when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

   The proposal also includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two lots of record. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (to be the location of the proposed eating and drinking establishment) and a 0.15 acre lot fronting Pleasant Street (to be developed at a later date).

9. COMPREHENSIVE PLAN DESIGNATION: Retail/Commercial

10. ZONING DISTRICT DESIGNATION: C-1, Central Business District

11. SERVICE CONSIDERATIONS: The proposal includes a 15-foot-wide utility easement along the west property line of the proposed northern lot of record to benefit the southern portion of the property (proposed to be an independent lot through a minor partition). Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and be tied into the services available with Pleasant Street. The City Engineer recommends the utility easement be expanded to 20 feet in width.

12. RESPONSE FROM GOVERNMENTAL AGENCIES, UTILITY PROVIDERS, CITY DEPARTMENTS AND THE GENERAL PUBLIC:
    a. City Manager – No comments received
    b. Public Works Director – Exhibit N
    c. Utility Billing – No comments received
    d. Sandy Police Department – No comments received
    e. Building Official – No comments received
    f. Transit Director – No comments received
    g. City Engineer– Exhibit K
    h. Transportation Engineer – Exhibit L
    i. SandyNet Manager – No comments received
    j. PGE – No comments received
    k. Wave Broadband – No comments received
    l. County Police Department – No comments received
    m. NW Natural Gas – No comments received
    n. Fire District No. 72 – No comments received
    o. Oregon Department of Transportation (ODOT) – Exhibit M
    p. US Postal Service – No comments received

C. PUBLIC COMMENTS

- Galen and Margaret Francher sent an email asking that the City adhere closely to the design standards of 17.90.110 as it is amongst the first impression entering Sandy's core area.

D. APPLICABLE CRITERIA:

Sandy Municipal Code (SMC): 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.42 Central Business District, C-1; 17.66 Adjustments and Variances; 17.68 Conditional Uses; 17.84 Improvements with Development; 17.90 Design Standards; 17.92 Landscaping and Screening; 17.94 Drive-up Uses; 17.98 Parking, Loading, and Access Requirements; 19.100 Land Division; and Chapter 15.30 Dark Sky Ordinance.

E. BACKGROUND INFORMATION/HISTORY

The property was previously used as a bulk petroleum storage and retail service station from the 1930s through the 1980s before being abandoned by Sandy Oil Company. In February of 1989 prospective buyers discovered petroleum contamination within the property's soil and shallow groundwater. The Oregon Department of Environmental Quality (DEQ) removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site in 1994. The funding for this remediation came from the Orphan Site Account and the site was officially designated as an Orphan in June 1995 and listed on the DEQ's Environmental Cleanup Site Information Database as Site #1691.

In June 1999, the DEQ had a Site Investigation and Removal Assessment completed on the site where benzene and other gasoline constituents were found to be mitigating off-site in groundwater therefore vapor barriers were installed. After various site testing the DEQ issued a conditional No Further Action (NFA) stating that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathways and demonstrates their effectiveness.

The property has been vacant since the Sandy Oil Company vacated the site in 1989. The property is located in-between two retail establishments within the Central Business District of the City of Sandy, Oregon. The site currently has frontage on both Pioneer Blvd./HWY 26 and Pleasant Street. The property to the east, 7-Eleven, currently utilizes the ingress/egress located on the subject property to access their site.

F. PROCEDURAL CONSIDERATIONS

This request is being processed as a Type III Conditional Use, Type III Design Review, three Type III Special Variances, and a Type I Land Division (Minor Partition). Notification of the proposal was mailed to property owners within 300 feet of the subject property and to affected agencies on April 3, 2019 and a correction to the notice was mailed on April 10, 2019. A legal notice was published in the Sandy Post on April 10, 2019.

II. ANALYSIS OF CODE COMPLIANCE

CHAPTER 17.42 – CENTRAL BUSINESS DISTRICT (C-1)

The subject property is located within the Central Business District (C-1) zone district. The C-1 zone district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. Per this section of code, it is not intended for intensive automobile or industrial uses. This district is intended to provide the principal focus for civil and social functions within the community and to provide all basic services and amenities required to keep the downtown the vital center of our community.

17.42.10 PERMITTED USES

RESPONSE: *Within the submitted narrative (Exhibit C) the applicant has identified the intended primary use of proposed parcel I (PPI) to be an eating and drinking establishment while proposed parcel II (PPII) will remain vacant for future development. Subsection 17.42.10 permits an eating and drinking establishment outright as a primary use with the exclusion that the use does not include a drive-up/drive-through use. Staff finds the proposed primary use of an eating and drinking establishment meets the permitted uses in the C-1 zone district. The applicant has applied for a Conditional Use for the drive-through use which is further explained in Subsections 17.42.20 and 17.68 of this report.*

17.42.20 MINOR CONDITIONAL USES AND CONDITIONAL USES

RESPONSE: *The proposed drive-through facility is identified as a Conditional Use within Subsection 17.42.20(B)(C). To be approved, an applicant is required to complete a Type III approval process and meet the regulations of Chapter 17.68 – Conditional Uses which are represented within this staff report.*

Staff finds that the C-1 zone district allows the opportunity for a drive-through facility and the applicant has applied for and supplied the required documentation. Please see Subsection 17.68 of this report for detailed analysis of the requested Conditional Use.

17.42.30 DEVELOPMENT STANDARDS

Commercial	
Lot Area	No minimum
Lot Dimension	No minimum
Setbacks	No minimum; maximum 10 ft.
Lot Coverage	No maximum
Landscaping	10% minimum (includes required civic space in Section 17.90.110.)
Structure Height	45 ft. maximum
Off-Street Parking	See Chapter 17.98
Design Review Standards	See Section 17.90.110

RESPONSE: *The existing site is approximately 0.65 acres. The proposal includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two lots of record, PPI and PPII. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (PPI) and a 0.15 acre lot fronting Pleasant Street (PPII).*

This review includes a design review for an eating and drinking establishment on PPI with a total of 17 percent landscaping coverage while PPII will remain vacant for future land development. The following are the approximate setbacks associated with the proposed structure on PPI per submitted plans (Exhibit I):

Primary Structure
- Front (South): 18 feet
- Side (West): 64 feet
- Rear (North): 77 feet (70 feet to proposed covered civic space)
- Side (East): 75 feet (60 feet to proposed covered civic space)

Drive-Through Canopy
- Front (South): 2.33 feet
- Side (West): 83 feet
- Rear (North): N/A attached to south façade of the proposed primary structure
- Side (East): 75 feet

The proposed primary structure meets the side and rear setback requirements; however, the structure does not meet the maximum 10-foot front setback requirement of the C-1 zone district. The applicant has requested special variances from Subsection 17.42.30 to allow the proposed 18 foot front (south) setback which is further detailed within Chapter 17.66 of this report. The proposed drive-through canopy is proposed to be 2.33 feet from the front (south) property line; however, the proposed conditional use, a drive-through facility, requires a conditional use be approved therefore the canopy cannot be considered when determining compliance with the front setback. Without approval of the conditional use, a drive-through facility, the proposed canopy and associate stacking/que lane will not

be incorporated to the site development resulting in a setback that exceeds the maximum 10 foot setback for properties within the C-1 zone district; therefore, the applicant has applied for a Type III Conditional Use which is further detailed in Chapter 17.68 as Variance A of this report.

CHAPTER 17.66 – ADJUSTMENTS AND VARIANCES

17.66.60 VARIANCES

Variances are a means of requesting a complete waiver or major adjustment to certain development standards. They may be requested for a specific lot or as part of a land division application. The Type II variance process is generally reserved for major adjustments on individual lots, while variances to development standards proposed as part of a land division are processed as a Type III application (requiring a public hearing).

RESPONSE: *The applicant has requested the following three Type III Special Variances:*

Variance A: To construct the primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district.

Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent (32 percent including the covered civic area).

17.66.80 TYPE III SPECIAL VARIANCES

The Planning Commission may grant a special variance waiving a specified provision under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

Variance A:

Subsection 17.42.30 does not have a minimum front setback distance while identifying a maximum front setback of 10 feet.

Request: There do not appear to be any unique characteristics of the subject property that differ from neighboring properties and the site planning is of the applicant's making so a Type II Variance request would have to be denied. Therefore, the applicant requests a Type III Special Variance to increase the maximum front setback from 10 feet to 18 feet. This result is an 80 percent variation from the maximum front setback identified within Subsection 17.72.30 of the development code.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The intent of the maximum setback distance in the C-1 zone district is to emphasize a "village" scale and character in new development. Village scale means development is compact and walkable, building entrances are oriented to the street sidewalk or a plaza, and large building masses are broken down through a combination of design elements such as articulation, combinations of complementary building materials and detailing. Including a maximum setback encourages development that enhances the pedestrian environment through design, scale, orientation and ultimately assists in complying with the Sandy Style design Subsection 17.90.00(C).*

The proposal includes a conditional use request, detailed within Chapter 17.68 of this report, for a drive-through facility to be placed between the primary structure and sidewalk. The proposal included incorporating both a covered and uncovered civic space to the east of the primary structure with a dedicated and direct connection between the right-of-way and primary use. These civic spaces, as well as the proposed drive-through canopy, include architectural features designed to emphasize the Sandy Style design aesthetic and overall pedestrian environment. In addition to the dedicated pedestrian connection and Sandy Style architectural elements, the proposal includes enhanced landscaping, detailed within Chapter 17.92 of this report, to be implemented the entire length of the site's frontage (south property line). The intention of the landscaping is to provide screening and separation between the proposed drive-through lane and the pedestrian infrastructure located in the right-of-way as well as to provide additional design elements to enhance the pedestrian environment. Staff believes the proposal will not violate the intent of the code nor be detrimental to public welfare.

RECOMENDATION: *The intention of the maximum setback for properties within the C-1 zone district is to emphasize a "village" scale and pedestrian environment through design/site planning. While the proposal includes a variance to the maximum setback distance implemented to achieve the intent of Subsection 17.42.30, it includes direct and dedicated pedestrian access as well as enhanced architectural elements and landscaping to create an active, welcoming pedestrian environment.* ***Staff***

recommends the Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18 feet with the following condition: the development includes the proposed pedestrian access, civic space canopy and drive-through canopy or an alternative design be approved by staff. Should the variance and/or proposed conditional use, see Section 17.68 of this report for details, not be approved, the applicant shall redesign the site plan to meet this development standard.

Variance B

Section 17.90.110(C)(1) requires primary roof forms within the C-1 zone district to have a roof pitch of 6:12 while secondary roof forms are permitted to be constructed at a 4:12 roof pitch on all new buildings with a span of 50-feet or less. Subsection 17.90.110(C)(6) requires that all roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Subsection 17.90.110(C)(8) allows the following exception to pitched roofs: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form.

Section 17.10.30 identifies the meaning of specific words and terms. Within this section the term "span (roof)" is defined as, *"The horizontal distance between the outside faces of bearing wall plates measured at the shortest dimension across the building."*

Request: The applicant requests a Type III Special Variance to construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The intention of this code requirement is to express elements that reflect Cascadian architecture through the use of sloped roofs and to provide visual interest from adjacent right-of-way. The subject property is located on a major arterial street with high visibility. The length of the proposed primary structure measures 41 feet 3 inches with an additional 16-foot long covered civic space for a total length of 57 feet 3 inches (east-west) while the greatest width of the proposed structure is 24 feet 3 inches (north-south). While the primary structure itself does not exceed 50 feet in length staff acknowledges the civic space has been incorporated into the design of the primary structure. For the purposes of determining the roof span, staff has used the definition provided with Section 17.10.30 which identifies the roof span as, "The horizontal distance between the outside faces of bearing wall plates measured at the shortest dimension across the building." Based on this dimension it is determined the roof span shall be the north-south dimension of 24 feet 3 inches.*

The covered civic space includes a drive-through canopy projecting south from the front (southern) façade. Both the proposed civic space and drive-through canopy have been designed with 6:12 pitched gable roof elements to compliment the proposed parapet. Both the civic space and drive-through canopy have been designed to complement the primary structure's proposed parapet roof line in efforts to retain the Sandy Style elements the code strives to achieve. While the intentions of the roof pitch exceptions of Subsection 17.90.110(C)(8) are for structures extending more than 50 feet; the applicant expresses that to incorporate a 6:12 roof pitch and effectively screen rooftop equipment, per Subsection 17.90.110(C)(6), becomes difficult. They go on to express concern that to use a 6:12 roof pitch may take away from the intended Cascadian aesthetic (Exhibit C). Staff believes the elimination of the pitched roof on the primary structure, with the incorporation of the proposed roof pitch over the civic space and drive-through canopy, will not violate the intent of the code nor be detrimental to public welfare.

RECOMENDATION: *The intention of this code requirement is to construct building elements that reflect Cascadian architecture through the use of sloped roofs to achieve the Sandy Style aesthetic. The subject property is located on a major arterial street with high visibility. Additional 6:12 pitched roof features have been incorporated on secondary features to complement the proposed parapet section of the development. By designing the primary structure with a flat roof with parapets to screen equipment and incorporating the required roof pitch on the structure's secondary features, the proposal achieves the Sandy Style aesthetic and it does not seem necessary to provide the required roof pitch on the primary structure.* ***Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.***

Variance C

Subsection 17.90.110(D) details requirements regarding building orientation and entrances. These requirements are intended to maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style.

Subsection 17.90.110(D)(1) requires buildings to be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off-street parking on a parcel as required by Section 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).

Request: The applicant requests a Type III Special Variance to reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

RESPONSE: *The property has a total frontage length of 177.83 linear feet along Proctor Blvd. per Survey Name: SN27314 (Exhibit P). Using this dimension, the site is required to have a total building frontage length of 88.92 feet to meet the 50 percent minimum requirement of Subsection 17.90.110(D)(1). The proposal includes a 41 foot 3 inch in length primary structure which results in a 23 percent building frontage. Including the 16 foot long covered civic space to the overall building frontage results in a total 57 foot 3 inch or 32 percent building frontage for the site.*

The intent of incorporating building orientation and entrance standards is to maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style. In addition, incorporating these elements provides for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. While the proposed building does not meet the 50 percent minimum standard, additional elements such as covered and uncovered civic areas as well as internal pedestrian pathways have been incorporated to meet the intent of this code section. Based on this analysis staff believes the proposal does not violate the intent of the code nor will it be detrimental to public welfare.

RECOMENDATION: *The intention of incorporating building orientation and entrance standards is to ultimately enhance and encourage the pedestrian environment. While the proposal does not meet this numeric standard, additional elements have been incorporated onsite to warrant the approval of the reduced building frontage.* ***Staff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent (32 percent including the covered civic space) with the condition that the proposed covered civic spaces be incorporated at time of development.***

CHAPTER 17.68 – CONDITIONAL USES

17.68.00 INTENT

Certain uses listed in each zoning district require special review to determine what their effects may be to the surrounding properties, neighborhood, and community as a whole. The Minor Conditional Use Permit (Type II) and Conditional Use Permit (Type III) processes provide an opportunity to allow a use when potential adverse effects can be mitigated or deny a use if concerns cannot be resolved.

It is the intent of this chapter to permit minor conditional uses or conditional uses that are consistent with the Comprehensive Plan, subject to procedures and criteria intended to mitigate potentially negative impacts.

Procedures and review criteria for conditional development are established for the following purpose:

A. Permit certain types of public and private development that provides a community service in locations related to their service areas.
B. Permit commercial development in locations related to its service area.
C. Ensure that a conditional use is compatible with its immediate area and the affected part of the community

17.68.10 PROCEDURES

The applicant completed a series of pre-application meetings dated: March 7, 2018; May 31, 2018; and July 26, 2018. A formal application for a TYPE III Conditional Use was submitted on December 3, 2018. The submittal ultimately received confirmation of completeness on March 14, 2019 after staff received Exhibits A-J associated with this report thus confirming the proposal has met the requirements of Subsection 17.68.10.

17.68.20 REVIEW CRITERIA

The Planning Commission (Conditional Use Permit) through a Type III process may approve an application, approve with modifications, approve with conditions, or deny an application for a conditional use permit after a public hearing. The applicant must submit evidence substantiating that all 17.68 - 3 Revised by Ordinance 2013-11 effective 12/18/13 requirements of this code relative to the proposed use are satisfied and consistent with the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council.

The following criteria and compatibility factors shall be considered:

A. The use is listed as either a minor conditional use or conditional use in the underlying zoning district or has been interpreted to be similar in use to other listed conditional uses.

   RESPONSE: *The subject property is zoned Central Business District (C-1). The proposal includes a drive-through facility, which is a conditional use in the C-1 zone district. Criterion A is satisfied.*

B. The characteristics of the site are suitable for the proposed use considering the size, shape, location, topography, and natural features.

   RESPONSE: *The proposed site is suitable regarding the size, shape, location, topography, and natural features of the site. The site can accommodate parking requirements, landscaping requirements, stormwater detention, and other site demands typical of an eating and drinking establishment with a drive-through facility. Criterion B is satisfied.*

C. The proposed use is timely considering the adequacy of the transportation systems, public facilities and services existing or planned for the area affected by the use.

   RESPONSE: *Water and sanitary sewer are available to serve the site and proposed to be extended from Pleasant Street. Electric connection is available to the property via an existing utility pole located in the right-of-way adjacent to the south property line.*

   The subject property currently has two street frontages, Proctor Blvd./US HWY 26 and Pleasant St. providing vehicular and pedestrian access to the site. Proctor Blvd./US HWY 26 is a major arterial designed to accommodate higher volumes of traffic. Per the submitted traffic analysis, the drive-through facility will predominantly capture "pass-by" trips which occurs when a vehicle leaves an adjacent roadway (such as Proctor Blvd.), to patronize an establishment then continue in their original direction on the same adjacent roadway. Criterion C is satisfied.

D. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, precludes, or impairs the use of surrounding properties for the primary uses listed in the underlying zoning district.

RESPONSE: *All abutting parcels to the subject site are within City limits and are zoned Central Business District (C-1) which permit the same uses and requires the same site and building design regulations. The site is located at the east end of Sandy's downtown center and is adjacent to the first major intersection when vehicles enter the downtown westbound.*

Adjacent properties are as followed:

North	*Single-Family Residential*
	Vacant
	Professional or general business office (All County Surveyors and Planners)
East	*Retail – Convenience Market/Store (7-Eleven)*
South	*Automotive Fueling Station (ARCO)*
West	*Retail – Mattress World*

A 7-Eleven convenience store is known for short, efficient visits from patrons via vehicular and/or pedestrian visits. This 7-Eleven establishment shares an access easement designed for ingress/egress with the subject property while the Mattress World retail store can be seen as a specialty store with the potential to generate fewer trips than a drive-through or convenience store facility. To the south of the subject property, across Proctor Blvd./US HWY 26, a fueling station (ARCO) has been developed with an interior convenience store for patrons. North of the subject property, located on Pleasant Street, a legal non-conforming single-family home and a professional office building currently exists.

E. The proposed use will not result in the use of land for any purpose which may create or cause to be created any public nuisance including, but not limited to, air, land, or water degradation, noise, glare, heat, vibration, or other considerations which may be injurious to the public health, safety, and welfare.

RESPONSE: *The existing 7-Eleven convenience store has been in place for an extended period of time. The subject property has been vacant for almost three decades providing minimal barrier from potential nuisances generated by Proctor Blvd./US HWY 26 traffic. Additionally, the proposal includes a trash enclosure between the internal vehicular maneuvering area and the neighboring residence along with landscaping to form a six-foot hedge in order to create barriers to mediate possible vehicular disturbance to the north adjacent properties. Additional details regarding the trash enclosure can be found in Section 17.90.100(J) of this report while additional analysis of the landscaping buffer can be found in Section 17.92.80 of this report. Staff believes the proposed conditional use and adjacent uses are similar in nature. The proposed site design includes elements to reduce potential nuisances to adjacent properties, and therefore compliments the existing character and functionality of adjacent development.*

F. The proposed use will be reasonably compatible with existing or planned neighboring uses based on review of the following:
   1. Basic site design (organization of uses on the site)

RESPONSE: *The proposal includes a drive-through facility oriented between the public right-of-way and the proposed primary structure with a vehicular stacking/que lane that*

extends the length of the west and north property lines. Within the center of the site is an 834 square foot building with a covered and uncovered civic area on the east façade. The site includes a dedicated pedestrian pathway from the public right-of-way to the proposed civic area. The proposed site is compatible with the intent of the code and adjacent properties.

2. Visual elements (scale, structural design and form, materials, and so forth)
RESPONSE: *The proposal includes various elements such as masonry wainscoting, pitched roof features, timber beams and a varied façade to create visual elements in keeping with the Sandy Style of the code and adjacent properties.*

3. Noise
RESPONSE: *The proposal has included landscaping barriers on the north and south property lines to assist in reducing noise emitted from the proposed drive-through facility. The landscaping on the south property line also provides a means of minimizing the traffic noise generated by Proctor Blvd/US HWY 26 for future patrons utilizing the proposed civic space.*

4. Noxious odors
RESPONSE: *The neighboring properties include a 7-Eleven convenience store and a fueling station both of which are auto oriented uses therefore it is reasonable to conclude the proposed use will not create additional noxious odors to surrounding uses. Additionally, the site has been designed to provide open space to allow for vehicular exhaust ventilation helping to reduce the potential of noxious odors being produced by the use of the property.*

5. Lighting
RESPONSE: *The proposal includes interior lighting of the parking lot, pedestrian pathway and civic space which shall be compatible with code requirements as well as neighboring properties. Detailed analysis of the proposed lighting can be found within Section 17.90.100(H) and 15.30 of this report.*

6. Signage
RESPONSE: The applicant will be required to obtain a permit for any proposed signage*.*

7. Landscaping for buffering and screening
RESPONSE: *The proposal exceeds the minimum landscaping requirements for the zone district and provides a variety of planting materials along the north and south property lines to provide screening of the proposed drive-through facility.*

8. Traffic
RESPONSE: *Per the submitted traffic analysis, the drive-through facility will predominantly capture "pass-by" trips which occurs when a vehicle leaves an adjacent roadway (such as Proctor Blvd.), to patronize an establishment then continue in their original direction on the same adjacent roadway. The site is located at the east end of Sandy's central business district and is adjacent to the first major intersection when vehicles enter the downtown. The neighboring properties, a 7-Eleven convenience store and fueling station, are auto oriented businesses that generate similar traffic therefore any traffic generated by the proposed use will not negatively impact the surrounding uses.*

9. Effects on off-street parking
RESPONSE: *The proposal should not adversely effect on-street or off-street parking capacity. The proposed use provides s quick service and includes a stacking/que lane to accommodate 15 vehicles. In addition, the site provides a total of 13 parking spaces for patrons utilizing the proposed civic space where amenities such as tables and benches are proposed. Additional analysis of onsite parking has been detailed within Section 17.98 of this report.*

10. Effects on air quality and water quality
RESPONSE: *The proposed improvements will not adversely affect air and water quality. The project will comply with all applicable state and federal environmental standards.*

RECOMENDATION: *The proposed conditional use is in keeping with surrounding uses fronting Proctor Blvd./US HWY 26 and has included elements within its design to mediate potential nuisances to adjacent properties to the north. Additionally, the proposal includes elements to enhance the pedestrian environment remaining in keeping with the intent of the C-1 zone district.* ***Staff recommends the Planning Commission approve the proposed Conditional Use, a drive-through facility to compliment the proposed primary use, an eating and drinking establishment.***

CHAPTER 17.84 – IMPROVEMENTS REQUIRED WITH DEVELOPMENT

This chapter provides general information regarding improvements required in association with development, and it clarifies the timing, extent, and standards for public and private improvements.

17.84.20 TIMING OF IMPROVEMENTS

A. All improvements required by the standards in this chapter shall be installed concurrently with development, as follows:
   1. Where a land division is proposed, each proposed lot shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to approval of the final plat.
   2. Where a land division is not proposed, the site shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures.

RESPONSE: *Submission of preliminary street and utility plans during the land use review process is solely for compliance with the data requirements of Section 17.100.60.* ***Preliminary plat approval does not connote utility or public improvements plan approval which will be reviewed and approved separately upon submittal of public improvement construction plans.***

17.84.30 PEDESTRIAN AND BICYCLIST IMPROVEMENTS

A. Sidewalks shall be required along both sides of all arterial, collector, and local streets, as follows:
   1. Sidewalks shall be a minimum of 5 ft. wide on local streets. The sidewalks shall be separated from curbs by a tree planting area that provides separation between sidewalk and curb, unless modified in accordance with Subsection 3 below.
   2. Sidewalks along arterial and collector streets shall be separated from curbs with a planting area, except as necessary to continue an existing curb-tight sidewalk. The planting area shall be

landscaped with trees and plant materials approved by the City. The sidewalks shall be a minimum of 6 ft. wide.

3. Sidewalk improvements shall be made according to city standards, unless the city determines that the public benefit in the particular case does not warrant imposing a severe adverse impact to a natural or other significant feature such as requiring removal of a mature tree, requiring undue grading, or requiring modification to an existing building. Any exceptions to the standards shall generally be in the following order.
   a) Narrow landscape strips
   b) Narrow sidewalk or portion of sidewalk to no less than 4 feet in width
   c) Eliminate landscape strips
   d) Narrow on-street improvements by eliminating on-street parking
   e) Eliminate sidewalks
4. The timing of the installation of sidewalks shall be as follows:
   a) Sidewalks and planted areas along arterial and collector streets shall be installed with street improvements, or with development of the site if street improvements are deferred.
   b) Sidewalks along local streets shall be installed in conjunction with development of the site, generally with building permits, except as noted in (c) below.
   c) Where sidewalks on local streets abut common areas, drainageways, or other publicly owned or semi-publicly owned areas, the sidewalks and planted areas shall be installed with street improvements.

RESPONSE: *This proposal indicates that sidewalk infrastructure is to be improved within the right-of-way fronting Pleasant Street. The improvements proposed include a curb-tight sidewalk at a maximum width of 8 feet with two tree wells measuring 4 feet in length and width.* ***Tree wells shall have grate covers in conformance to Appendix F and designed to accommodate ADA accessibility to ensure the required 5-foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 5-foot width from the tree well grate to the back of (south) of proposed side walk. The sidewalk on Pleasant Street shall be designed in accordance with the design recommended in the Pleasant Street Master Plan.***

Additionally, this proposal requires sidewalk improvements within the right-of-way fronting Proctor Blvd./US HWY 26. The improvements proposed include a curb-tight sidewalk at a maximum width of 8 feet with four tree wells measuring 4 feet in length and width. ***Proposed tree wells and sidewalk scoring shall have patterns and paver bands that comply with Appendix F and designed to accommodate ADA accessibility to ensure the required 5 foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 5 foot width from the tree well grate to the back of (south) of proposed side walk.***

Street tree analysis has been completed and is documented within Section 17.92 of this report.

B. Safe and convenient pedestrian and bicyclist facilities that strive to minimize travel distance to the extent practicable shall be provided in conjunction with new development within and between new subdivisions, planned developments, commercial developments, industrial areas, residential areas, public transit stops, school transit stops, and neighborhood activity centers such as schools and parks, as follows:

1. For the purposes of this section, "safe and convenient" means pedestrian and bicyclist facilities that: are reasonably free from hazards which would interfere with or discourage travel for short trips; provide a direct route of travel between destinations; and meet the travel needs of pedestrians and bicyclists considering destination and length of trip.
2. To meet the intent of "B" above, right-of-ways connecting cul-de-sacs or passing through unusually long or oddly shaped blocks shall be a minimum of 15 ft. wide with 8 feet of pavement.
3. 12 feet wide pathways shall be provided in areas with high bicycle volumes or multiple use by bicyclists, pedestrians, and joggers.
4. Pathways and sidewalks shall be encouraged in new developments by clustering buildings or constructing convenient pedestrian ways. Pedestrian walkways shall be provided in accordance with the following standards:
   a) The pedestrian circulation system shall be at least five feet in width and shall connect the sidewalk on each abutting street to the main entrance of the primary structure on the site to minimize out of direction pedestrian travel.
   b) Walkways at least five feet in width shall be provided to connect the pedestrian circulation system with existing or planned pedestrian facilities which abut the site but are not adjacent to the streets abutting the site.
   c) Walkways shall be as direct as possible and avoid unnecessary meandering.
   d) Walkway/driveway crossings shall be minimized. Internal parking lot design shall maintain ease of access for pedestrians from abutting streets, pedestrian facilities, and transit stops.
   e) With the exception of walkway/driveway crossings, walkways shall be separated from vehicle parking or vehicle maneuvering areas by grade, different paving material, painted crosshatching or landscaping. They shall be constructed in accordance with the sidewalk standards adopted by the City. (This provision does not require a separated walkway system to collect drivers and passengers from cars that have parked on site unless an unusual parking lot hazard exists).
   f) Pedestrian amenities such as covered walk-ways, awnings, visual corridors and benches will be encouraged. For every two benches provided, the minimum parking requirements will be reduced by one, up to a maximum of four benches per site. Benches shall have direct access to the circulation system.

RESPONSE: *8-foot wide sidewalks with 4-foot wide, covered planter wells are proposed on both frontages of the proposed development. The sidewalk infrastructure shall be raised from vehicular traffic as well as provide a direct path free of unnecessary maneuvering to encourage a safe pedestrian environment. Proctor Blvd./US HWY 26 currently has a dedicated bicycle lane within the right-of-way, separated from the proposed sidewalk infrastructure.*

Detailed analysis of the proposed pedestrian and bicyclist improvements shall be completed during the construction plans review process.

17.84.40 TRANSIT AND SCHOOL BUS TRANSIT REQUIREMENTS

A. Development sites located along existing or planned transit routes shall, where appropriate, incorporate bus pull-outs and/or shelters into the site design. These improvements shall be installed in accordance with the guidelines and standards of the transit agency. School bus pull-outs and/or shelters may also be required, where appropriate, as a condition of approval for a residential

development of greater than 50 dwelling units where a school bus pick-up point is anticipated to serve a large number of children.

B. New developments at or near existing or planned transit or school bus transit stops shall design development sites to provide safe, convenient access to the transit system, as follows:
   1. Commercial and civic use developments shall provide a prominent entrance oriented towards arterial and collector streets, with front setbacks reduced as much as possible to provide access for pedestrians, bicycles, and transit.
   2. All developments shall provide safe, convenient pedestrian walkways between the buildings and the transit stop, in accordance with the provisions of 17.84.30 B.

RESPONSE: *The site is located within the Central Business District (C-1) of the City and is near the existing SAM Transit Station available to the public. With improved sidewalk and crossing infrastructure, staff does not believe the proposal warrants any additional amenities or additional improvements.*

17.84.50 STREET REQUIREMENTS

A. Traffic evaluations may be required of all development proposals in accordance with the following:
   1. A proposal establishing the scope of the traffic evaluation shall be submitted for review to the City Engineer. The evaluation requirements shall reflect the magnitude of the project in accordance with accepted traffic engineering practices. Large projects should assess all nearby key intersections. Once the scope of the traffic evaluation has been approved, the applicant shall present the results with and an overall site development proposal. If required by the City Engineer, such evaluations shall be signed by a Licensed Professional Civil Engineer or Licensed Professional Traffic Engineer licensed in the State of Oregon.
   2. If the traffic evaluation identifies level-of-service conditions less than the minimum standard established in the Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered concurrent with a development proposal.

RESPONSE: *The submitted Traffic Analysis Letter (TAL) (Exhibit E) was completed by Lancaster Engineering and is dated November 28, 2018. The traffic assumptions are based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Pass-by trips and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. The trip generation during morning peak hours is projected to generate 48 new trips, with 24 trips entering and exiting the site. During the evening peak hours, the site is projected to generate 8 primary trips, with 4 trips exiting and exiting the site. The daily expected increase is a total of 231 primary trips. The Traffic Engineer sited that the City of Sandy development standards for access, driveway width, minimum intersection spacing, and sight distance have been met and no mitigations are necessary or recommended. The City's contracted Traffic Engineer confirmed the transportation system can accommodate the proposed use without mitigation (Exhibit L).*

D. Development sites shall be provided with access from a public street improved to City standards in accordance with the following:
   1. Where a development site abuts an existing public street not improved to City standards, the abutting street shall be improved to City standards along the full frontage of the property concurrent with development.

2. Half-street improvements are considered the minimum required improvement. Three-quarter-street or full-street improvements shall be required where traffic volumes generated by the development are such that a half-street improvement would cause safety and/or capacity problems. Such a determination shall be made by the City Engineer.
3. To ensure improved access to a development site consistent with policies on orderly urbanization and extension of public facilities the Planning Commission or Director may require off-site improvements concurrent with development. Off-site improvement requirements upon the site developer shall be reasonably related to the anticipated impacts of the development.
4. Reimbursement agreements for ¾ street improvements (i.e., curb face to curb face) may be requested by the developer per Chapter 12 of the SMC.
5. A ½ street improvement includes curb and pavement 2 feet beyond the center line of the right-of-way. A ¾ street improvement includes curbs on both sides of the side and full pavement between curb faces.

RESPONSE: *The proposed street network adjacent to the subject property are existing and currently improved. The existing improvements generally comply with City standards.* ***Detailed analysis of the existing right-of-way infrastructure shall be submitted and reviewed during the construction plans review process.*** *Any work to be completed within highway right-of-way (Proctor Blvd./US HWY 26) requires an ODOT Miscellaneous Permit to be completed.*

17.84.60 PUBLIC UTILITY EXTENSIONS

A. All development sites shall be provided with public water, sanitary sewer, and storm drainage.
B. Where necessary to serve property as specified in "A" above, required public utility installations shall be constructed concurrent with development.
C. Off-site public utility extensions necessary to fully serve a development site and adjacent properties shall be constructed concurrent with development.
D. As necessary to provide for orderly development of adjacent properties, public utilities installed concurrent with development of a site shall be extended through the site to the edge of adjacent property(ies).
E. All public utility installations required with development shall conform to the City's facilities master plans.
F. Private on-site sanitary sewer and storm drainage facilities may be considered provided all the following conditions exist:
   1. Extension of a public facility through the site is not necessary for the future orderly development of adjacent properties;
   2. The development site remains in one ownership and land division does not occur (with the exception of land divisions that may occur under the provisions of 17.84.50 F above);
   3. The facilities are designed and constructed in accordance with the Uniform Plumbing Code and other applicable codes, and permits and/or authorization to proceed with construction is issued prior to commencement of work.

RESPONSE: *The applicant's utility plan (Exhibit I, Sheets C4.0 and C4.1) depicts the location and type of proposed public utilities including water and sanitary sewer.* ***All public utility installations shall conform to the City's facilities master plans. All public sanitary sewer and waterlines shall be a minimum of 8 inches in diameter and all stormwater drains shall be a minimum of 12 inches in diameter. No building permits will be issued until all public utilities, including sanitary sewer***

are available to serve the development. The applicant shall pay plan review, inspection, and permit fees as determined by the Public Works Director.

Staff recommends the applicant revise the utility plan to include broadband fiber locations for SandyNet utilities to be installed.

17.84.80 FRANCHISE UTILITY INSTALLATIONS

These standards are intended to supplement, not replace or supersede, requirements contained within individual franchise agreements the City has with providers of electrical power, telephone, cable television, and natural gas services (hereinafter referred to as "franchise utilities").

RESPONSE: *Private utility services will be submitted for review and approval by service providers and City staff in association with construction plans, and all utility lines will be extended to the perimeter of the site.* ***All franchise utilities shall be installed underground and in conformance with City standards****. T****he applicant shall call the PGE Service Coordinators at 503-323-6700 when the developer is ready to start the project.***

17.84.100 MAIL DELIVERY FACILITIES

RESPONSE: *The applicant will need to coordinate with the United States Postal Service (USPS) to locate mail facilities and these will be approved by the City and USPS.* ***Mail delivery facilities shall be provided by the applicant in conformance with 17.84.100 and the standards of the USPS. The applicant shall submit a mail delivery plan to the City and USPS for review and approval prior to installation of mailboxes.***

CHAPTER 17.90 – Design Standards

17.90.110 DOWNTOWN AND VILLAGE COMMERCIAL (C-1 AND C-3) DESIGN STANDARDS

Development in the C-1 and C-3 districts shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

Response: The subject property is located within the C-1 zone district.

A. Site Layout and Vehicle Access

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.110-C and 17.90.110-D)

1. All lots shall abut or have cross access to a dedicated public street. ***Response:*** *The subject property abuts Proctor Blvd./US HWY 26 and Pleasant Street.*
2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley. ***Response:*** *N/A*

3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.110(C). When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required. ***Response:*** *Proposed parking is located in the rear of the proposed primary structure.*
4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation. ***Response:*** *The subject property and the adjacent property to the east, the 7-Eleven convenience store, currently share an ingress/egress access point onto Proctor Blvd./US HWY 26.* ***The applicant shall record a cross access easement agreement with the County Recorder or supply the City with a copy of an existing recorded easement demonstrating cross access is granted.***
5. Urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, shall be used to calm traffic and protect pedestrians in parking areas. ***Response:*** *The applicant proposes a new pedestrian connection from Proctor Blvd./US HWY 26 to the proposed civic space and ordering counter of the primary structure. This pedestrian path will cross the proposed vehicular stacking/que lane. This pedestrian path will be elevated and incorporates a concrete surface to delineate itself from the vehicular travel area which is asphalt. These efforts are to create a safe path for protecting pedestrians.*
6. Where openings occur between buildings facing Proctor Boulevard or Pioneer Boulevard, pedestrian ways shall connect the street sidewalk to any internal parking areas. Development shall avoid creating barriers to pedestrian circulation. ***Response:*** *The proposal includes a pedestrian pathway from Proctor Blvd./US HWY 26 to the internal civic space and around the primary structure to the proposed onsite parking lot.*
7. Parking lots may include public alley accessed garages at the rear property line, except where a setback is required for vision clearance or to conform to other city standards. ***Response:*** *N/A*
8. Raised walkways or painted crossings from the public street sidewalk to the building entrance(s) are required. Crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or be painted (e.g., colored concrete inlay in asphalt). ***Response:*** *The applicant proposes a new pedestrian connection from Proctor Blvd./US HWY 26 to the proposed civic space and ordering counter of the primary structure. This pedestrian path will cross the proposed vehicular stacking/que lane. This pedestrian path will be elevated and incorporates a concrete surface to delineate itself from the vehicular travel area which is asphalt. These efforts are to create a safe traffic path for protecting pedestrians.*
9. Joint use of access points and interconnections and cross-over easements between parcels shall be required, where the City determines it is practicable and necessary. A development approval may be conditioned to require a joint use access easement and interconnecting driveways or alleys to comply with access spacing and other applicable code requirements. ***Response:*** *The subject property and the adjacent property to the east, the 7-Eleven convenience store, share an ingress/egress access point onto Proctor Blvd./US HWY 26 via an established access easement. ODOT has responded that the applicant must obtain a State Highway Approach Permit for access to the state highway (Proctor Blvd./US HWY 26) as well as the applicant shall record a cross-over access easement to the adjacent property with the County Accessor.*
10. Connection to Adjacent Properties: The location of any real improvements to the property must provide for a future street and pedestrian connection to adjacent properties where the City determines this is practicable and necessary. ***Response:*** *The proposed partition results in two parcels (PPI and PPII). PPI will have frontage on Proctor Blvd./US HWY 26 while PPII will*

have frontage on Pleasant Street. Both properties are zoned C-1 encouraging a mixture of commercial use oriented to enhancing the pedestrian environment. To provide future opportunity for pedestrian connectivity, the proposed utility easement on PPII shall include pedestrian access.

11. Through lots and corner lots may be permitted with two access points, one onto each abutting street, where necessary to serve a centralized, shared parking facility. Such access points must conform to the above access spacing requirements and parking must be internalized to the property. ***Response:*** *N/A*
12. Free-standing buildings shall be connected to one another with a seamless pedestrian network that provides access to building entrances and civic spaces. ***Response:*** *The proposal includes only one primary building.*

B. Building Facades, Materials, and Colors

Intent: To provide building façades, materials and colors consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, Color Palettes (Appendices C and D), and photos (Appendix E)

1. **Articulation**. The Sandy Style includes asymmetrical building forms, which by definition require buildings to be articulated, varied, and provide visual interest. This standard is met by dividing elevations of a structure visible from an abutting public street or pedestrian way into smaller areas or planes to minimize the appearance of bulk as viewed from the street as follows:

   a. All elevations visible from an abutting public street or pedestrian way shall be divided into distinct planes no more than 30 lineal feet long to include the following:

   1. Wall planes meeting this standard shall include a feature or variation in the wall plane that projects or recedes at least six (6) inches from the adjacent plane, for a length of at least four (4) feet. Changes in plane may include but are not limited to recessed entries, bays, secondary roof forms (e.g., gables, lower roof sheds, dormers and towers), canopies, awnings, projections, recesses, alcoves, pergolas, porticos, roof overhangs, or other features consistent with the Sandy Style.
   2. Wall planes shall incorporate at least one visually contrasting and complementary change in materials or changes in texture or patterns, including trim, moldings, or other ornamental devices.
   3. The lower and upper floors of multi-story buildings shall be clearly delineated by using pedestrian shelters, change in siding materials, heavy timber or natural wood accents (e.g., brackets, paneling or other detailing).

   RESPONSE: *The proposed elevations of the structure include varying wall planes that do not exceed 30 feet in length as well as a gabled vehicle canopy for the requested conditional use, a drive-through facility, and gabled pedestrian canopy for the proposed civic space to project perpendicularly from the south and east facades of the structure. The proposal includes a three-foot-high brick wainscoting with siding on the main structure. The façade also includes stone, brick and wood framed canopy features within the overall design. The proposed building is a single story; however, timber elements have been incorporated into the civic space canopy area as well as*

varying materials on the façade fronting the proposed civic space. The proposed features are complimentary with the Sandy Style aesthetic.

2. **Pedestrian Shelters.** Buildings must incorporate pedestrian shelters, as follows:

a. Pedestrian shelters shall be provided over the building's primary entrance(s) and pedestrian areas (i.e., sidewalks and civic spaces) abutting the subject building.
b. Features such as canopies, arcades, awnings, roofs overhangs, covered porches, alcoves, and/or porticoes are required.
c. Pedestrian shelters must extend at least five (5) feet over the pedestrian area.
d. Shelters designed with gables (e.g., over building entrances) are preferred over flat shelters, and must comply with the roof pitch standards in Section 17.90.110(C). Dome or bubble shaped awnings are not permitted.

RESPONSE: *The proposal includes a gabled covered pedestrian civic space on the east façade of the building. On the north elevation a pedestrian ordering window is proposed. The north elevation includes a gabled cover that complements the east façade's cover and extends more than 5 feet from the building's façade. The west elevation includes two separate doors to the interior; one door is to gain access to the interior for employees and the second is for access to a restroom facility.* ***The proposal shall incorporate pedestrian shelters to meet the above criteria on the west elevation.***

3. **Building Materials.** Exterior building materials shall convey an impression of strength and durability consistent with the Sandy Style, as follows:

a. Buildings on the same site shall be architecturally unified. This provision shall apply to new construction, additions, and remodeling such that buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. Unity does not mean repetition or mirroring of building elevations.
b. Strong base materials such as natural stone (e.g., basalt, granite, river stone), split- faced rusticated concrete block, or brick are required. Cultured stone may be allowed if it has a stone texture and is similar in appearance and durability to natural stone. A building's base must extend at least 36 inches but not more than 60 inches above the adjacent finished grade and be included on those sides of the building visible from the abutting public street. If the site contains a grade differential making construction of a minimum 36-inch base impracticable, the reviewing body may allow portions of the base to be less than 36-inches.
c. Foundations shall be designed to match the scale of the building being supported. Examples include sheathing the foundation structure with base materials and wall siding.
d. Siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, or a combination of these materials. Stucco, synthetic stucco, and metal are permitted only as specified below. Vinyl, plastic or similar siding is not permitted.

    1) Where wood siding is used, it shall consist of horizontal (e.g., lap, v-groove, or tongue-and-groove) siding, vertical (board and batten) siding, shingles, or combinations thereof. Vertical grooved (i.e., T1-11) sheet siding and similar materials are prohibited.
    2) Where board-and-batten siding is used, battens shall be a minimum of 2-inches wide x 1-inch deep and spaced 24 inches apart or closer; rough-sawn boards (specialty panel) are preferred over panels having a resin overlay.

3) Where masonry siding is used, it shall consist of brick, stone, or rusticated concrete block, and must incorporate decorative patterns over not less than 15 percent of every elevation where it is used. Examples of decorative patterns include multi-toned masonry units, such as brick, stone, or cast stone, in layered or geometric patterns or split-faced concrete block to simulate rusticated stone-type construction. Changes in pattern should be used to accentuate breaks in building stories, corners, windows, structural bays, and building tops (e.g., parapets where flat roofs are allowed).
4) Where metal siding is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation (e.g., wainscoting or other accent paneling). Metal must be architectural grade and have a non-reflective (burnished or painted) finish conforming to the approved Color Palette. Metal may also be used for flashing, gutters, downspouts, brackets, lighting, and signage and similar functional elements.
5) Where stucco or synthetic stucco is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation.

e. Building elevations facing a public right-of-way or civic space shall incorporate at least three (3) of the following features: Using these features may also address other code requirements, such as those related to building articulation, change in relief, pedestrian shelters, and storefront elements.

1. Exposed, heavy timbers;
2. Exposed natural wood color beams, posts, brackets and/or trim (e.g., eaves or trim around windows);
3. Natural wood color shingles (e.g., used as siding or to accent gable ends);
4. Metal canopies;
5. Heavy metal brackets (e.g., cast iron or similar appearance), which may be structural brackets or applied as cosmetic detailing; *and,*
6. Similar features, consistent with the Sandy Style.

f. Materials required on elevations visible from an abutting public street must turn the building corner and incorporate appropriate transitions onto elevations not requiring these materials for a distance of not less than two (2) feet.

RESPONSE: *The proposal includes a three-foot-high brick wainscoting with a horizontal, composite wood siding on all facades of the main structure. The pillars designed to support the proposed civic and vehicle canopies have incorporated a three-foot-tall stone base to add another element compatible with the Sandy Style. Per the applicant's narrative (Exhibit C), exposed foundations will be minimal for this project and explains that where practical and allowed by code, exposed foundations are to be covered by the base material.* ***The applicant shall demonstrate the foundation design meets the standards of Subsection 17.90.110(B)(3)(c) at the time of building permit review.*** *The public right-of-way elevation (south) and civic space elevation (east) include four of the required elements: exposed heavy timbers; exposed natural wood color beams, posts and brackets; metal canopies; and heavy metal brackets. The design elements within this section are incorporated in whole and consistent on each façade of the proposed building to create a more unified expression throughout the development.*

4. **Colors.** Building exteriors shall comply with the following standards:

a) Permitted colors include warm earth tones (tans, browns, reds, grays and greens) conforming to the Color Palette provided in Appendix C.
b) High-intensity primary colors, metallic colors and black, may be utilized as trim and detail colors only, not to exceed one (1) percent of the surface area of any elevation. Such color shall not be used as primary wall colors.
c) Day-glow colors, highly reflective colors, and similar colors are not permitted.

RESPONSE: *Per the applicant's narrative the color and material palette are intended to meet the criteria of this section of code with no high-intensity primary or metallic colors being used.* ***The applicant shall submit updated plans indicating proposed colors that are in conformance with the Color Palette in Appendix C.***

C. Roof Pitch, Materials, and Parapets

Intent: To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1) Except as provided in subsections 17.90.110(C)(8), below, pitched (gabled or hipped) roofs are required on all new buildings with a span of 50-feet or less. Gable and hipped roof forms must achieve a pitch not less than the following:

Zoning District	Primary Roof Forms (Minimum)	Secondary Roof Forms (minimum)
C-1, C-3	6:12	4:12

2) As provided above, "Primary Roof Forms" are those that individually comprise 20 percent or more of the total surface area of a roof elevation. Secondary roof forms (e.g., dormers, towers, cupolas, etc.) are those that comprise less than 20 percent of the roof elevation. See also, Section 17.74.20 Vertical Projections.
3) When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street.
4) Pitched roof surfaces visible from an abutting public street shall provide a secondary roof form (e.g. dormer) in the quantity specified below. Secondary roof forms may be located anywhere on the roof, although grouping these features is preferred.

Roof Length	Number of Secondary Roof Forms
30 – 40 feet	1
41 – 80 feet	2
81 feet and greater	4

5) Visible roof materials must be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D.
6) All roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Roof plans and elevations must show proposed equipment locations, approximate dimensions, and line of sight from public rights-of-way and civic spaces. The reviewing body may require additional equipment setbacks, screen walls, or other mitigation to ensure compliance.
7) A-frame buildings and Mansard-style roofs are not permitted.
8) Exception to Pitched Roof: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form. An alternative roof form includes an "applied pitched roof" or flat roof constructed over the building or portion of the building as specified below. An example when a pitched roof is considered impractical would be the need to have large rooftop stove vents over the kitchen portion of a restaurant. Roof forms constructed under this exception shall comply with the standards below.

b. Flat Roof: Flat roofs shall comply with the following standards:

1) Sandy Style stepped parapets and detailed coursing shall be provided on those elevations visible from an abutting public street. Parapets shall be varied so that the length of a parapet does not exceed 30 feet without a change in the parapet height of at least 2 feet or as necessary to hide rooftop equipment.
2) Average parapet height shall not exceed 15 percent of the supporting wall height, and the maximum parapet height shall not at any point exceed one-third (1/3) of the height of the supporting wall;
3) A cornice projecting at least six (6) inches from the building face shall be provided at the roofline of all elevations visible from abutting public rights-of- ways and pedestrian ways;
4) Parapet corners shall be stepped and the parapet be designed to emphasize the center or primary entrance(s), unless the primary entrance is at the corner of the building.

RESPONSE: *The primary structure is proposed to have a flat roof; therefore, the applicant has requested a Special Variance (Variance B). For additional details regarding this request see the analysis of Variance B in Section 17.66.80 of this report. The subject property is located on a major arterial street with high visibility. Additional 6:12 pitched roof features have been incorporated on secondary features to complement the proposed parapet section of the building. One of these canopy features has been incorporated with the gable oriented to the right-of-way (Proctor Blvd./US HYW 26) on the south facade. By designing the primary structure with a flat roof with parapets to screen equipment and incorporating the required roof pitch on the structure's secondary features, the proposal achieves the Sandy Style aesthetic.* ***The applicant shall update the plans to demonstrate compliance with Subsection 19.90.110(C)(b)(2) as well as include cornice features projecting at least six (6) inches from the building face on all elevations as they are visible from abutting public rights-of-ways and pedestrian ways.***

D. Building Orientation and Entrances

Intent: To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Buildings shall be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off- street parking on a parcel as required by SDC 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).
2. Where parking is placed between a front façade and a street, a landscaped berm and/or architectural features, such as a knee wall, colonnade, arbor, trellis and/or similar device, shall be placed behind the sidewalk to partially screen the parking area from the sidewalk. The partial screen shall be designed to achieve at least 50 percent opacity at the time of installation, with openings for walkways connecting to the building's primary entrance.
3. Ground floor spaces shall face a public street and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel). Where the reviewing authority determines that facing the building to a street is not practical, it may require the building to face a civic space.
4. Buildings located at the intersection of two streets shall use a corner building entrance; where a corner entrance is not practical due to the internal functioning of the building space or due to physical constraints of the site (e.g., topography, accessibility, or similar circumstances), a building entrance must be provided within 40 feet of the corner. The building corner must use detailing that emphasizes the corner location and is consistent with the Sandy Style. Examples of acceptable detailing include a rounded or chamfered (beveled) corner, weather protecting canopy, plaza, sculpture, and/or similar pedestrian-oriented features.
5. Upper story residential units shall have an entrance separate from the ground floor (commercial) space and conform to applicable building codes.
6. Buildings shall provide at least two elevations where the pedestrian environment is "activated". An elevation is "activated" when it meets the window transparency requirements in subsection 17.90.110(E), below, and contains a customer entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway or civic space. Where providing a customer entrance on two (2) elevations is not practical, the reviewing body may allow a single entrance.
7. Primary entries shall face a public street or a civic space and shall be spaced not more than 30 feet apart on average. Ancillary shops shall provide entries every 30 feet, on average.
8. Primary entrances shall be architecturally emphasized and visible from the abutting public right-of-way or civic space and shall be sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches or art, should also be used to emphasize an entrance.

RESPONSE: *The proposal does not meet the 50 percent building frontage requirement associated with Subsection 17.90.100(D)(1) and have requested a variance from this standard. Should the variance be granted, the proposal will be considered in conformance with the above standard. For additional details regarding this request see the analysis of Variance C in Section 17.66.80 of this report. The required parking associated with the use is located to the rear of the proposed primary*

structure. The proposal is unique in that the use does not offer interior space for patrons therefore the use will rely heavily on the civic space they provide which is evaluated in Section 17.90.110(G) of this report. The proposal includes an elevated pedestrian pathway from the right-of-way (Proctor Blvd./US HWY 26) to the proposed civic space which is adjacent to the primary structure where patrons have access to an ordering window providing an enhanced pedestrian experience for patrons of the site. In addition to the civic space the proposal incorporates 40 percent window transparency on the south façade, 41 percent on the east where the majority of the civic space is located, and 33 percent on the north façade where the ordering window is proposed. This confirms the proposal meets the building activation standards associated with the C-1 zone district. The proposed civic space on the north and east elevations will include a gabled feature as well as enhanced transparency along both facades to enhance the pedestrian environment and character of the development.

E. Windows

Intent: To promote business vitality, public safety and aesthetics through effective window placement and design, consistent with the Sandy Style. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, and 17.90.110-I, and representative photos in Appendix E.

1) **Unified Design**. Building plans must provide for unity in window placement and design so that all sides of a building relate to one another and multiple buildings on a development site relate to one another.
2) **Ground Floor Windows**. The ground floor elevation of all new buildings shall contain display areas, windows, and doorways along street frontages and where the building abuts a civic space as follows: Lots with multiple street frontages are required to meet this standard on only two frontages.

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

   a. Windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished grade. Where the internal functions of a building preclude windows at this height, the reviewing body may approve locating windows above or below this height. Display boxes affixed to a building's exterior are not counted in meeting the above standard.
   b. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented.
   c. Windows with any dimension exceeding six (6) feet shall be divided into smaller panes (e.g., 2 foot by 2 foot grid) with real divided panes, vinyl inserts or applied dividers.
   d. Windows shall have trim or moldings at least three (3) inches in width around them, or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills.

4) **Prohibited Windows.** The following window types are prohibited:

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

1. Darkly tinted windows, mirrored windows, and similar windows are prohibited adjacent to street sidewalks, civic spaces and walkways.
2. Glass curtain windows are not permitted facing public right-of-ways, except where the reviewing body finds that such windows are consistent with the Sandy Style.

RESPONSE: *While not each façade has incorporated windows, the proposed window elements of the project are observed to be in a logical and unified design throughout the overall exterior of the building. As detailed in the previous section of this report, the proposal incorporates 40 percent window transparency on the south façade, 41 percent on the east where the majority of the civic space is located, and 33 percent on the north façade where the ordering window is to be located meeting the above code requirement. The proposed window pane orientation meets code standards as well as meeting the requirement that all windows exceeding six feet in length are divided into smaller panes to conform to the above referenced standards. The applicant has expressed the proposal will include clear glass and trim/molding of at least three-inches in depth around all windows.* ***The applicant shall update the plans to include a note identifying the use of clear glass as well as a note identifying the trim/molding detail to be used to comply with Subsection 17.90.110(E)(2)(d).***

F. Landscaping and Streetscape Design

Intent: To promote business vitality, public safety and aesthetics through effective landscaping and streetscape design, consistent with the Sandy Style; and to provide for a pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, and Downtown Sandy Streetscape Design)

1. The provisions of Chapter 17.92, Landscaping and Screening General Standards shall apply except in the C-1 Zoning District where conformance with the Downtown Sandy Streetscape Design, as illustrated in Appendix F is required.
2. Where any conflict arises between provisions of the Sandy Streetscape Design and other city standards (e.g., sidewalk width, materials, or similar specifications), the Streetscape Design shall prevail. All applicable provisions of Chapter 17.92 Landscaping and Screening General Standards must be met, except as modified by the Downtown Sandy Streetscape Design.

RESPONSE: *The proposal includes street trees planted in tree wells located within the right-of-way as opposed to the traditional landscape strip as these two frontages do not have landscaping strips. The streetscape on Proctor Blvd./US HWY 26 is required to conform to the standards of Appendix F - Streetscape Design Detail, therefore the* ***applicant shall update the plans to indicate conformance with the sidewalk tree grate and lighting details identified in Appendix F. Additionally, the streetscape on Pleasant Street shall conform to the standards of the Pleasant Street Master Plan. The applicant will be required to obtain a permit from ODOT to place trees within the highway right-of-way.***

G. Civic Space

Intent: To connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for the public, consistent with Sandy's Downtown Streetscape Design. (See Figures 17.90.110-H and 17.90.110-I).

1. Not less than three (3) percent of the ground floor area of every development shall be improved as civic space.
2. All civic spaces shall have dimensions of not less than eight (8) feet across and have a surface area of not less than 64 square feet. No civic space is required if the size of this space results in an area of less than 64 square feet.
3. Civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review.
4. The highest priority locations for civic space are those areas with the highest pedestrian activity (e.g., street corners and mid-block pedestrian access ways) that have a western or southern exposure.
5. Unless impractical, civic spaces shall abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Where a right-of-way connection is not possible, the owner must provide a public access way easement to the civic space. Civic spaces shall not be gated or closed to public access, unless otherwise required by the city.
6. Exceptions: Building additions and remodels subject to Type I Design Review are not required to set aside or improve civic space, though they are encouraged to do so.

RESPONSE: *The ground floor area of the proposed use is 834 square feet which results in a total need of approximately 25 square feet of civic space which would result in an exemption from the requirement for civic space as the space results in less than 64 square feet. The proposal includes a total of 868 square feet of civic space. The civic space includes both a covered and uncovered patio as well as a pedestrian pathway leading from the right-of-way (Proctor Blvd./US HWY 26) to the civic space which is elevated, as well as a contracting material from the vehicular asphalt. While the proposed civic space is not located between the primary structure and the right-of-way due to the proposed conditional use, a drive-through facility, the proposed location is logically located on the east façade for visibility and provides an enhanced pedestrian pathway.*

H. Lighting

Intent: To promote business vitality, public safety and aesthetics through effective outdoor lighting, consistent with the Sandy Style.

1. Streetscape lighting shall conform to the Downtown Sandy Streetscape Design and the requirements of Chapter 15.30, Dark Sky Ordinance.
2. Exterior lighting must be an integral part of the architectural design and must complement any ornamental street lighting and remain in context with the overall architectural character of the district. On-site light fixtures conforming to the Sandy Style are encouraged.

3. Lighting must be adequate for safety purposes. Walkways, parking lots, and building entrances should be illuminated at 1.5 – 2.0 foot candles.

RESPONSE: *Section 17.90.110(H.3) specifies that walkways and parking lots should be illuminated at 1.5 – 2.0 foot candles. The submitted Photometric Plan (Exhibit I, Sheet E1.0) details parking lot illumination at 0.08 to 4.24 foot candles and walkway illumination at 0.18 to 3.24 foot candles. The applicant is proposing to use a Size 1, D-Series light fixture that cascades light downward from the light fixture which will be mounted on a 15 foot tall pole.* ***The applicant shall update the proposed parking area lights with lights that have a smaller distribution and emit less intense light and shall add pedestrian scale lighting along the walkway between the civic space and right-of-way as well as along the pathways adjacent to the building's façade such that they are illuminated at 1.5 – 2.0 foot candles.*** *All outdoor lighting systems has been designed so that the area 10 feet beyond the property line of the premises receives no more than .25 (one quarter) of a foot-candle of light from the proposed listing system. Lighting is discussed further in Chapter 15.30 (Dark Sky) of this document.*

I. Safety and Security

Intent: To promote natural surveillance of public spaces for safety and security.

1. Locate windows in a manner that enables tenants, employees and police to watch over pedestrian, parking and loading areas.
2. In commercial, public and semipublic development, including civic spaces, locate windows in a manner that enables surveillance of interior activity from the public right- of-way.
3. Provide street address numbers measuring a minimum of six (6) inches high, which clearly locates buildings and their entries for patrons and emergency services.
4. Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way and other public areas. (See also, subsection H Lighting.)

RESPONSE: *The proposed parking area is located adjacent to the north elevation of the proposed building. The north elevation for Building 1 (Exhibit I, Sheet A5.1) identifies windows along the eastern portion of the north façade where a pedestrian ordering window will be located and the remainder shall incorporate cohesive materials as the remainder of the building. The proposed use is unique as no internal space is proposed for patrons, therefor the proposed windows appear adequate regarding employee safety. Real windows would allow visibility from the Dutch Bros interior to the pedestrian entrance and parking area. The proposed windows along the east façade of the proposed building will allow visibility between the proposed eating and drinking assembly area and the proposed civic space. In addition, the proposal includes windows on the south façade where the pick-up window is proposed for the drive-through facility. Visibility of the civic space, parking lot and proposed drive-through from the internal assembly area is a desirable surveillance feature.* ***The applicant shall provide street address numbers measuring a minimum of six (6) inches high, which clearly locate buildings and their entries for patrons and emergency services. The applicant shall verify the location(s) of the address with the Building Official and emergency service providers.*** *On-site lighting is evaluated in Chapter 15.30 of this staff report. Lighting has been designed to illuminate driveways and building entrances.*

J. External Storage and Screening

Intent: To promote land use compatibility and aesthetics, particularly where development abuts public spaces.

1. Exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited.
2. Where such storage is allowed, it must be screened from view from public rights of way and civic spaces.
3. Mechanical, electrical, communications equipment including meters and transformers, and service and delivery entrances and garbage storage areas shall be screened from view from public rights-of-way and civic spaces.
4. Trash collection and recycling storage areas must be located within the structure or otherwise screened from view in an enclosed facility. Such facilities must be screened from view from public rights-of-way and civic spaces behind a screening wall constructed to match the materials used on the primary building(s) on the subject site.
5. Exceptions to the above provisions may be allowed through Design Review where no other practical alternative exists and such equipment is made to be visually subordinate to the proposed building and landscape, for example, through the use of common materials for screening walls or landscape berms. The reviewing body may require additional setbacks, screening walls or other mitigation, for aesthetic reasons and to minimize odors or noise impacts on adjoining properties, public rights-of-way or civic spaces.

RESPONSE: *The applicant is not proposing any outdoor storage areas. The mechanical equipment for the site is proposed to be located on the roof. The applicant has requested a special variance (Variance B within Section 17.66 of this report) to allow a flat pitched roof with parapets that will screen the equipment from view from the right-of-way.* ***The applicant shall submit line of sight analysis for the rooftop equipment prior to submitting building permits.*** *This land use proposal includes a garbage/recycle enclosure for screening purposes. The enclosure is 18 feet by 12 feet (length by width) and located in the northeast corner of PP1. The enclosure includes an eight foot – six inch tall stucco surround with two sets of synthetic wood gates for access to the dumpsters.* ***The applicant shall submit updated plans indicating proposed colors for the enclosure and associated gates that are in conformance with the Color Palette in Appendix C.***

CHAPTER 17.92 – LANDSCAPING AND SCREENING

17.92.10 GENERAL PROVISIONS

1. Where landscaping is required by this Code, detailed planting plans shall be submitted for review with development applications. No development may commence until the Director or Planning Commission has determined the plans comply with the purposes clause and specific standards in this chapter. All required landscaping and related improvements shall be completed or financially guaranteed prior to the issuance of a Certificate of Occupancy.
2. Appropriate care and maintenance of landscaping on-site and landscaping in the adjacent public right-of-way is the right and responsibility of the property owner, unless City ordinances specify otherwise for general public and safety reasons. If street trees or other plant materials do not survive or are removed, materials shall be replaced in kind within 6 months.
3. Significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development. Trees of 25-inches or greater circumference measured at a height of 4-1⁄2 ft. above grade are considered significant. Plants to be saved and

methods of protection shall be indicated on the detailed planting plan submitted for approval. Existing trees may be considered preserved if no cutting, filling, or compaction of the soil takes place between the trunk of the tree and the area 5-ft. outside the tree's drip line. Trees to be retained shall be protected from damage during construction by a construction fence located 5 ft. outside the dripline.

4. Planter and boundary areas used for required plantings shall have a minimum diameter of 5- ft. (2-1⁄2 ft. radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of 7-1⁄2 ft.
5. In no case shall shrubs, conifer trees, or other screening be permitted within vision clearance areas of street, alley, or driveway intersections, or where the City Engineer otherwise deems such plantings would endanger pedestrians and vehicles.
6. Landscaped planters and other landscaping features shall be used to define, soften or screen the appearance of off-street parking areas and other activity from the public street. Up to 35 percent of the total required landscaped area may be developed into pedestrian amenities, including, but not limited to sidewalk cafes, seating, water features, and plazas, as approved by the Director or Planning Commission.
7. Required landscaping/open space shall be designed and arranged to offer the maximum benefits to the occupants of the development as well as provide visual appeal and building separation.
8. Balconies required for entrances and exits shall not be considered as open space except where such exits and entrances are for the sole use of the unit.
9. Roofed structures shall not be included as open space except for open unenclosed public patios, balconies, gazebos, or other similar structures or spaces.
10. Driveways and parking areas shall not be included as open space.
11. All areas not occupied by paved roadways, walkways, patios, or buildings shall be landscaped.
12. All landscaping shall be continually maintained, including necessary watering, weeding, pruning and replacing.

RESPONSE: *The applicant has submitted landscaping plans (Exhibit I, Sheet L10 & L11) with an associated detail sheet for additional planting information (Exhibit I, Sheet L20). The proposal includes a Type I Land Division (Minor Partition) request to subdivide the existing parcel into two lots (PPI and PPII). PPI is to be redeveloped with an eating and drinking establishment and proposed drive-through facility while PPII is to remain vacant for future development. While PPI is currently absent of trees, PPII has trees located within the proposed boundaries, therefore* ***the applicant shall install tree protection fencing located 5 feet outside of the dripline of all existing trees on site.*** *Per Section 17.92.10(L),* ***all landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing.***

Per the submitted Phase I Environmental Site Assessment Submitted (Exhibit F), the site has been previously treated for contaminated soil. The assessment also identifies evidence of undocumented fill on the site. To ensure the future health of the proposed landscaping and the health, safety, welfare of constituents, ***the applicant shall complete necessary soils analysis and obtain approval from the DEQ prior to development of the site. The site shall meet any requirements and mediation needs determined by the DEQ.*** *In the event a soils analysis determines the native soil to not support future landscaping, the applicant may incorporate raised planter beds to be reviewed and approved by the City. Any changes to the landscape plan are required to be approved by the City prior to development.*

17.92.20 MINIMUM IMPROVEMENTS - LANDSCAPING AND SCREENING

The minimum landscaping area of a site to be retained in landscaping shall be as follows:

ZONING DISTRICT OR USE	PERCENTAGE
R-3	25%
Manufactured Home Park	20%
C -1 Central Business District	10%
C - 2 General Commercial	20%
C - 3 Village Commercial	10%
I - 1 Industrial Park	20%
I - 2 Light Industrial	15%
I - 3 Heavy Industrial	10%

RESPONSE: *The subject property is zoned Central Business District, C-1. Section 17.92.20 requires that a minimum of 10 percent of the site be landscaped in the C-1 zone district. The submitted Landscape Plan (Exhibit I, Sheets L10) identifies PPI at a total of 21,787 square feet with a total landscaped area of 4,072 square feet which equates to a total of 18.7 percent of the site containing landscaping.*

17.92.30 REQUIRED TREE PLANTINGS

Planting of trees is required for all parking lots with 4 or more parking spaces, public street frontages, and along private drives more than 150 feet long. Trees shall be planted outside the street right-of-way except where there is a designated planting strip or City adopted street tree plan.

The City maintains a list of appropriate trees for street tree and parking lot planting situations. Selection of species should be made from the city-approved list. Alternate selections may be approved by the Director following written request. The type of tree used shall determine frequency of trees in planting areas. Trees in parking areas shall be dispersed throughout the lot to provide a canopy for shade and visual relief.

Area/Type of Planting	Canopy	Spacing
Street Tree	Medium	30 ft. on center
Street Tree	Large	50 ft. on center

- Trees may not be planted:
- Within 5 ft. of permanent hard surface paving or walkways, unless specific species, special planting techniques and specifications approved by the Director are used.
- Unless approved otherwise by the City Engineer:

    - Within 10 ft. of fire hydrants and utility poles
    - Within 20 ft. of street light standards
    - Within 5 ft. from an existing curb face
    - Within 10 ft. of a public sanitary sewer, storm drainage or water line

- Where the Director determines the trees may be a hazard to the public interest or general welfare.

- Trees shall be pruned to provide a minimum clearance of 8 ft. above sidewalks and 12 ft. above street and roadway surfaces.

RESPONSE: *Section 17.92.30 requires trees to be planted along public street frontages. Based on the proposed planter area width the requirement will be medium sized trees spaced 30 feet on center for both Proctor Blvd./US HWY 26 and Pleasant Street. The submitted Landscape Plan (Exhibit I, Sheets L10 and L11) detail street trees along both frontages of the subject property. Along Pleasant Street, which has approximately 89.4 feet of frontage, the proposal includes two Japanese Snowbell tree species at a distance of 30 feet from center. Along Proctor Blvd./US HWY 26 which has approximately 177.8 feet of frontage of which 28 feet is an access drive, there are four Japanese Snowbell tree species proposed. Due to an existing electrical pole the four trees are divided into two sets on either side which conform to the standard that they are planted at a distance of 30 feet to center. The proposed street trees will be planted within tree wells located within the right-of-way as opposed to the traditional landscape strip as these two frontages do not have landscaping strips. The streetscape on Proctor Blvd./US HWY 26 is required to conform to the standards of Appendix F - Streetscape Design Detail, therefore the* ***applicant shall update the plans to indicate conformance with the sidewalk tree grate detail identified in Appendix F. The applicant will be required to obtain a permit from ODOT to place trees within the highway right-of-way. All street trees shall be a minimum of 1.5-inches in caliper measured 6 inches above the ground and shall be planted per the City of Sandy standard planting detail.***

The parking lot is proposed to contain Trident Maple tree species within the internal parking area. One Trident Maple will be located just east of the proposed civic space and the remaining two maples are at the end of two separate parking space aisles. All ***trees shall include tree ties with twine, loosely tied so as not to damage the trunk and shall be removed after one growing season (or a maximum of 1 year).***

17.92.40 IRRIGATION

Landscaping shall be irrigated, either with a manual or automatic system, to sustain viable plant life.

RESPONSE: *The submitted landscaping plans (Exhibit I, Sheets L10 and L11) indicates the "all planting areas" shall be equipped with an automatic drip irrigation system. All trees on the subject property shall be equipped with drip loops on separate zone.* ***The applicant shall demonstrate compliance with this proposal at time of building permit.***

17.92.50 TYPES AND SIZES OF PLANT MATERIALS

A. At least 75% of the required landscaping area shall be planted with a suitable combination of trees, shrubs, or evergreen ground cover except as otherwise authorized by Chapter 17.92.10 F.
B. Plant Materials. Use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged where possible.
C. Trees shall be species having an average mature spread of crown greater than 15 feet and having trunks which can be maintained in a clear condition with over 5 feet of clear wood (without branches). Trees having a mature spread of crown less than 15 feet may be substituted by grouping the same so as to create the equivalent of a 15-foot crown spread.

D. Deciduous trees shall be balled and burlapped, be a minimum of 7 feet in overall height or 1 1⁄2 inches in caliper measured 6 inches above the ground, immediately after planting. Bare root trees will be acceptable to plant during their dormant season.
E. Coniferous trees shall be a minimum five feet in height above ground at time of planting.
F. Shrubs shall be a minimum of 1 gallon in size or 2 feet in height when measured immediately after planting.
G. Hedges, where required to screen and buffer off-street parking from adjoining properties shall be planted with an evergreen species maintained so as to form a continuous, solid visual screen within 2 years after planting.
H. Vines for screening purposes shall be a minimum of 1 gallon in size or 30 inches in height immediate after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.
I. Groundcovers shall be fully rooted and shall be well branched or leafed. If used in lieu of turf in whole or in part, ground covers shall be planted in such a manner as to provide complete coverage in one year.
J. Turf areas shall be planted in species normally grown as permanent lawns in western Oregon. Either sod or seed are acceptable. Acceptable varieties include improved perennial ryes and fescues used within the local landscape industry.
K. Landscaped areas may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, decorative hard paving and gravel areas, interspersed with planted areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscape area.

RESPONSE: *The Landscape Plan (Exhibit I, Sheets L10 and L11) identifies the following street trees at 2.0- inch caliper:*

- *Japanese Snowbell (common name)*

In addition, the Landscape Plan identifies the following trees to be planted within the site:

- *Three, Trident Maple (common name) at 1-inch caliper*
- *Seven, Shore Pine (common name) at 5 feet tall*
- *Six, Hogan Cedar (common name) at 5 feet tall*

Due to concerns with Asian Longhorn Beetle and Emerald Ash Borer, staff do not recommend planting new maples or ashes at this time. ***The applicant shall update the proposed tree list to include an alternative species for the three (3) proposed Trident Maple trees demonstrating compliance with the required height and/or caliper per Subsection 17.92.50.*** *Street trees are typically required to be a minimum caliper of 1.5- inches measured 6 inches from grade. The applicant is proposing 2.0-inch caliper street trees meeting the requirement.*

The Landscape Plan identifies various areas of landscaping throughout the site that will receive either a Northwest Ornamental Planting Mix, Standards Shrub and Groundcover Mix or Stormwater Plantings. A plant schedule is located within the submitted landscaping plans (Exhibit I, Sheet L20) identifying the proposed planting types and the associated size at planting. All proposed plants meet the minimum 1 gallon in size requirement established within this section of the Development Code.

17.92.60 REVEGETATION IN UNLANDSCAPED OR NATURAL AREAS

A. Areas where natural vegetation has been removed or damaged through grading or construction activity in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements shall be replanted.
B. Plant material shall be watered at intervals sufficient to assure survival and growth.
C. The use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged to reduce irrigation and maintenance demands.

RESPONSE: *The proposal includes a Type I Land Division (Minor Partition) to subdivide the property into two legal lots of record (PPI and PPII). PPII is proposed to remain undeveloped.* ***The applicant shall maintain all unlandscaped and/or revegetated areas for a period of two (2) years following the date of recording of the final plat associated with those improvements***.

17.92.70 LANDSCAPING BETWEEN PUBLIC RIGHT-OF-WAY AND PROPERTY LINES

Except for portions allowed for parking, loading, or traffic maneuvering, a required setback area abutting a public street and open area between the property line and the roadway in the public street shall be landscaped. That portion of the landscaping within the street right-of-way shall not count as part of the lot area percentage to be landscaped.

RESPONSE: *There is a portion of property, approximately 300 square feet in area, that lies between the property line and the improved sidewalk within the right-of-way. While this area is not included in the proposal's landscape requirement it has been noted by the applicant within their narrative (Exhibit C) and incorporated into the overall landscape plan.* ***The future development of the site is responsible for incorporating landscaping within the 300 square foot area to match the on-site proposed landscaping to create a cohesive design along the frontage of the property.***

17.92.80 BUFFER PLANTING - PARKING, LOADING AND MANUEVERING AREAS

Buffer plantings are used to reduce building scale, provide transition between contrasting architectural styles, and generally mitigate incompatible or undesirable views. They are used to soften rather than block viewing. Where required, a mix of plant materials shall be used to achieve the desired buffering effect.

Buffering is required in conjunction with issuance of construction permits for parking areas containing 4 or more spaces, loading areas, and vehicle maneuvering areas. Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Decorative walls and fences may be used in conjunction with plantings but may not be used by themselves to comply with buffering requirements. Exception: truck parking lots are exempt from parking bay buffer planting requirements.

RESPONSE: *The adjacent properties are within the same zone district, C-1, therefore there are no buffer requirements associated with the development. The properties to the north of the proposal include a legal non-conforming single-family home and a professional office building. The proposal includes planting a total of five Hogan Cedar tree species with a planting height of five-feet tall*

along the north property line in the east portion of the site. Additionally, 15 Mock Orange shrubs will be planted and pruned to form a six-foot hedge along the north property line extending west from the proposed Hogan Cedar tree canopy. These planting efforts will help to buffer the proposed conditional use, a drive-through facility, from the neighboring properties.

17.92.130 PERFORMNCE BOND

If weather conditions or other circumstances beyond the control of the developer or owner make completion of the landscaping impossible prior to desired occupancy, an extension of up to 6 months may be applied for by posting "security" equal to 120% of the cost of the landscaping, assuring installation within 6 months. "Security" may consist of a performance bond payable to the city, cash, certified check, time certificates of deposit, assignment of a saving account, letter of credit, or other such assurance of access to funds necessary for completion as shall meet the approval of the City Attorney. Upon acceptance of the security, the developer or owner may be allowed occupancy for a period of up to 180 days. If the installation of the landscaping improvement is not completed within 180 days, the City shall have access to the security to complete the installation and/or revoke occupancy. Upon completion of the installation by the city, any portion of the remaining security minus administrative charges of 30% shall be returned to the owner. Costs in excess of the posted security shall be assessed against the property and the City shall thereupon have a valid lien against the property, which will come due, and payable.

RESPONSE: *The applicant has the option to defer the installation of street trees and/or landscaping for weather-related reasons. Staff recommends the applicant utilize this option rather than install trees and landscaping during the dry summer months.* ***If the applicant chooses to postpone street tree and/or landscaping installation, the applicant shall post a performance bond equal to 120 percent of the cost of the landscaping, assuring installation within 6 months. The cost of street trees shall be based on the street tree plan and at least $500 per tree. The cost of landscaping shall be based on the average of three estimates from three landscaping contractors; the estimates shall include as separate items all materials, labor, and other costs of the required action, including a two-year maintenance and warranty period.***

CHAPTER 17.94 - DRIVE-UP USES

17.94.00 INTENT

These provisions are established to ensure safe, functional drive-up uses while not impeding flow of traffic. For purposes of this section, a vehicle shall be considered no less than twenty feet in length.

The width and turning radius of drive-up aisles shall be approved through the Type I design review process.

RESPONSE: *The proposal includes a request for a drive-through facility to be approved as a conditional use. Conditional uses are processed as a Type III review which requires Planning Commission approval. The proposal has been processed according to the Type III procedure requirements.*

17.94.20 MINIMUM REQUIREMENTS

1. Parking maneuvers shall not occur in the stacking area. The stacking area shall not interfere with safe and efficient access to other parking areas on the site or adjacent properties.
2. Drive-up aisles and windows must be located a minimum of fifty feet from residential zones to avoid adverse impacts.
3. All restaurant facilities, except short term food service, providing drive-up service shall provide at least two designated parking spaces immediately beyond the service window or provide other satisfactory methods to allow customers requiring excessive waiting time to receive service while parked.
4. The grade of the stacking area to the drive-up shall not exceed a slope of twelve percent.
5. The drive-up shall be designed to provide as much natural ventilation as possible to eliminate the buildup of exhaust gasses.
6. The sound level of communications systems shall not exceed fifty-five decibels at the property line and shall otherwise comply with provisions of the Sandy Municipal Code regarding sound levels.

Response: *The proposal includes a dedicated stacking/que lane that separates itself from the parking and maneuvering area by a raised curb which includes a pedestrian pathway and, in some areas, landscaping. No properties within 50 feet of the drive-up isle are zoned residential. The proposed use, a coffee shop, can be considered a short-term food/beverage service therefore the proposal does not require two designated parking spaces immediately beyond the service window associated with the drive-through facility. Additionally, staff finds the proposal to include additional parking. Parking analysis can be within Section 17.98 of this report, which allows the use to dedicate two proposed spaces in the future should such a need be warranted. The grade of the stacking/que lane does not exceed a four percent slope per submitted plans (Exhibit I, Sheet C3.0). The stacking lane extends the perimeter of the north, west and south property lines and is predominantly surrounded by landscaping and/or sidewalk paths providing the ability for natural ventilation for vehicle exhaust.* ***The applicant shall demonstrate at time of building permit review that the installed communications system associated with the drive-through facility does not exceed fifty-five decibels at the property line.***

17.94.30 STACKING DISTANCE

Drive-up window uses shall provide a minimum stacking area clear of the public right-of-way and parking lot aisles from the window serving the vehicles as follows:

1. Banks. Each lane shall provide a minimum capacity for 5 vehicles.
2. Restaurants. Each lane shall provide a minimum capacity for 8 vehicles.
3. Short-Term Food Service. Each lane shall provide a minimum capacity for 3 vehicles. Short Term Food Service is defined as a facility serving espresso, ice cream, or other single-service product. A maximum of one designated parking space located at the end of the stacking area may be substituted for one required stacking space for small convenience food stops only.

D. Other Drive-up Uses:

4. Automotive Fueling Stations. Each lane shall provide a minimum capacity for 4 vehicles.
5. Other Uses. Each lane shall provide a minimum capacity for 2 to 8 vehicles, as determined through the design review process.

Response: *The proposed use, a coffee shop, is considered short-term food service therefore the site is required to have a minimum stacking/que lane that accommodates three vehicles. The proposed drive-through facility has a capacity of 15 vehicles each with a length of 19 feet.*

CHAPTER 17.98 – PARKING, LOADING, AND ACCESS REQUIREMENTS

17.98.20 OFF-STREET PARKING REQUIREMENTS

RESPONSE: *Section 17.98.20 requires eating and drinking establishments to have a total of 1 parking space per 250 sq. ft. of gross floor area or 1 per 4 fixed seats or stools, plus 1 per 2 employees. The proposal includes an 834 square-foot interior space, 868 square-foot civic area with patron seating and the applicant has identified that the proposed use will have 10 employees. Based on this information the site is required to have a total of 12 parking spaces. The proposal includes a total of 13 parking spaces including one ADA space. Commercial zoned properties are not permitted to exceed the minimum off-street vehicle parking required by more than 30 percent. The proposal meets code requirements with regards to the number of parking spaces.*

17.98.50 SETBACKS

A. Parking areas, which abut a residential zoning district, shall meet the setback of the most restrictive adjoining residential zoning district.

B. Required parking shall not be located in a required front or side yard setback area abutting a public street except in industrial districts. For single family and two-family dwellings, required off-street parking may be located in a driveway.

C. Parking areas shall be setback from a lot line adjoining a street the same distance as the required building setbacks. Regardless of other provisions, a minimum setback of 5 feet shall be provided along the property fronting on a public street. The setback area shall be landscaped as provided in this code.

RESPONSE: *The proposed parking has been located to the rear of the proposed building and is not abutting a residentially zoned property.*

17.98.60 DESIGN, SIZE AND ACCESS

All off-street parking facilities, vehicular maneuvering areas, driveways, loading facilities, accessways, and private streets shall conform to the standards set forth in this section.

A. Parking Lot Design. All areas for required parking and maneuvering of vehicles shall have a durable hard surface such as concrete or asphalt.

B. Size of Space.
   1. A standard parking space shall be 9 feet by 18 feet.
   2. A compact parking space shall be 8 feet by 16 feet.
   3. Handicapped parking spaces shall be 13 feet by 18 feet. Accessible parking shall be provided for all uses in compliance with the requirements of the State of Oregon (ORS 447.233) and the Americans with Disabilities Act.

4. Parallel parking spaces shall be a length of 22 feet.
   No more than 35 percent of the parking stalls shall be compact spaces

C. Aisle Width.

Parking Aisle	Single Sided One-Way	Single Sided Two-Way	Double Sided One-Way	Double Sided Two-Way
90 degree	20 feet	22 feet	25 feet	25 feet
60 degree	20 feet	20 feet	20 feet	20 feet
45 degree	20 feet	20 feet	20 feet	20 feet
Parallel	12 feet	12 feet	16 feet	16 feet

RESPONSE: *This section of code was analyzed by reviewing the submitted site plan (Exhibit I, Sheet C2.0). The proposed ground covering for the parking area is an approved material, asphalt. The site does not propose any parallel parking spaces; however, the proposal provides a total of 13, 90-degree parking spaces. The 90-degree parking spaces measure 9 feet wide by 18 feet deep while the single ADA parking space measures 9 feet wide by 18 feet deep with an 8-foot-wide by 18 feet deep dedicated stripped area adjacent to the parking stall.* ***The proposal includes one ADA parking space that is 9 foot wide by 18 feet deep with an adjacent 8 foot by 18 stripped access aisle and ramp to meet Oregon Revise Statue (ORS) 447.233.***

The proposal includes a 25-foot-wide drive aisle which meets the minimum requirement for a double-sided two-way drive aisle with 90-degree parking.

17.98.70 ON-SITE CIRCULATION

1. Groups of more than three (3) parking spaces shall be permanently striped.
2. Backing and Maneuvering. Except for a single family dwelling or two family dwelling, groups of more than 3 parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles enter the right-of-way (except for alleys) in a forward manner. Parking spaces shall not have backing or maneuvering movements for any of the parking spaces occurring across public sidewalks or within any public street, except as approved by the City Engineer. Evaluations of requests for exceptions shall consider constraints due to lot patterns and impacts to the safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

RESPONSE: The applicant shall stripe the proposed parking spaces per State of Oregon (ORS 447.233) and the Americans with Disabilities Act. *The City of Sandy Public Works Director, Mike Walker, stated the following in Exhibit N:*

"*Staff requested that the applicant submit a site plan showing the location of the parking and maneuvering areas on the 7-11 site and show the path of a passenger car backing out of the westernmost spaces on the 7-11 site and exiting the lot via the shared approach.*

Since the 7-11 site also has an approach onto SE Ten Eyck Rd. at the east edge of the site we also asked that the applicant show the path of the same vehicle backing out of the spots and exiting to the east and to show the dimensions for the existing spaces and the distance between the end of the stall and the right-of-way line.

Finally(,) we asked the applicant to submit a narrative discussion of these movements for both sites and identify any on-site conflicts that that could impact traffic on US 26 westbound. I didn't see any of the requested information in the applicant's submittal.

The applicant shall submit the requested information and analysis outlined above and in the January 22nd email to the applicant's traffic consultant. If conditions are identified that would affect operation of the shared approach and traffic on US 26 westbound the applicant shall propose and incorporate mitigation measures to address any impacts."

The applicant shall submit the following:

- ***A narrative discussion of the vehicular movements for both sites (subject site and 7-Eleven site), identifying any on-site conflicts that could impact traffic on US 26 westbound.***
- ***An exhibit demonstrating the maneuvering areas on the 7-Eleven site and the path of passenger vehicles backing out of the westernmost spaces on the 7-Eleven site as well as exiting the lot via the shared approach.***

17.98.80 ACCESS TO ARTERIAL AND COLLECTOR STREETS

A. Location and design of all accesses to and/or from arterials and collectors (as designated in the Transportation System Plan) are subject to review and approval by the City Engineer. Where practical, access from a lower functional order street may be required. Accesses to arterials or collectors shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions may be granted by the City Engineer. Evaluations of exceptions shall consider posted speed of the street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
B. No development site shall be allowed more than one access point to any arterial or collector street (as designated in the Transportation System Plan) except as approved by the City Engineer. Evaluations of exceptions shall consider posted speed of street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
C. When developed property is to be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in A and B above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.

RESPONSE: *The subject property has a single ingress/egress access onto Proctor Blvd./US HWY 26 which is shared with the east adjacent property, 7-Eleven. The submitted narrative states, "On January 31, 2019 ODOT approved the driveway approach." ODOT submitted comments (Exhibit M) dated March 22, 2019 indicating that a State Highway Approach Permit is required for access to the state highway for the proposed use. Additionally, ODOT expressed that the applicant "shall record a cross-access easement to the adjacent properties with the state highway frontage with the County Assessor to facilitate future shared access." These requirements were concurred by the City Engineer (Exhibit K).* ***The applicant shall obtain a State Highway Approach Permit from ODOT as well as record a cross-access easement to the adjacent properties with state highway frontage with the County to facilitate future shared access or provide evidence that these requirements have***

been fulfilled. Any work within ODOT right-of-way must first obtain an ODOT Miscellaneous Permit.

17.98.100 DRIVEWAYS

A. A driveway to an off-street parking area shall be improved from the public roadway to the parking area a minimum width of 20 feet for a two-way drive or 12 feet for a one-way drive but in either case not less than the full width of the standard approach for the first 20 feet of the driveway.

B. A driveway for a single-family dwelling shall have a minimum width of 10 feet.

C. A driveway for a two-family dwelling shall have a minimum width of 20 feet. A driveway approach must be constructed in accordance with applicable city standards and the entire driveway must be paved with asphalt or concrete.

D. Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve feet for their entire length and width but such clearance may be reduced in parking structures.

E. No driveway shall traverse a slope in excess of 15 percent at any point along the driveway length.

F. The location and design of the driveway shall provide for unobstructed sight per the vision clearance requirements. Requests for exceptions to these requirements will be evaluated by the City Engineer considering the physical limitations of the lot and safety impacts to vehicular, bicycle, and pedestrian traffic.

RESPONSE: *A minimum width of 20 feet for a two-way driveway is required and per the submitted Traffic Analysis Letter (Exhibit E) the site has a 40-foot-wide driveway from the right-of-way to the parking area. Based on this analysis, and confirmation from the City's Traffic Engineer consultant (Exhibit L), the proposal meets code requirements for driveway width. The submitted grading plan (Exhibit I, Sheet C3.0) indicated the driveway slope is at 3.5 percent slope.* ***The driveway approach on Proctor Blvd. shall be modified to meet ADA requirements.***

The submitted Traffic Analysis Letter (Exhibit E) indicates that the intersection sight distance (ISD) requirement is 280 feet based on the standards established in A Policy on Geometric Design of Highways and Street published in 2011. The calculated ISD exceeds 1,000 feet per the traffic engineer's calculations and confirmed by the City's Traffic Engineer consultant (Exhibit L).

17.98.120 LANDSCAPING AND SCREENING

A. Screening of all parking areas containing 4 or more spaces and all parking areas in conjunction with an off-street loading facility shall be required in accordance with zoning district requirements and Chapter 17.98. Where not otherwise specified by district requirement, screening along a public right-of-way shall include a minimum 5-ft. depth of buffer plantings adjacent to the right-of-way.
B. When parking in a commercial or industrial district adjoins a residential zoning district, a sight-obscuring screen that is at least 80% opaque when viewed horizontally from between 2 and 8 feet above the average ground level shall be required. The screening shall be composed of

materials that are an adequate size so as to achieve the required degree of screening within 3 years after installation.

C. Except for a residential development which has landscaped yards, parking facilities shall include landscaping to cover not less than 10% of the area devoted to parking facilities. The landscaping shall be uniformly distributed throughout the parking area and may consist of trees, shrubs, and ground covers.
D. Parking areas shall be divided into bays of not more than 20 spaces in parking areas with 20 or more spaces. Between, and at the end of each parking bay, there shall be planters that have a minimum width of 5 feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. Truck parking and loading areas are exempt from this requirement.
E. Parking area setbacks shall be landscaped with major trees, shrubs, and ground cover as specified in Chapter 17.92.
F. Wheel stops, bumper guards, or other methods to protect landscaped areas shall be provided. No vehicle may project over a property line or a public right-of-way. Parking may project over an internal sidewalk, but a minimum clearance of 5 feet for safe pedestrian circulation is required.

RESPONSE: *As detailed in Section 17.98.50 of this report, parking on the subject property shall not be located in a required front or side yard setback area abutting a public street. The proposal has parking located to the rear of the building and does not violate the zone district's required side yard setback. The proposed parking area does not include parking bays that meet or exceed 20 consecutive spaces. There are two parking bays located on the site. The northern parking bay includes landscaped planters at both ends of the bay that meet the requirements of 17.92 – Landscaping and Screening. The south parking bay includes a landscape planter on the west end while the east end has a pedestrian pathway to meet the code requirements of Section 17.90.110(B)(2)(a) requiring pedestrian shelters over pedestrian sidewalks abutting buildings.*

17.98.130 PAVING

D. Parking areas, driveways, aisles and turnarounds shall be paved with concrete, asphalt or comparable surfacing, constructed to city standards for off-street vehicle areas.

E. Gravel surfacing shall be permitted only for areas designated for non-motorized trailer or equipment storage, propane or electrically powered vehicles, or storage of tracked vehicles.

RESPONSE: *The proposal includes asphalt for all parking and maneuvering areas. Concrete is proposed to be used for the pedestrian pathway that crosses the proposed drive-through facility's stacking/que lane. As required by Section 17.98.130,* ***all parking, driveway and maneuvering areas shall be constructed of asphalt, concrete, or other approved material****.*

17.98.140 DRAINAGE

Parking areas, aisles and turnarounds shall have adequate provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way and abutting private property.

RESPONSE: *Section 17.98.140 contains requirements for drainage. Section 17.100.250 of this report details the site's stormwater proposal and conditions of approval.*

17.98.150 LIGHTING

Artificial lighting shall be provided in all required off-street parking areas. Lighting shall be directed into the site and shall be arranged to not produce direct glare on adjacent properties. Light elements shall be shielded and shall not be visible from abutting residential properties. Lighting shall be provided in all bicycle parking areas so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or vehicle parking lots during all hours of use.

RESPONSE: *The proposed lighting for the site has been analyzed within Section 17.90.110(H) of this report.*

17.98.160 BICYCLE PARKING FACILITIES

Multi-family developments, industrial, commercial and community service uses, transit transfer stations, and park and ride lots shall meet the following standards for bicycle parking facilities. The intent of this section is to provide secure bicycle parking that is visible from a building's primary entrance and convenient to bicyclists.

A. Location.

1. Bicycle parking shall be located on-site, convenient to primary building entrances, and have direct access to both the public right-of-way and to the main entrance of the principal structure.
2. Bicycle parking areas shall be visible from building interiors where possible.
3. For facilities with multiple buildings or parking lots, bicycle parking shall be located in areas of greatest use and convenience to bicyclists.
4. If the bicycle parking area is located within the vehicle parking area, the bicycle facilities shall be separated from vehicular maneuvering areas by curbing or other barrier to prevent damage to parked bicycles.
5. Curb cuts shall be installed to provide safe, convenient access to bicycle parking areas.

B. Bicycle Parking Space Dimensions.

1. Each required bicycle parking space shall be at least 2 1⁄2 feet by 6 feet. If covered, vertical clearance of 7 feet must be provided.
2. An access aisle of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking. Vertical or upright bicycle storage structures are exempted from the parking space length.

C. Security.

1. Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be located.
2. Racks requiring user-supplied locks shall accommodate both cable and U-shaped locks. Racks shall be designed and installed to permit the frame and both wheels to be secured, with removal of the front wheel, or the frame and one wheel to be secured, if both wheels remain on the bicycle.

3. Bicycle racks shall be securely anchored to the ground or a structure and shall be designed to hold bicycles securely by means of the bicycle frame.
4. All outdoor bicycle parking facilities shall provide adequate shelter from precipitation where possible.

F. Signing. Where bicycle facilities are not directly visible and obvious from the public right-of- way, entry or directional signs shall be provided to direct bicyclists from the public right-of- way to the bicycle parking facility.

E. Exemptions. Temporary street side sales and temporary uses such as fireworks stands, Christmas tree sales lots, single-family and two-family residences are exempt from the standards.

RESPONSE: *The submitted narrative (Exhibit I) indicates the bicycle parking will be provided at a paved ribbon rack adjacent to the front public access to the building. At a minimum, 2 spaces will be provided per Table 117.98.20.8 however does not detail compliance with standards of Section 17.98.160 – Bicycle Parking Facilities. Additionally, the submitted site plans and renderings (Exhibit I) do not show the location or design of the proposed bike facilities.* ***The applicant shall submit a detailed narrative demonstrating compliance with the standards set forth in Section 17.98.160 and submit an updated site plan indicating the location of the site's bicycle parking facility(ies).***

CHAPTER 17.100 – LAND DIVISION

Chapter 17.100 presents review procedures, design standards, and improvement requirements for land division. Section 17.100.60 is the subsection relevant to the division of subdivisions.

17.100.40 MINOR AND MAJOR PARTITIONS

Approval of a partition is required for a land division of 3 or fewer parcels in a calendar year. Partitions, which do not require creation or extension of a street for access, is classified as a Type I minor partition. Partitions, which require creation or extension of a street for access is classified as a Type II, major partition.

C. Tentative Partition Plan. The tentative plan shall be a minimum of 8 1/2 x 11 inches in size and shall include the following information:
    1. The date, north point, engineering scale, and legal description;
    2. Name and address of the owner of record and of the person who prepared the partition plan;
    3. Zoning, size and dimensions of the tract to be partitioned;
    4. Size, dimensions and identification of proposed parcels (Parcel 1, Parcel 2, Parcel 3);
    5. Approximate location of any structures on the tract to be partitioned, including setbacks to proposed parcel boundaries;
    6. Location, names and widths of streets, sidewalks and bikeways within the tract to be partitioned and extending 400 feet beyond the tract boundaries;
    7. Location, width and purpose of existing and proposed easements on the tract to be partitioned;
    8. Location and size of sewer, water and drainage facilities proposed to serve the tract to be partitioned;

9. Natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
10. Approximate topography, particularly noting any area of steep slope;
11. A plan for future parcel redivision, if the proposed parcels are large enough to be redivided under the comprehensive plan or zoning designation.

RESPONSE: The applicant shall resubmit a tentative partition plan and include all the above requirements for consideration.

D. Approval Criteria. The Director or Planning Commission shall review the tentative plan for a minor or major partition based on the classification procedure (Type I, II or III) and the following approval criteria:
    1. The proposed partition is consistent with the density, setback and dimensional standards of the base zoning district.
    2. The proposed partition is consistent with the design standards set forth in this chapter.
    3. Adequate public facilities are available or can be provided to serve the proposed partition.
    4. All proposed improvements meet City standards.
    5. The plan preserves the potential for future redivision of the parcels, if applicable.

RESPONSE: *The subject property is located within the C-1 zone district and proposed to be used for a commercial use. The table below details the development standards for a commercial development located within the C-1 zone district:*

Commercial	
Lot Area	No minimum
Lot Dimension	No minimum
Setbacks	No minimum [4]; maximum 10 ft.
Lot Coverage	No maximum
Landscaping	10% minimum (includes required civic space in Section 17.90.110.)
Structure Height	45 ft. maximum
Off-Street Parking	See Chapter 17.98
Design Review Standards	See Section 17.90.110

The proposed lots of record meet the above development standards. Public facilities are reasonably available to both of the proposed lots associated with the requested partition. Additionally, this review and associated conditions of approval act as confirmation that the proposed improvements shall meet City standards. ***The applicant shall adhere to the conditions of approval associated with the Planning Commission's Final Order based on the results of the April 22, 2019 hearing.***

E. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative partition plan as deemed necessary. In no event, however, shall the Director or Planning Commission require greater dedications or conditions than could be required if the entire tract were subdivided.
F. Approval of Tentative Partition Plan. When a tentative partition plan has been approved, all copies shall be marked with the date and conditions of approval. One copy shall be returned to the applicant, one copy shall be sent to the county and one copy shall be retained by the city.

G. Approval Signatures for Final Partition Map. Following review and approval of a final partition map, the Director shall:
    1. Review Plat for Accuracy. The Director may require field investigations to verify that the plat survey is accurate. The applicant shall be notified and afforded an opportunity to make corrections if needed.
    2. Sign the plat to certify that the map is approved.
    3. Notify the applicant that the partition map and accompanying documents have been approved and are ready for recording with the Clackamas County Recorder.
    4. Deliver the signed original to the applicant who shall deliver the original and two exact copies to the County Recorder's office. One recorded copy shall be returned to the City of Sandy immediately after recording is completed.

H. Effective Date for Final Partition Map Approval. The partition shall become final upon recording of the approved partition map together with any required documents with the County Recorder. Work specifically authorized following tentative approval may take place prior to processing of the final partition map. The documents effectuating a partition shall become null and void if not recorded with the County Recorder within one year following approval.

I. Improvements. The same improvements shall be installed to serve each parcel of a partition as required of a subdivision. Improvement standards are set forth in Section 17.90. If the Director and City Engineer find a need to vary the improvement standards for a partition, the application shall be processed through a Type III hearing and may except specific improvements.

J. Exceptions to Improvements. Exceptions to improvements may be approved in transition areas or other areas as deemed appropriate by the city. In lieu of excepting an improvement, the Planning Commission may recommend to the city council that the improvement be installed in the area under special assessment financing or other facility extension policies of the city.

RESPONSE: *Per ODOT, and concurred by the City Engineer, a recorded cross-access easement on the subject property will need to be recorded. The beneficiaries of the cross-access easement will be the subject property and the east adjacent property, 7-Eleven.* ***The applicant shall record a cross-access easement to the adjacent properties with state highway frontage with the County to facilitate future shared access or provided evidence that these requirements have been fulfilled. The applicant shall provide the City with a copy of the recorded easement as well as identify the recorded easement on the tentative plat for review. The applicant shall coordinate with City staff to submit the appropriate easement and complete documentation for the approval of a tentative partition.***

17.100.70 LAND DIVISION DESIGN STANDARDS

All land divisions shall be in conformance with the requirements of the applicable base zoning district and this chapter, as well as with other applicable provisions of this Code. Modifications to these requirements may be accomplished through a Planned Development. The design standards in this section shall be used in conjunction with street design standards included in the City of Sandy Transportation System Plan and standards and construction specifications for public improvements as set forth in adopted Public Facilities Plans and the Sandy Municipal Code.

RESPONSE: *Staff completed and documented compliance with the base zone district, C-1, development standards within Section 17.100.40(D) of this report.*

17.100.100 STREETS GENERALLY

No subdivision or partition shall be approved unless the development has frontage or approved access to an existing public street. In addition, all streets shall be graded and improved in conformance with the City's construction standards, approved by the City Engineer, in accordance with the construction plans.

A. Street Connectivity Principle. The pattern of streets established through land divisions should be connected to: (a) provide safe and convenient options for cars, bikes and pedestrians; (b) create a logical, recognizable pattern of circulation; and (c) spread traffic over many streets so that key streets (particularly U.S. 26) are not overburdened.

RESPONSE: *The proposed development is conducive to walking and biking while accommodating motor vehicles. The proposed lots both have frontage on established public rights-of-way (Proctor Blvd./US HWY 26 and Pleasant Street) which provide a logical street pattern and efficient circulation of vehicular and pedestrian traffic. Both right-of-way frontages are required to provide enhanced sidewalk infrastructure to accommodate pedestrians in a safe environment.*

B. Transportation Impact Studies. Transportation impact studies may be required by the city engineer to assist the city to evaluate the impact of development proposals, determine reasonable and prudent transportation facility improvements and justify modifications to the design standards. Such studies will be prepared in accordance with the following:
   1. A proposal established with the scope of the transportation impact study shall be coordinated with, and agreed to, by the city engineer. The study requirements shall reflect the magnitude of the project in accordance with accepted transportation planning and engineering practices. A professional civil or traffic engineer registered in the State of Oregon shall prepare such studies.
   2. If the study identifies level-of-service conditions less than the minimum standards established in the Sandy Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered as part of the land use decision for the proposal.

RESPONSE: *The submitted Traffic Analysis Letter (TAL) (Exhibit E) was completed by Lancaster Engineering and is dated November 28, 2018. The traffic assumptions are based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Pass-by trips and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. The trip generation during morning peak hours is projected to be 48 trips, with 24 trips entering and exiting the site. During the evening peak hours, the site is projected to generate 8 primary trips, with 4 trips entering and exiting the site. The City's contracted Traffic Engineer confirmed the transportation system can accommodate the proposed use without mitigation (Exhibit L).*

C. Topography and Arrangement. All streets shall be properly related to special traffic generators such as industries, business districts, schools, and shopping centers and to the pattern of existing and proposed land uses.

RESPONSE: *No reference to topographic concerns were noted within the TAL. The subject site is relatively flat.*

D. Street Spacing. Street layout shall generally use a rectangular grid pattern with modifications as appropriate to adapt to topography or natural conditions.

RESPONSE: *The TAL referenced a design exception is proposed to grant access to Proctor Blvd. via the existing access driveway, located at 39695 Proctor Boulevard.*

E. Connections. Except as permitted under Exemptions, all streets, alleys and pedestrian walkways shall connect to other streets within the development and to existing and planned streets outside the development and to undeveloped properties which have no future street plan. Streets shall terminate at other streets or at parks, schools or other public land within a neighborhood.
   1. Where practicable, local roads shall align and connect with other roads when crossing collectors and arterials.
   2. Proposed streets or street extensions shall be located to provide direct access to existing or planned transit stops, and existing or planned neighborhood activity centers, such as schools, shopping areas and parks.
   3. Exemptions.
      a. A future street plan is not required for partitions of residentially zoned land when none of the parcels may be redivided under existing minimum density standards.
      b. Standards for street connections do not apply to freeways and other highways with full access control.
      c. When street connection standards are inconsistent with an adopted street spacing standard for arterials or collectors, a right turn in/right turn out only design including median control may be approved. Where compliance with the standards would result in unacceptable sight distances, an accessway may be approved in place of a street connection.

RESPONSE: *Section 17.84.50 (D.) of this staff report contains requirements for right-of-way improvements.*

17.100.130 EASEMENTS

A minimum eight (8) foot public utility easement shall be required along property lines abutting a right-of-way for all lots within a partition or subdivision. Where a partition or subdivision is traversed by a watercourse, drainage way, channel or stream, the land division shall provide a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse, and such further width as determined needed for water quality and quantity protection.

RESPONSE: *The submitted Partition Exhibit (Exhibit I, SheetEXH-1) does not include a minimum eight-foot public utility easement.* ***The applicant shall update a tentative partition plat to include an eight-foot utility easement along both property lines abutting right-of way (Proctor Blvd./US HWY 26).***

17.100.210 STREET LIGHTING

RESPONSE: *Chapter 15.30 contains the City of Sandy's Dark Sky Ordinance. The applicant will need to install street lights along all street frontages wherever street lighting is determined insufficient. The applicant has identified the location of proposed fixtures on the Preliminary Street Plan and the Preliminary Utilities Plan (Exhibit C, Sheets 3 and 6),* ***but the locations of these fixtures shall be reviewed in detail with construction plans.***

17.100.230 WATER FACILITIES

The proposal includes a 15-foot-wide utility easement along the west property line of PPII to benefit PPI. Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and serve PPI. These utilities will be connected to existing infrastructure located along Pleasant Street.

RESPONSE: *The specific details of sanitary sewer and water facilities will be reviewed with construction plans.* ***To accommodate both the sanitary sewer and water utilities the applicant shall expand the proposed utility easement on the northern lot (PPII) to 20 feet in width along the west property line, record the easement with the County Recorder and update the submitted plans and tentative plat to include the recorded number associated with the easement.***

17.100.240 SANITARY SEWERS

The proposal includes a 15-foot-wide utility easement along the west property line of PPII to benefit PPI. Per the submitted plans both Sanitary Sewer and Water lines serving the proposed eating and drinking establishment will be located within this easement and serve PPI. These utilities will be connected to existing infrastructure located along Pleasant Street. The City Engineer recommends the utility easement be expanded to 20 feet in width.

RESPONSE: *See the analysis in Section 17.100.230 above.*

17.100.250 SURFACE DRAINAGE AND STORM SEWER SYSTEM

A. Drainage facilities shall be provided within the subdivision and to connect with off-site drainage ways or storm sewers. Capacity, grade and materials shall be by a design approved by the city engineer. Design of drainage within the subdivision shall take into account the location, capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas.
B. In addition to normal drainage design and construction, provisions shall be taken to handle any drainage from preexisting subsurface drain tile. It shall be the design engineer's duty to investigate the location of drain tile and its relation to public improvements and building construction.
C. The roof and site drainage from each lot shall be discharged to either curb face outlets (if minor quantity), to a public storm drain or to a natural acceptable drainage way if adjacent to the lot.

RESPONSE: *The applicant proposes the site contain three drainage basins that collect runoff within three Flow-Through-Planters (FTP) for storm water treatment. Runoff is then conveyed into a centralized, below grade detention system for detention and flow control. Runoff will drain out of the detention facility and tie into an eight-inch storm water line in Pleasant Street.*

The City of Sandy has adopted the City of Portland Stormwater Manual with modified SBUH rain events. The proposed FTP's were sized using the City of Portland Presumption Approach Calculator. The below grade detention and flow control system was designed using the HydroCAD software. Per City of Sandy requirements, the site must detain the post development runoff to match the predevelopment runoff from the 2-yr, 5-yr, 10-yr and 25-yr events.

The site is required to provide conveyance for the 25-yr event. Per the submitted Stormwater Narrative (Exhibit G), the peak runoff for the 25-yr event is 0.53cfs. Using Manning Equation, a six-inch pipe with one percent slope is capable of conveying the entire event.

Per the Public Works Director (Exhibit N) the applicant's proposal includes underground chambers with open-graded stone backfill for stormwater detention. While the information submitted is for land use review only and not a final design it is not clear whether the stone backfill will be contained with an impermeable or permeable membrane. ***The applicant shall submit a detailed narrative describing the proposed membrane to be used for the development to be reviewed with constructions plans.***

Based on the findings, conclusions and recommendations in the Phase I Environmental Assessment the ***applicant's stormwater management plan (required by Section 13.18 Sandy Municipal Code) shall review and discuss the use of open graded stone backfill for storage and the potential to transport stormwater or shallow groundwater impacted by Petroleum Contaminated Soil (PCS) from the site to the City's stormwater conveyance system.***

17.100.260 UNDERGROUND UTILITIES

All subdivisions or major partitions shall be required to install underground utilities (including, but not limited to, electrical and telephone wiring). The utilities shall be installed pursuant to the requirements of the utility company.

RESPONSE: All new utility lines for future development shall be placed underground.

17.100.300 EROSION CONTROL

Grass seed planting shall take place prior to September 30th on all lots upon which a dwelling has not been started but the ground cover has been disturbed. The seeds shall be of an annual rye grass variety and shall be sown at not less than four pounds to each 1000 square feet of land area.

RESPONSE: The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision. All erosion control and grading shall comply with Section 15.44 of the Municipal Code and as detailed below.

17.100.310 REQUIRED IMPROVEMENTS

The following improvements shall be installed at no expense to the city, consistent with the design standards of Chapter 17.84, except as otherwise provided in relation to oversizing.

A. Drainage facilities
B. Lot, street and perimeter monumentation
C. Mailbox delivery units
D. Sanitary sewers
E. Sidewalks
F. Street lights
G. Street name signs
H. Street trees
I. Streets
J. Traffic signs

K. Underground communication lines, including broadband (fiber), telephone, and cable. Franchise agreements will dictate whether telephone and cable lines are required.
L. Underground power lines
M. Water distribution lines and fire hydrants

RESPONSE: The applicant shall be responsible for the installation of all improvements detailed in Section 17.100.310, including fiber facilities. SandyNet requires the developer to work with the City to ensure that broadband infrastructure meets the design standards and adopted procedures as described in Section 17.84.70.

CHAPTER 15.30 – DARK SKY ORDINANCE

All exterior lighting is required to conform to the requirements of this chapter.

RESPONSE: *Chapter 15.30 contains the City of Sandy's Dark Sky Ordinance. Internal lighting has been discussed with Section 17.90.110(H) of this report. The applicant will need to install street lights along all street frontages.* ***The applicant shall submit a plan identifying the locations of street lights along with specifications of proposed lighting fixtures to be reviewed in detail with construction plans. Full cut-off lighting shall be required and proposed street lighting on Proctor Blvd./US HWY 26 shall conform to the Streetlight Detail identified within Appendix F of the Development Code.***

CHAPTER 15.44 – EROSION CONTROL

15.44.20 AREA OF APPLICATION

This chapter applies to all ground disturbing activities within the city limits whether or not a permit is required, unless such activities are otherwise exempted by the Sandy Development Code. All non-permitted ground disturbing activities that are permanent or temporary in nature shall comply with this chapter unless otherwise noted.

RESPONSE: All on-site earthwork activities including any retaining wall construction should follow the requirements of the current edition of the Oregon Structural Specialty Code (OSSC). If the proposal includes a retaining wall, the applicant shall submit additional details on the proposed retaining wall for staff review and approval.

Site grading should not in any way impede, impound or inundate the adjoining properties. All the work within the public right-of-way and within the paved area should comply with American Public Works Association (APWA) and City requirements as amended. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. *The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision.* ***All erosion control and grading shall comply with Section 15.44 of the Municipal Code.***

The property was previously used as a bulk petroleum storage and retail service station from the 1930s through the 1980s before being abandoned by Sandy Oil Company. In February of 1989 prospective buyers discovered petroleum contamination within the property's soil and shallow groundwater. The Oregon Department of Environmental Quality (DEQ) removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site in 1994. The funding for this

remediation came from the Orphan Site Account and the site was officially designated as an Orphan in June 1995 and listed on the DEQ's Environmental Cleanup Site Information Database as Site #1691.

In June 1999, the DEQ had a Site Investigation and Removal Assessment completed on the site where benzene and other gasoline constituents were found to be mitigating off-site in groundwater therefore vapor barriers were installed. After various site testing the DEQ issued a conditional No Further Action (NFA) stating that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathways and demonstrates their effectiveness. The NFA constitutes a historical recognized environmental condition (HREC) for the subject property.

The Phase I Environmental Site Assessment Submitted (Exhibit F) recommends further investigation at the project site. ***Based on the submitted assessment the applicant shall:***

- ***Investigate and confirm that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected. The applicant shall submit confirmation from DEQ.***
- ***Evidence of undocumented fill is indicative of a potential recognized environmental condition for the site. Complete testing of the undocumented fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment.***
- ***Investigate the western boundary, near the Mattress World site, soil to ensure no environmental risk exist for the project.***
- ***Contact the Oregon DEQ to inquire about the unassigned regulatory status of the adjacent site.***

15.44.50 APPLICANT'S RESPONSIBILITY

The developer, subsequent developers or property owners shall bear responsibility for the installation, construction, protection of all stockpiles on the site, materials transported from the site, maintenance including re-vegetation of all graded areas, inspection and disposition of erosion control measures. In order to meet the purpose of this chapter, the developer shall:

C. Apply permanent or temporary soil stabilization to denuded development site areas in conformance with the following schedule:

1. Between October 1 and April 30, all denuded sites shall immediately be provided with either temporary or permanent soil stabilization.
2. Between May 1 and September 30, temporary erosion and sediment control measures to reduce dust and sediment transport shall be applied as soon as practicable, but in no case more than seven days after ground disturbing activity occurs.
3. Ground cover shall be installed on any portion of a site that is denuded for more than six months. Sports fields or playgrounds surrounded by vegetative cover or permanently installed curbing are exempt from this requirement.
4. Temporary measures shall be maintained until permanent measures are established.
5. Plant replacement vegetative cover that does not include plants listed as nuisance or prohibited plants on the City of Portland Plant List (available in the Planning & Development office) or the City's Native Plant List. Agriculture, timber production or residential crop growing activities are exempted from this requirement.

6. Secure or protect soil stockpiles throughout the project with temporary or permanent soil stabilization measures. Depositions of soil may be subject to additional regulations requiring permit, review or erosion and sediment control.
7. Select BMPs from the *Erosion Control Manual*.

RESPONSE: *Section 15.44.50 contains requirements for maintenance of a site including re-vegetation of all graded areas.* ***The applicant's Erosion Control Plan shall be designed in accordance with the standards of Subsection 15.44.50(C)(1-7).***

III. SUMMARY AND CONCLUSION

Braden Bernards with Cole Valley Partners submitted an application on behalf of CVP – Sandy, Oregon LLC seeking approval to develop the site into an eating and drinking establishment to include a drive-through facility. The intended tenant is proposed to be Dutch Brother which is considered a *short-term food/beverage service.*

The applicant's submission includes the following special variance requests:

Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district.

Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less.

Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent (32 percent including the covered civic area).

In addition to the special variance requests the applicant's submission includes consideration for a drive-through conditional use for the site. The proposal also includes a Type I Land Division (Minor Partition) request to divide the existing parcel into two independent lots of record. The proposed partition would result in a 0.50 acre lot fronting Proctor Blvd. (to be the location of the proposed eating and drinking establishment) and a 0.15 acre lot fronting Pleasant Street (to be developed at a later date).

As detailed in this report, the proposed subdivision generally complies with most Development Code requirements.

IV. RECOMMENDATION

Staff recommends the Planning Commission hold a public hearing to take public testimony regarding the proposal. Staff recommends the Planning Commission **approve** the proposed conditional use, a drive-through facility, as well as the proposed Mainor Partition with modifications as recommended in this report including but not limited to the following (required order of submission and completion of improvements/inspections will be detailed in the final order):

1. Staff recommends the approval of the following 3 variances/adjustments with associated conditions:
   a) Variance A: To construction primary structure setback 18 feet from the subject property's front (south) property line when Subsection 17.42.30 limits front setbacks to a maximum of 10 feet for properties within the C-1 zone district. **Staff recommends the Planning Commission approve the requested special variance to increase the maximum front (south) yard setback to 18**

feet with the condition the proposed, or approved alternative, landscaping, pedestrian access, civic space canopy and drive-through canopy are implemented to the development.

b) Variance B: To construct a flat roof with parapet features on the proposed primary structure when Subsection 17.90.110(C)(1) requires a 6:12 roof pitch on all new buildings with a span of 50-feet or less. **Staff recommends the Planning Commission approve the Special Variance to the roof pitch standard and allow the primary structure to incorporate a flat roof with parapets with the condition the secondary features retain the proposed 6:12 roof pitch, or approved alternative, and the primary roof design complies with the standards set forth within Subsection 17.90.100(C)(8)(b) – Flat Roof.**

c) Variance C: To reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent. S**taff recommends the Planning Commission approve the Special Variance to reduce the building frontage to 23 percent with the condition that the proposed civic spaces, or approved alternative, be incorporated at time of development.**

2. Staff recommends the Planning Commission approve the proposed Conditional Use, a drive-through facility to compliment the proposed primary use, an eating and drinking establishment.

3. All public utility installations shall conform to the City's facilities master plans. All public sanitary sewer and waterlines shall be a minimum of 8 inches in diameter and all stormwater drains shall be a minimum of 12 inches in diameter. No building permits will be issued until all public utilities, including sanitary sewer are available to serve the development. The applicant shall pay plan review, inspection, and permit fees as determined by the Public Works Director.

4. The applicant shall be responsible for the installation of all improvements detailed in Section 17.100.310, including fiber facilities. SandyNet requires the developer to work with the City to ensure that broadband infrastructure meets the design standards and adopted procedures as described in Section 17.84.70.

5. All new utility lines for future development shall be placed underground. All franchise utilities shall be installed underground and in conformance with City standards. The applicant shall call the PGE Service Coordinators at 503-323-6700 when the developer is ready to start the project.

6. The applicant shall redesign the north elevation to include a pedestrian shelter that extends the length of the elevation. The proposal shall incorporate a pedestrian shelter to extend the length of the west elevation.

7. Applicant shall demonstrate the foundation design meets the standards of Subsection 17.90.110(B)(3)(c) at time of building permitting.

8. The applicant shall submit updated plans indicating proposed colors that are in conformance with the Color Palette in Appendix C. In addition, the applicant shall submit updated plans indicating proposed colors for the dumpster enclosure and associated gates are in conformance with the Color Palette in Appendix C and compliment the primary structure.

9. The applicant shall update the plans to demonstrate compliance with Subsection 19.90.110(C)(b)(2) as well as include cornice features projecting at least six (6) inches from the building face on all elevations as they are visible from abutting public rights-of- ways and pedestrian ways.

10. The applicant shall update the plans to include a note identifying the use clear glass as well as a note identifying the trim/molding detail to be used to comply with Subsection 17.90.110(E)(2)(d).

11. The applicant shall update the proposed parking area lights with lights that have a smaller distribution and emit less intense light and shall add pedestrian scale lighting along the walkway between the civic space and right-of-way as well as along the pathways adjacent to the building's façade such that they are illuminated at 1.5 – 2.0 foot candles.

12. The applicant shall provide street address numbers measuring a minimum of six (6) inches high, which clearly locate buildings and their entries for patrons and emergency services. The applicant shall verify the location(s) of the address with the Building Official and emergency service providers.

13. The applicant shall submit line of sight analysis for the rooftop equipment prior to submitting building permits.

14. The applicant shall install tree protection fencing located 5 feet outside of the dripline of all existing trees on site.

15. The applicant shall update the landscaping plans to include landscaping within the 300 square foot area between the subject property line and proposed sidewalk to match the on-site landscaping.

16. All landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing.

17. The applicant shall update the plans to indicate conformance with the sidewalk tree grate detail identified in Appendix F and designed to accommodate ADA accessibility to ensure the required 5-foot width is met for ADA standards. Should the grates not be designed to accommodate ADA accessibility the applicant shall redesign the proposed sidewalks to accommodate a minimum 5-foot width from the tree well grate to the back of (south) of proposed side walk.

18. All planted trees shall include tree ties with twine, loosely tied so as not to damage the trunk and shall be removed after one growing season (or a maximum of 1 year).

19. The applicant shall demonstrate compliance with the irrigation standards of 17.92.40 at time of building permit.

20. The applicant shall update the proposed tree list to include an alternate species for the three (3) proposed Trident Maples trees. The alternative chosen shall demonstrate compliance with the required height and/or caliper per Subsection 17.92.50 standards. The applicant will be required to obtain a permit from ODOT to place trees within the highway right-of-way.

21. The applicant shall maintain all unlandscaped and/or revegetated areas for a period of two years following the date of recording of the final plat associated with those improvements.

22. The applicant shall submit parking analysis with the missing information, the proposed fixed seats or stools and the number of employees associated with the proposal and use, that supports the proposed 13 vehicle spaces or redesign the parking to limit the site to 4 vehicle spaces.

23. The site shall strip the proposed parking spaces as they are groups that exceed three or required to be striped per State of Oregon (ORS 447.233) and the Americans with Disabilities Act.

24. The applicant shall submit the following:

    a. A narrative discussion of the vehicular movements for both sites, identifying any on-site conflicts that that could impact traffic on US 26 westbound.

    b. An exhibit demonstrating the maneuvering areas on the 7-11 site and the path of passenger vehicles backing out of the westernmost spaces on the 7-11 site as well as exiting the lot via the shared approach

25. The applicant shall obtain a State Highway Approach Permit form ODOT.

26. All parking, driveway and maneuvering areas shall be constructed of asphalt, concrete, or other approved material.

27. The applicant shall submit a detailed narrative demonstrating compliance with the standards set forth in Section 17.98.160 and submit updated site plans indicating the location of the site's bicycle facility(ies).

28. Preliminary plat approval does not connote utility or public improvements plan approval which will be reviewed and approved separately upon submittal of public improvement construction plans.

29. Staff recommends the proposed Minor Partition be approved with the condition that the following actions are taken prior to final plate:

    a. The applicant shall record a cross-access easement with the adjacent property, &-Eleven, with state highway frontage with the County Assessor to facilitate future shared access or provided evidence that these requirements have been fulfilled. Once either option has been fulfilled update the tentative plat to include the record number associated with the access easement.

    b. To accommodate both the sanitary sewer and water utilities the applicant shall expand the proposed utility easement on the northern lot to 20 feet in width along the west property line, record the easement with the County Recorder and update the submitted plans and tentative plat to include the record number associated with the easement.

    c. The applicant shall include a pedestrian access easement within the utility easement described in condition 29.b of this report.

    d. The applicant shall resubmit a tentative partition plan and include all the required information detailed in Subsection 17.100.40(C) for consideration. In addition, the tentative plat shall include an eight-foot utility easement along both property lines abutting right-of way (Proctor Blvd./US HWY 26) to meet the requirements of Subsection 17.100.130.

    e. Once tentative approval is complete it is the responsibility of the applicant shall submit the appropriate documentation for Final Plat review to the Director of Planning for consideration. Upon notification of Final Plat approval, the applicant shall record the plat with the County Recorder with one year of approval or the plate is null and void.

30. The applicant's stormwater management plan (required by Section 13.18 Sandy Municipal Code) shall be updated to review and discuss the use of open graded stone backfill for storage and the potential to transport stormwater or shallow groundwater impacted by Petroleum Contaminated Soil (PCS) from the site to the City's stormwater conveyance system.

31. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. The grading and erosion control plan shall include a re-vegetation plan for all areas disturbed during construction of the subdivision. All erosion control and grading shall comply with Section 15.44 of the Municipal Code and as detailed below.

32. The applicant shall submit a plan identifying the locations of street lights along with specifications of proposed lighting fixtures to be reviewed in detail with construction plans. Full cut-off lighting shall be required and proposed street lighting on Proctor Blvd./US HWY 26 shall conform to the Streetlight Detail identified within Appendix F of the development code.

33. All on-site earthwork activities including any retaining wall construction should follow the requirements of the current edition of the Oregon Structural Specialty Code (OSSC). If the proposal includes a retaining wall, the applicant shall submit additional details on the proposed retaining wall for staff review and approval.

34. Site grading should not in any way impede, impound or inundate the adjoining properties. All the work within the public right-of-way and within the paved area should comply with American Public Works Association (APWA) and City requirements as amended. The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite. All erosion control and grading shall comply with Section 15.44 of the Municipal Code.

35. The Phase I Environmental Sit Assessment Submitted (Exhibit F) recommends further investigation at the project site. Based on the submitted assessment the applicant shall:

36. Further investigation and confirm that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected. The applicant shall submit confirmation from DEQ.

37. Evidence of undocumented fill is indicative of a potential recognized environmental condition for the site. Complete testing of the undocumented fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment.

38. Investigate the western boundary, near the Mattress World site, soil to ensure no environmental risk exist for the project.

39. Contact the Oregon DEQ to inquire about the unassigned regulatory status of the adjacent site.

40. The applicant's Erosion Control Plan shall be designed in accordance with these standards of Subsection 15.44.50(C)(1-7).

41. If the applicant chooses to postpone street tree and/or landscaping installation, the applicant shall post a performance bond equal to 120 percent of the cost of the landscaping, assuring installation within 6 months. The cost of street trees shall be based on the street tree plan and at least $400 per

tree. The cost of landscaping shall be based on the average of three estimates from three landscaping contractors; the estimates shall include as separate items all materials, labor, and other costs of the required action, including a two-year maintenance and warranty period.

42. The applicant shall demonstrate at time of building permit that the installed communications system associated with the drive-through facility does not exceed fifty-five decibels at the property line.

43. The applicant will be required to pay for the cost of all street signs and the City will install the street signs. Signs to be determined during the construction review period.

44. The applicant shall submit a detailed narrative describing the proposed membrane to be used for the development to be reviewed with constructions plans.

45. Detailed analysis of the proposed pedestrian and bicyclist improvements shall be completed during the construction plans review process.

46. Detailed analysis of the existing right-of-way infrastructure shall be submitted and reviewed the construction plans review process.

CITY OF SANDY, OREGON

LAND USE APPLICATION FORM

(Please print or type the information below)

Planning Department
39250 Pioneer Blvd.
Sandy OR 97055
503-668-4886

EXHIBIT A

Name of Project: Sandy Dutch Bros

Location or Address: 39625 Proctor Blvd, Sandy, OR 97055

Map & Tax Lot Number T 2, R 4E, Section 13; Tax Lot(s) 00656677

Plan Designation C-1 Zoning Designation Commercial Acres .50

Request:

Please see enclosed documents pertaining to the construction of a Dutch Bros Coffee on Proctor Blvd in Sandy, OR.

I am the (check one) ☑ owner ☐ lessee of the property listed above and the statements and information contained herein are in all respects true, complete and correct to the best of my knowledge and belief.

Applicant CVP - Sandy, Oregon, LLC	Owner CVP - Sandy, Oregon, LLC
Address 3519 NE 15th Ave, STE 251	Address 3519 NE 15th Ave, STE 251
City/State/Zip Portland, OR 97212	City/State/Zip Portland, OR 97212
Phone 503-741-8608 / 503-228-2100	Phone 503-741-8608
Email braden.bernards@cvpre.com	Email braden.bernards@cvpre.com
Signature Braden Bernards Digitally signed by Braden Bernards Date 2018 11 28 09 27 05 -08'00'	Signature Braden Bernards Digitally signed by Braden Bernards Date 2018 11 28 09 27 28 -08'00'

If signed by Agent, owner's written authorization must be attached.

File No.	Date	Rec. No.	Fee $
Type of Review (circle one): Type I Type II Type III Type IV			

CITY OF SANDY, OREGON

SUPPLEMENTAL APPLICATION
DESIGN REVIEW / CONDITIONAL USE PERMIT

(Please print or type the information below)

Planning Department
39250 Pioneer Blvd.
Sandy OR 97055
503-668-4886

Name of Project Sandy Dutch Bros

Location or Address 39625 Proctor Blvd, Sandy, OR

Type of Business Coffee Shop

Products Manufactured Beverages and Food

Hours of Operation 5am - 11pm

No. of Employees per Shift 15 maximum

Total Site Size .50 acres Total Bldg. Square Footage 834 sf

Project Summary

This is for the development of a Dutch Bros Coffee and associated site work on .50 acres at 39625 Proctor Blvd.

USES WITHIN BUILDING (SQUARE FOOTAGE)

Offices: _____ Shop: _____ Storage: 105

Kitchen: 659 Laundry: _____ Rest Rooms: 70

Other: _____

OCCUPANCY & CONSTRUCTION TYPE

(List all occupancies by square footage)

UBC Occupancy Rating: A-2 Restaurant

UBC Type of Construction: VB

Will fire sprinklers be installed in the building? ☐ Yes ☑ No

SITE ANALYSIS DATA		
Type	**Lot Coverage (Square Feet)**	**Lot Coverage (Percent of Site)**
Buildings	834	2.9
Parking Lots and Driveways	13265	60.9
Private Walks & Pedestrian Ways	3357	15.4
Landscaping – Improved Area	3849	17.7
Landscaping – Natural areas	3908	18
Storm Water Detention, Retention & Bioswale Areas	487	2.3
Other (describe)		
Other (describe)		

CONSTRUCTION MATERIAL DETAILS
Color & Type of Siding Materials: SEE ELEVATIONS / RENDERINGS
Color & Type of Trim Materials: SEE ELEVATIONS / RENDERINGS
Color & Type of Roof Materials: SEE ELEVATIONS / RENDERINGS
Color & Type of Exterior Doors: SEE ELEVATIONS / RENDERINGS
Color & Type of Exterior Stairs, Balconies & Railings: N/A
Trash & Recycling Enclosure (describe type, colors, height): SEE ELEVATIONS / RENDERINGS
Type of Lighting Fixtures (describe): Pole: LITHONIA D-SERIES / SIZE 1 LED AREA LUMINAIRE Wall-Mounted: TECH LIGHTING VEX UP/DOWN LED SCONCE
Fencing (height and type): N/A
Mailboxes (location and type): N/A
Private Pedestrian Walkways (type of surfacing): Concrete
Recreational Amenities (describe type and location):
Other Site Elements (describe):

TYPE OF IRRIGATION SYSTEM

Describe type and brand of irrigation system to be installed. Formal irrigation plans must be submitted with construction plans.

Standard drip irrigation system for all planted areas. Hunter exterior-mounted irrigation controller. Drip loops to be installed at all tree locations within property boundaries.

Hunter valves and Rainbird or Netafim 1/2" dripline with in-line emitters. Installed below mulch layer.

PROPOSED SOIL AMENDMENTS

Describe soil conditions and proposed plans for soil treatment & amendments:

All softscape areas are impacted by grading and hardscape and building construction and require re-construction

All planting areas on-site shall be equipped with 12-18" depth of imported 3-way topsoil.

All planting areas shall have 3" of fine-grind hemlock mulch installed.

Soil testing shall be required of import soil and ammendments per test results applied after install.

Stormwater planter soil shall be procured from City of Portland-approved local source.

ADDITIONAL LANDSCAPING INFORMATION

Cobble mulch is proposed at street tree planters.

LANDSCAPE MATERIALS				
Quantity	Type – Include botanical and common names. Plants must be keyed to landscape plan.	Size	Height	Spacing
5	STYRAX JAPONICUM - JAPANESE SNOWBELL	2"	6-8'	see plan
2	ACER BUERGERANUM 'TRIDENT' - TRIDENT MAPLE	1.5"	6'	see plan
4	PINUS CONTORTA 'CONTORTA' - SHORE PINE		6'	see plan
6	THUJA PLICATA 'HOGAN' - HOGAN CEDAR		6'	see plan
	MAHONIA REPENS - CREEPING OREGON GRAPE	1 gal		-
	POLYSTICHUM MUNITUM - SWORD FERN	1 gal		-
	ARCTOSTAPHYLOS UVA-URSI 'Massachusetts' - KINNIKKINIK	1 gal		-
	PINUS MUGO VAR. PUMILLO - DWARF MUGO PINE	2 gal		-
	PEROVSKIA ATRIPLICIFOLIA - RUSSIAN SAGE	2 gal		-
	PHILADELPHUS LEWISII 'BLIZZARD' - MOCK ORANGE	2 gal		-
	SYMPHORICARPOS ALBUS - SNOWBERRY	2 gal		-
	RIBES SANGUINEUM 'KING EDWARD VII' - FLOWERING CURRANT	2 gal		-
	IRIS SIBERICA - SIBERIAN IRIS	2 gal		-
	JUNCUS ENSIFOLIUS - STARHEAD RUSH	1 gal		-
6	CORNUS ALBA 'Elegantissima' - REDTWIG DOGWOOD	5 gal		-
	ATHYRIUM FELIX-FEMINA - LADY FERN	2 gal		-
	SESLERIA AUTUMNALIS AUTUMN MOOR GRASS	2 gal		-
	CISTUS X PULVERULENTUS 'SUNSET' ROCK ROSE	2 gal		-
	POLYSTICHUM NEOLOBATUM ASIAN SABER FERN	2 gal		-

EXHIBIT B

24E13AC00102
Mark & Candace Vincent
39510 Hood St
Sandy, OR 97055

24E13AC00103
Melissa Wesley
39550 Hood St
Sandy, OR 97055

24E13AC00104
Brandon Price
Cynthia Hanson
39600 Hood St
Sandy, OR 97055

24E13AC00105
Scott & Mary Averette
39630 Hood St
Sandy, OR 97055

24E13AC00106
Kenneth & Kristen McIntyre
39660 Hood St
Sandy, OR 97055

24E13AC00107
Property Owner
39700 Hood St
Sandy, OR 97055

24E13AC03500
Ronald & Priscilla Benelli
3547 SE Deercreek Way
Gresham, OR 97080

24E13AC03501
Robert Lechner
39435 Pleasant St
Sandy, OR 97055

24E13AC04300
Eloisa Sarao
16018 Filbert St
Sylmar, CA 91342

24E13AC04400
SDG Properties LLC
30205 SE Kelso Rd
Boring, OR 97009

24E13AC04500
Kevin Newton
17230 Revenue Ave
Sandy, OR 97055

24E13AC04501 & 05600
Sandy Funeral Home Inc
PO Box 41
Sandy, OR 97055

24E13AC04502
Daniel & Deborah Hoffman
39500 Hood St
Sandy, OR 97055

24E13AC04600
Norman & Judy Dickinson
42100 SE Elsner Rd
Sandy, OR 97055

24E13AC04700
John Rawlinson Jr
39627 Pleasant St
Sandy, OR 97055

24E13AC04800
Sean Copenhaver
39647 Pleasant St
Sandy, OR 97055

24E13AC04801
Brenda Mills
39667 Pleasant St
Sandy, OR 97055

24E13AC04900
Nicholas Woods
39707 Pleasant St
Sandy, OR 97055

24E13AC05000
Benjamin & Amanda Brown
39715 Pleasant St
Sandy, OR 97055

24E13AC05200, 05300 & 05401
Dale & Eudene Hult
39711 SE Allgeier Rd
Sandy, OR 97055

24E13AC05400
Daniel Valverde
39630 Pleasant St
Sandy, OR 97055

24E13AC05601
Billi & Shane Nowka
39560 Pleasant St
Sandy, OR 97055

24E13AC05700
Sandy Bp Holdings Inc
20417 SW Inglis Dr
Aloha, OR 97007

24E13AC05800
Napa Enterprises LLC
PO Box 447
Gresham, OR 97030

24E13AC05900
7-Eleven Inc
PO Box 711
Dallas, TX 75221

24E13AD00900
Tom Orth
26951 SE Forrester
Boring, OR 97009

24E13AD01001
P & R Bldg LLC
10407 SE Evergreen Hwy
Vancouver, WA 98664

24E13DA00100
Jeff & Melissa Newberry
40110 SE Meadow Song Rd
Sandy, OR 97055

24E13DA00102
Aase Kendall, Trustee
2056 SW Montgomery Dr
Portland, OR 97201

24E13DB00100 & 00100A1
BP West Coast Products LLC
PO Box 1548
Warrenville, IL 60555

24E13DB00200
Foothills Reality Inc
39460 Proctor Blvd
Sandy, OR 97055

24E13DB01901
Paluck Paluck & Meyer LLC
PO Box 117
Sandy, OR 97055

24E13DB02000
Patrick & Roamy Argue
35923 Chinook St
Sandy, OR 97055

24E13DB02100
McKenzie Cook
PO Box 1148
Welches, OR 97067

24E13DB02200
Sandy Church Of Christ
PO Box 758
Sandy, OR 97055

Narrative

CHAPTER 17.42
CENTRAL BUSINESS DISTRICT - C-1

EXHIBIT C

17.42.00 INTENT

This district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. This district is not intended for intensive automobile or industrial uses. This district is intended to provide the principal focus for civil and social functions within the community.

This commercial district is intended for civic uses and to provide all basic services and amenities required to keep the downtown the vital center of our community. While the district does not permit new low density building types, it is not intended to preclude dwelling units in buildings containing commercial activities. All development and uses shall be consistent with the intent of the district, as well as compatible with the space, access and exposure constraints and opportunities of the central city.

17.42.10 PERMITTED USES

A. Primary Uses Permitted Outright – Residential:
   1. Attached row houses existing prior to adoption of this Code;
   2. Duplexes existing prior to adoption of this Code;
   3. Residential Care Facility;
   4. Residential dwellings attached to a commercial business;
   5. Single Attached (Zero Lot Line, 2 Units) existing prior to adoption of this Code;
   6. Single Detached existing prior to adoption of this Code;
   7. Single Detached (Zero Lot Line) existing prior to adoption of this Code.

B. Primary Uses Permitted Outright – Commercial in buildings with up to 30,000 square feet of gross floor area and without drive-through facilities:
   1. Retail uses, including but not limited to:
      a. Automotive trailer, recreational vehicle, motorcycle sales and rental;
      b. Convenience market/store;
      c. Eating and drinking establishment including fast-food and high-turnover sit down restaurants but excluding drive-up/drive-through uses;
      d. Grocery store or supermarket;

      COMMENT: This submittal is for a Dutch Brother's Coffee Shop that fits within B.1.c Eating and Drinking Establishment. This project includes a drive-up / drive-through use which requires approval as a Conditional Use per 17.42.20 (B.C).

   2. Service and professional businesses and organizations, including but not limited to:
      a. Athletic club, indoor recreation, or entertainment;
      b. Automotive repair and service;
      c. Commercial day care facility;
      d. Community services;
      e. Education facility (e.g., pre-school, school, college);
      f. Financial institution;
      g. Medical facility (e.g., clinic, hospital, laboratory);
      h. Professional or general business office;

i. Self-service storage;
j. Social organization;

3. Manufacturing, assembly, processing, and production that do not produce significant levels of noise or odor beyond the boundaries of the site:
   a. Brewery, distillery, or winery with pub/tasting room;
4. Bus station or terminal;
5. Group care and assisted living;
6. Minor public facility;
7. Nursery/greenhouse;
8. Outdoor recreation;
9. Overnight lodging;
10. Park and ride station;
11. Parking lot or garage (when not an accessory use);
12. Public park, plaza, playground or recreational area, and buildings;
13. Warehousing and distribution facilities for wholesale merchandise;
14. Other uses similar in nature.

C. Accessory Uses Permitted Outright:

7. A use customarily incidental and subordinate to a principal use permitted outright;
8. Outdoor display or storage of merchandise covering no more than 10% of the total retail sales area;
9. Accessory dwelling unit;
10. Accessory structures, detached or attached;
11. Family day care homes, subject to any conditions imposed on the residential dwellings in the zone;
12. Home businesses;
13. **Parking lot or garage (when associated with development).**

COMMENT: This project includes a Parking Lot - an Outright Permitted Accessory Use per 17.42.10 (C.13).

17.42.20 MINOR CONDITIONAL USES AND CONDITIONAL USES

A. Minor Conditional Uses:

1. Brewery, distillery, or winery without pub/tasting room;
2. Congregate housing;
3. Outdoor product display or storage of merchandise covering greater than 10% of the total retail sales area;
4. Other uses similar in nature.

B. Conditional Uses:

A. Automotive fueling station;
B. Buildings designed for one or more occupants with more than 30,000 square ft. of gross floor area;
C. **Drive-up/drive-in/drive-through (drive-up windows, kiosks, ATM, restaurants, car wash, quick vehicle servicing, and similar uses);**
D. Major public facility;
E. Multi-family dwellings not contained within a commercial building;
F. Wholesale lumber or building materials;
G. Other uses similar in nature.

COMMENT: This project includes a drive-up / drive-through use which is a Conditional Use per 17.42.20 (B.C). requiring a Conditional Use per 17.68 Conditional Uses.

17.42.30 DEVELOPMENT STANDARDS

A.

Residential - Not Above Commercial Building	
Type	Standard
Density/Lot Dimension	In conformance with Chapter 17.40 (R-3)
Setbacks	In conformance with Chapter 17.40 (R-3)
Lot Coverage	No maximum
Structure Height	45 ft. maximum
Landscaping	20% minimum
Off-Street Parking	See Chapter 17.98

COMMENT: This project is Commercial / above Residential Standards do not apply.

Commercial	
Lot Area	No minimum (OK)
Lot Dimension	No minimum (OK)
Setbacks	No minimum [4]; maximum 10 ft. (This project has a drive-thru which is a Conditional Use requiring a Type III procedure. The drive-thru canopy is within the 10' maximum setback which meets this standard. However, since this standard is met by the building element requiring the Conditional Use, a variance is required. See 17.66.80 (C) for additional narrative / information.)
Lot Coverage	No maximum (OK)
Landscaping	10% minimum (includes required civic space in Section 17.90.110.) (17% Actual / OK)
Structure Height	45 ft. maximum (22'-0" Actual / OK)
Off-Street Parking	See Chapter 17.98 (See Additional Narrative Detail included with this submittal relative to this section)
Design Review Standards	See Section 17.90.110 (See Additional Narrative Detail included with this submittal relative to this section)

COMMENT: This project meets the Commercial Standards as listed above. For additional information also see the Architectural / Civil pages accompanying this submittal.

B. Special Setbacks - Side or Rear Yard Abutting a More Restrictive District.

1. Property abutting a more restrictive zoning district shall have the same yard setback as required by the abutting district. An additional 10 ft. shall be added for each 10 foot increment in building height over 35 ft.
2. Measurement of the height transition area shall be made between the foundation of the proposed building and the property line of the abutting district.

3. When the proposed structure has different sections that have different heights, the height transition area shall be measured for each vertical surface as if it were to be freestanding. The building then must be located on the site so that no section is closer to the abutting property line than it would be if the section was freestanding.
4. The required buffering and screening and utilities may be located within the height transition area. Off-street parking, accessory structures and incidental development may be located within the height transition area but not any areas designated as buffering and screening area.

COMMENT: N/A. This project is abutted entirely by similarly zoned properties.

[4] Unless abutting a more restrictive zoning district or as required to maintain vision clearance.

CHAPTER 17.66
ADJUSTMENTS AND VARIANCES

17.66.00 INTENT

Adjustments and variances are procedures to vary development standards normally applied to a particular district.

17.66.10 ADJUSTMENTS

Adjustments are a Type I or Type II procedure that provide a means to vary the development standards normally applied in a particular district. This option exists for those circumstances where uniform; unvarying rules would prevent a more efficient use of a lot. A typical example is permitting a structure to be located closer to a property boundary than normally allowed by the zoning district regulations.

Adjustments apply only to individual lots and therefore cannot be used by applicants seeking to vary development standards for lots to be created through a subdivision process. Modifications to land divisions standards should be sought through the Type II or Type III Variance process or where appropriate, the Planned Development process.

An adjustment is intended to:

A. Allow more efficient use of land.

B. Provide flexibility and innovation in site planning and architectural design on individual lots.

C. Permit building location and/or construction techniques that conserve energy.

D. Minimize procedural delays and ensure due process in the review of unique development situations.

E. Provide relief from the strict adherence of land division development standards where site-specific physical or functional land development conditions warrant a variance.

17.66.20 TYPE I ADJUSTMENTS

In issuing a permit the Director may grant or deny an adjustment under the Type I procedure if the request involves only the expansion or reduction by not more than 10% of one or more quantifiable provisions of this code.

17.66.30 TYPE II ADJUSTMENTS

Except in the case of a nonconforming development or use, the Director may grant or deny an adjustment under the Type II procedure if the request involves only the expansion or reduction by not more than 20% of one or more quantifiable provisions of this code.

17.66.40 TYPE I AND II ADJUSTMENT CRITERIA

A. The proposed development will not be contrary to the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City;

B. The proposed development will not substantially reduce the amount of privacy enjoyed by users of nearby structures when compared to the same development located as specified by this Code;

C. The proposed development will not adversely affect existing physical systems and natural systems, such as traffic, drainage, dramatic land forms, or parks; and

D. Architectural features of the proposed development will be compatible to the design character of existing structures on adjoining properties and on the proposed development site.

17.66.50 ADJUSTMENT LIMITATIONS

Adjustments may not be utilized to:

A. Reduce width of accessways required for flag lots created through the land partition or minor replat process

B. Reduce the area reserved for private outdoor space and/or usable open space by more than 10%

C. Reduce project site amenities such as screening and/or landscaping provisions by more than 10%

D. Increase fence height inside clear-vision areas

17.66.60 VARIANCES

Variances are a means of requesting a complete waiver or major adjustment to certain development standards. They may be requested for a specific lot or as part of a land division application. The Type II variance process is generally reserved for major adjustments on individual lots, while variances to development standards proposed as part of a land division are processed as a Type III application (requiring a public hearing).

17.66.70 TYPE II AND TYPE III VARIANCE CRITERIA

The authority to grant a variance does not include authority to approve a development that is designed, arranged or intended for a use not otherwise approvable in the location. The criteria are as follows:

A. The circumstances necessitating the variance are not of the applicant's making.

B. The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.

C. Granting of the variance will not adversely affect implementation of the Comprehensive Plan.

D. The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.

E. The development will be the same as development permitted under this code and City

standards to the greatest extent that is reasonably possible while permitting some economic use of the land.

F. Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.

COMMENT: This project involves a Drive Thru which is considered a Conditional Use per 17.42.20 (C). and requires a Type III Review Process per 17.68.00.

Due to the unique nature of this project, there are three Special Variances involved with this request. Each Special Variance is detailed in Section 17.66.80 below.

17.66.80 TYPE III SPECIAL VARIANCES

The Planning Commission may grant a special variance waiving a specified provision for under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
   2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

COMMENT: Due to certain unique aspects of this project, we are requesting three Special Variances. Each Special Variance is detailed below relative to the listed Criteria.

Variance 1
Section 17.42.30 / Development Standards
Setbacks

This project has a drive-thru which is a Conditional Use requiring a Type III procedure. The front columns holding the drive-thru roof canopy sit +/- 2'-6" off the front property line while the core building itself sits +/- 22'-6" off the front property line. This canopy is within the 10' maximum setback required and meets this standard. However, since this standard is met by the building element requiring the Conditional Use, a variance is required.

Variance 2
Section 17.90.110 Roof Pitch, Materials, and Parapets
(C.1) - Pitched roofs are required on all new buildings with a span of 50' or less.

The core building for this project is +/- 40' long plus with an additional 16' covered roof extension at the patio / Civic Space. The covered Civic Space (East), the pedestrian entry / walk-up (North), and the drive-thru canopy (South) are all 6:12 pitch gable roof elements. The 40' core building is proposed as a flat roof / fully enclosed parapet requiring a Special Variance to this Section (17.90.110 (C.1).

The parapet condition proposed is intended to create a compact yet solid core building that enhances the articulation and form of the integrated gable structures and pedestrian related roof canopy elements.

The inner core parapet would also provide a small area to screen rooftop equipment, vents and flues related to the core building itself.

Section 17.90.110 (C.8) provides for exceptions but is intended for larger span buildings. The condition on this project could be considered the opposite case - the building itself is so small that it would be difficult to screen equipment effectively without detracting from the roof elements fundamental to the Sandy Style.

In this case we've proposed enhanced articulation of the exterior covered areas to help compensate for the parapet as building form and equipment screen.

Variance 3
Section 17.90.110 (D.1) Building Orientation and Entrances
Buildings shall be oriented to a public street or civic space. This standard is met when 50% of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or and approved civic space ant not more than 20% of the off-street parking as required ... is located between a building's front facade and the adjacent street.

Parking is proposed entirely behind the building meeting that part of this standard.

This project also has a drive-thru component. For maximum vehicle cue depth, flow and safety, the drive-thru is located between the building and the street creating a setback of +/- 22'-6" to the core building. The drive-thru canopy connects perpendicular to the core and extends to within +/- 2'-6" of the street.

The core building is +/- 40' long with a 16' canopy covering the Civic Space. The drive-thru canopy is +/- 19' wide. Therefore 47.5% of the core building or 34% of the combined core and Civic canopy are within the minimum setback. Neither meet the 50% site street frontage minimum requiring a Special Variance to this Section (17.90.110 (D.1).

17.66.90 APPLICATION

An application for an adjustment or variance shall be made on forms provided by the Director and include the following, where applicable:

A. Description of the land (address, lot, block, tract, or similar description) on which the proposed development is to take place.

   COMMENT: 39625 Proctor Blvd, Sandy, OR 97055; Taxlot Number 24E13AC05500; Parcel Number 00656677

B. Narrative addressing how the application meets the specified review criteria.

COMMENT: The Narrative is included with this narrative.

C. Site plan no larger than 11 in. by 17 in. (include a reduced copy if drawn larger) suitable for photocopy reproduction. The site plan shall be drawn to scale and show:
   1. Relationship of the site to adjoining properties, streets, alleys, structures, public utilities, and drainageways;
   2. Lot line dimensions;
   3. Existing and proposed structures;
   4. Structures on adjacent property(ies) affected by the request;
   5. Vehicle and pedestrian access points and accessways;
   6. Drainageways and any other prominent features;
   7. Location of trees and shrubs over 3 ft. in height;
   8. Fences and walls;
   9. Off-street parking facilities;
   10. Any other information relevant to the proposal.

   COMMENT: The Site Plan Exhibits are included with this narrative.

   The Director may modify the submission requirements as necessary.

17.66.100 ELEVATION OF APPLICATION TYPE

Prior to the decision date, the review of a Type I or II adjustment or variance, and any comments received, may cause the Director to elevate the request to a Type III Variance. In this case the Director shall notify the Applicant and any parties in writing, giving the reason(s) that the application is found to qualify as a Type III Variance, requesting any additional information required by this Chapter, and requesting any additional fees applicable under the redefined application type. Upon receipt of new application materials and payment of the revised application fee, the Director shall schedule a public hearing and serve public notice as required in this Chapter.

17.66.190 EFFECTIVE PERIOD OF APPROVAL

Approval of an adjustment or variance shall be effective for a 2-year period from the date of approval, unless substantial construction has taken place. The Director (Type I and Type II) or Planning Commission (Type III) may grant a 1-year extension if the applicant requests such an extension prior to expiration of the initial time limit.

CHAPTER 17.68
CONDITIONAL USES

17.68.00 INTENT

Certain uses listed in each zoning district require special review to determine what their effects may be to the surrounding properties, neighborhood, and community as a whole. The Minor Conditional Use Permit (Type II) and Conditional Use Permit (Type III) processes provide an opportunity to allow a use when potential adverse effects can be mitigated or deny a use if concerns cannot be resolved.

It is the intent of this chapter to permit minor conditional uses or conditional uses that are consistent with the Comprehensive Plan, subject to procedures and criteria intended to mitigate potentially negative impacts.

Procedures and review criteria for conditional development are established for the following purpose:

A. Permit certain types of public and private development that provides a community service in locations related to their service areas.

B. Permit commercial development in locations related to its service area.

C. Ensure that a conditional use is compatible with its immediate area and the affected part of the community

COMMENT: This project involves a Drive-up / Drive-thru which is considered a Conditional Use per 17.42.20 (C). and requires a Type III Review Process.

17.68.10 PROCEDURES

An application filed for a Minor Conditional Use Permit and/or a Conditional Use Permit shall be on forms provided by the Director and include application materials listed in 17.18.30 and the following, unless waived by the Director pursuant to subsection (M):

A. Site plan drawn to scale and showing existing and proposed:
   1. Relationship of the site to adjoining properties, streets, alleys, structures, public utilities, and drainage way with sufficient information on land areas within at least 300 ft. of the subject property specifically addressing land uses, lot lines, circulation systems (including potential for connectivity of streets and pedestrian ways), public facilities, and unique natural features of the landscape.
   2. Boundary of the proposed conditional use and any interior boundaries related to proposed development phases.
   2. Lot line dimensions
   3. Location of structures
   4. Vehicle and pedestrian access points and accessways
   5. General location of vegetated areas
   6. Fences and walls
   7. Parking, maneuvering and loading areas
   8. Trash and recycling areas

9. Direction of traffic flow on the property
10. Existing site conditions including contours at 10-foot intervals, watercourses, flood plains and natural features.
11. Proposed modifications to existing grades

COMMENT: Site / Civil Plans are included with this submittal and are intended to meet the listed criteria.

B. Exterior lighting plan indicating location, size, height, typical design, material, color, and method of illumination.

COMMENT: Exterior Lighting Plans / Details are included with this submittal and are intended to meet the listed criteria.

C. Architectural elevations of all buildings and structures including heights, entrances and exits, and floor plans, in sufficient detail to permit computation of other requirements.

COMMENT: Exterior Architectural Elevations and Renderings are included with this submittal and are intended to meet the listed criteria.

D. Landscape plan drawn to scale showing:
1. Location of existing trees and vegetation proposed to be removed or retained on the site.
2. Location and design of landscape areas
3. Proposed varieties, quantities, and sizes of trees and plant materials
4. Other pertinent landscape features and details of irrigation system required to maintain plant materials.

COMMENT: Landscape Plans are included with this submittal and are intended to meet the listed criteria.

E. Narrative relating to applicable Comprehensive Land Use Plan policies

COMMENT: A Comprehensive Land Use Plan narrative is included with this submittal and is intended to meet the listed criteria.

F. Narrative relating to applicable Sandy Development Code standards

COMMENT: A Sandy Development Code narrative is included with this submittal and is intended to meet the listed criteria.

G. Flood, Slope and Hazard Analysis, if portions of the site have slopes in excess of 15%, floodplains, floodways, wetlands, etc.

COMMENT: There are no known 15% slopes, floodplains, floodways, or wetlands related to this site.

H. Sign Details

COMMENT: A Preliminary Sign Package is included with this submittal and is intended to meet the listed criteria.

I. Traffic impact report

COMMENT: A Traffic Impact Memorandum is included with this submittal and are intended to meet the listed criteria.

J. Utility Plan

COMMENT: Utility Plans are included with Site / Civil Plans (C4.0, C4.1) with this submittal and are intended to meet the listed criteria.

K. Additional data sheet indicating:
1. Square footage of site and structure
2. Building coverage
3. Amount of site to be landscaped
4. Number of parking spaces to be provided
5. Building materials to be used
6. Specifications as to type, color, and texture of exterior surfaces of proposed structures.

COMMENT: The Additional Data sheet is included with this submittal and is intended to meet the listed criteria.

L. Any additional information that may be required by the Director to properly evaluate the proposed site plan. Such additional information shall only be required where its need can be justified on the basis of special and/or unforeseen circumstances.

M. The Director may waive any of the requirements above where determined that the information required is unnecessary to properly evaluate the proposal.

17.68.20 REVIEW CRITERIA

The Planning Director (Minor Conditional Use Permit) through a Type II process or the Planning Commission (Conditional Use Permit) through a Type III process may approve an application, approve with modifications, approve with conditions, or deny an application for a conditional use permit after a public hearing. The applicant must submit evidence substantiating that all requirements of this code relative to the proposed use are satisfied and consistent with the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council.

COMMENT: This project involves a Drive Thru which is considered a Conditional Use per 17.42.20 (C). and requires a Type III Review Process

The following criteria and compatibility factors shall be considered:

A. The use is listed as either a minor conditional use or conditional use in the underlying zoning district or has been interpreted to be similar in use to other listed conditional uses.

COMMENT: The use is listed as a Conditional Use per 17.42.20 (B.C).

B. The characteristics of the site are suitable for the proposed use considering the size, shape, location, topography, and natural features.

COMMENT: The size, shape, location, topography and natural features of this site are well suited for this project.

C. The proposed use is timely considering the adequacy of the transportation systems, public facilities and services existing or planned for the area affected by the use

COMMENT: The proposed use is appropriate for the existing transportation systems, public facilities, and services nearby.

D. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, precludes, or impairs the use of surrounding properties for the primary uses listed in the underlying zoning district.

COMMENT: The proposed use will complement the surrounding area's primary usage as a central commercial district.

E. The proposed use will not result in the use of land for any purpose which may create or cause to be created any public nuisance including, but not limited to, air, land, or water degradation, noise, glare, heat, vibration, or other considerations which may be injurious to the public health, safety, and welfare.

COMMENT: The proposed use will not result in the use of land that would be injurious to the public health, safety, and welfare. Per 17.94.20F the sound level will not exceed 55 decibels at the property line.

F. The proposed use will be reasonably compatible with existing or planned neighboring uses based on review of the following:
   1. Basic site design (organization of uses on the site)
   2. Visual elements (scale, structural design and form, materials, and so forth)
   3. Noise
   4. Noxious odors
   5. Lighting
   6. Signage
   7. Landscaping for buffering and screening
   8. Traffic
   9. Effects on off-street parking
   10. Effects on air quality and water quality

COMMENT: The proposed use is compatible with the existing neighboring uses because the site design adequately balances the needs of a central commercial corridor with a drive-thru coffee use. Moreover, the proposed use is occurring on an infill, brownfield site. The site design allows for adequate vehicle stacking to ensure nearby traffic patterns are not impacted by this development. The landscaping and visual elements support the City of Sandy's standards.

17.68.30 MODIFICATION TO AN APPROVED CONDITIONAL USE

A. Major Modification. A major modification to an approved Minor Conditional Use Permit or Conditional Use Permit must be processed as a new application. Major Modifications include:
   1. Changes in proposed land use
   2. Substantial change in building elevation, color or materials
   3. Changes in type and location of access ways and parking areas where off-site traffic would be affected
   4. Increase in the floor area proposed for nonresidential use by more than 10 percent from what was previously specified
   5. Increase in the total ground area proposed to be covered by structures by more than 10

percent from what was previously specified

6. Reduction of project amenities provided, such as recreational facilities, screening, and/or landscaping provisions by more than 10 percent from what was previously specified
7. Any other modification to specific requirements established at the time of conditional use permit approval

B. Minor Modification. Minor Modifications may include any of the changes listed above provided that the change is quantified below the thresholds for a Major Modification.

Uses customarily subordinate to a principal use permitted outright may be approved by the Director, as determined through Chapter 17.14 Request for Interpretation, as minor modifications. Minor modifications are processed as a Type II decision.

17.68.40 REASONABLE CONDITIONS

Reasonable conditions, restrictions, or safeguards that would uphold the purpose and intent of this section and mitigate any adverse impact upon adjoining properties which may result by reason of the approved conditional use may be attached. A list of conditions may include, but is not limited to, the following:

A. Controlling the location and number of vehicular ingress and egress points.

COMMENT: The site is using an existing ingress and egress point.

B. Improving public facilities such as:
   1. Sanitary sewer
   2. Sidewalks, curbs, and other street improvements
   3. Storm drainage
   4. Water supply

   COMMENT: The site improves the public facilities by extending facilities into Pleasant Street, including a storm drainage run to Revenue Ave.

C. Increasing street width

D. Increasing the number of off-street parking or loading spaces or areas.

COMMENT: The site provides for adequate off-street parking and is appropriately sized for all the loading vehicles used by the proposed user.

E. Increasing the required lot size or yard dimensions

F. Limiting lot coverage or height of buildings because of obstruction of view and reduction of light and air to adjacent property

G. Limiting the number, size and location of signs

H. Requiring additional landscaping, berming, screening or fencing where necessary to reduce noise and glare and maintain the property in a character in keeping with the surrounding area

I. Requiring additional public safety and crime prevention measures

J. Requiring land dedication or money in lieu of dedication for public purposes

K. Submission of bonds or other suitable security to ensure that requirements are met

L. Submittal of final detailed plan indicating conformance with conditions

M. Undergrounding of utilities

17.68.50 EXPIRATION OF PERMIT

Approval of a Minor Conditional Use Permit or Conditional Use Permit shall be void after 2 years, or such lesser time as specified in the approval, unless substantial construction has taken place or building occupancy obtained. The Planning Director may grant a 1-year extension if the applicant requests such an extension prior to expiration of the initial time limit.

17.68.60 BUILDING PERMIT ISSUANCE

A building permit for all or any portion of a Minor Conditional Use Permit or Conditional Use Permit shall be issued only on the basis of the plan as approved. Any major modification shall be submitted as a new application.

17.68.70 REVOCATION

A. A Minor Conditional Use Permit or Conditional Use Permit shall be subject to revocation if the application is found to include false information or if the conditions of approval have not been complied with or are not being maintained.

B. The Planning Commission shall hold a public hearing to allow the applicant an opportunity to show cause why the permit should not be revoked.

C. If the Planning Commission finds that the conditions of approval have not been complied with or are not being maintained, a reasonable time shall be given for making corrections. If corrections are not made within the time specified, revocation of the conditional use permit shall be effective 10 days after the time specified.

D. Reapplication for a conditional use, which has been denied or revoked, cannot be made within 1 year after the date of the Planning Commission's action, except that the Director may schedule a new hearing if there is new evidence or a change in circumstances.

CHAPTER 17.90
DESIGN STANDARDS

17.90.00 INTENT

Chapter 17.90 is intended to implement the following design standards. In addition to these standards, several appendices are included to aid in the implementation of these standards. Applicable appendices are referenced in this chapter and kept on file by the Planning Director at City Hall. In implementing these standards, the reviewing body shall refer to the following objectives in evaluating Design Review requests:

A. Protect and enhance the city's quality of life and community image.

B. Encourage functional, safe, and aesthetically pleasing development, while maintaining compatibility with the surrounding built and natural environment.

C. Implement the *Sandy Style,* as described by this chapter. The Sandy Style is based on the following guiding principles:

   1. Celebrate Sandy as the Gateway to Mount Hood through contextually appropriate landscaping and building designs.

   2. Protect and enhance Sandy's tree canopy, particularly along the Highway 26 Landscape Management Corridor.

   3. Emphasize a "village" scale and character in new development. Village scale means development is compact and walkable, building entrances are oriented to the street sidewalk or a plaza, and large building masses are broken down through a combination of design elements such as articulation, combinations of complementary building materials and detailing.

   4. Express elements of or reflect Cascadian architecture by adapting appropriate elements of *English Arts and Crafts Style (1900-1920)* and *Oregon Rustic Style (1915-1940),* and/or similar elements, into new buildings and exterior remodels, *except* in locations where this code allows or requires a different architectural style (e.g., *C-1 Historic Roadside Commercial District*).

   5. Encourage green building practices in new construction, such as the use of renewable energy (e.g., solar and wind), use of recycled materials, integration of water quality facilities in landscapes, capture of rainwater for irrigation, and similar practices.

D. The city considers the following elements to be incompatible with the Sandy Style. The reviewing body may deny, or require modifications to, a project with any of the following:

   1. Excessive tree removal and/or grading that may harm existing vegetation within a designated landscape conservation area.

   2. Commercial development where buildings are setback from the street behind surface parking lots.

   3. Excessive surface parking lot paving and redundant driveways.

   4. Drive-up facilities adjacent to a street that interrupt pedestrian circulation patterns or create potential safety hazards.

   5. Disjointed parking areas, confusing or unsafe circulation patterns.

6. Box-like structures with large, blank, unarticulated wall surfaces.
7. Building materials or colors that do not conform to this code.
8. Highly reflective surfaces or heavily tinted glass storefronts.
9. Strongly thematic architectural styles, forms, colors, materials, and/or detailing, that do not conform to the Sandy Style, including some forms of franchise architectural styles associated with some chain commercial establishments.
10. Inadequate landscape buffers adjacent to parking lots, walkways and streets.
11. Visible outdoor storage, loading, and equipment areas.

17.90.10 APPLICABILITY

The provisions of this chapter apply to all zones and uses as follows except as specified in Sections 17.90.10(B), (C), (D), (E), and (F) below:

A. All construction within a Commercial or Industrial Zoning District or a non-residential use in a Residential Zoning District including the following:
   1. New construction;
   2. Replacement of a building that is destroyed as specified in Section 17.08.30;
   3. Addition to an existing building;
   4. Exterior alterations other than general maintenance on an existing building;
   5. Site improvements including changes to landscaping, parking, civic spaces, etc.

   COMMENT: This project falls within the Commercial / C-1 Central Business District.

B. General Maintenance Exception: General maintenance activities including but not limited to the replacement of awnings, entryway covers, doors, windows, siding and roofing materials with like materials, and repainting with the same colors are exempt from these standards.

C. Residential Dwelling Exception: Single family dwellings, duplexes, manufactured dwellings on individual lots of record, and manufactured dwellings in parks are exempt from all requirements of this chapter except for Section 17.90.150.

D. Specific Building Exception: Certain buildings contain architectural characteristics that contribute to the unique character of Sandy's business community. However, these buildings are not necessarily designed in conformance with the applicable design standards described in this chapter. This section allows these buildings to be maintained, repaired, painted or added on to, in a way that is consistent with the existing architectural design of these buildings. Additionally, in the event a portion or the entire building is damaged by any means, this section allows these buildings to be rebuilt as currently designed. This exemption does not allow the architectural design of these buildings to be changed or altered from the current design without compliance with the provisions of this code. (as of February 1, 2008, see Appendix A) All other provisions in this chapter related to site design, landscaping, lighting, and external storage and screening are still applicable. This exception is applicable to the following buildings:
   - Tollgate Inn Restaurant and Bakery (38050 and 38100 Highway 26)
   - Joe's Donut Shop (39230 Pioneer Blvd.)

F. Downtown Area Exceptions: Two areas within downtown Sandy contain several existing

buildings or groupings of buildings that contribute to the unique character of Sandy's downtown (Appendix B). As such, new building construction within these areas may either comply with the Sandy Style design standards of this chapter, or with the details specified below as shown in Figures 17.90.110-A and 178.90.110-B. All other provisions of this chapter related to site design, landscaping, lighting, and external storage and screening still apply.

a. Area A - South side of Pioneer Boulevard between Bruns Avenue and Meinig Avenue, including the lot at the southeast corner of Pioneer and Meinig (Figure 17.90.110-F):

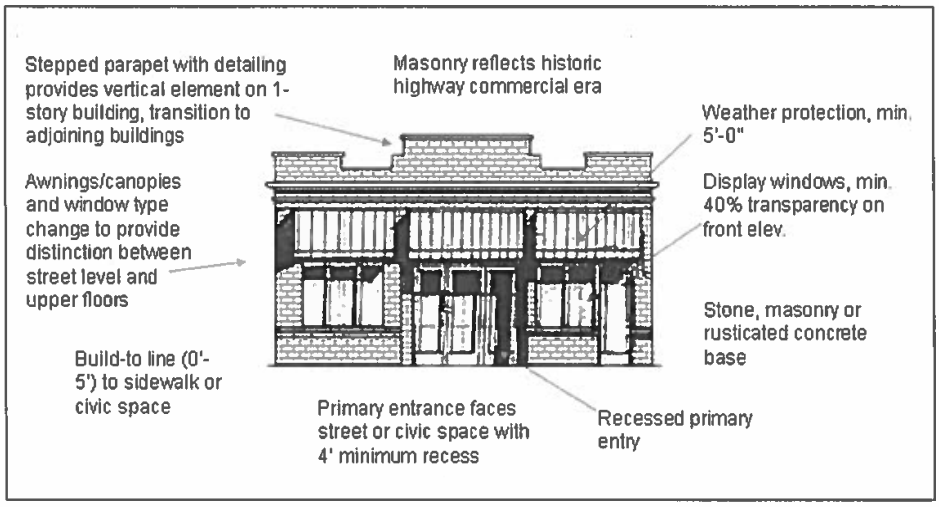
(1) Use of flat roofs (See Section 17.90.110(C)(8)) with detailed stepped parapet and regularly spaced picture windows (divided or undivided) framed by pilasters, transoms, and sills.

(2) Use of masonry block, brick or fluted concrete, consistent with the existing historic roadside commercial structures is allowed.

(3) Buildings may contain symmetrical forms based on a rectangular building plan and simple massing.

(4) Building articulation and detailing should express the physical structure of buildings in this area.

Figure 17.90.110-A: Typical Building Elements in Historic Roadside Commercial (Roadside Building Style)



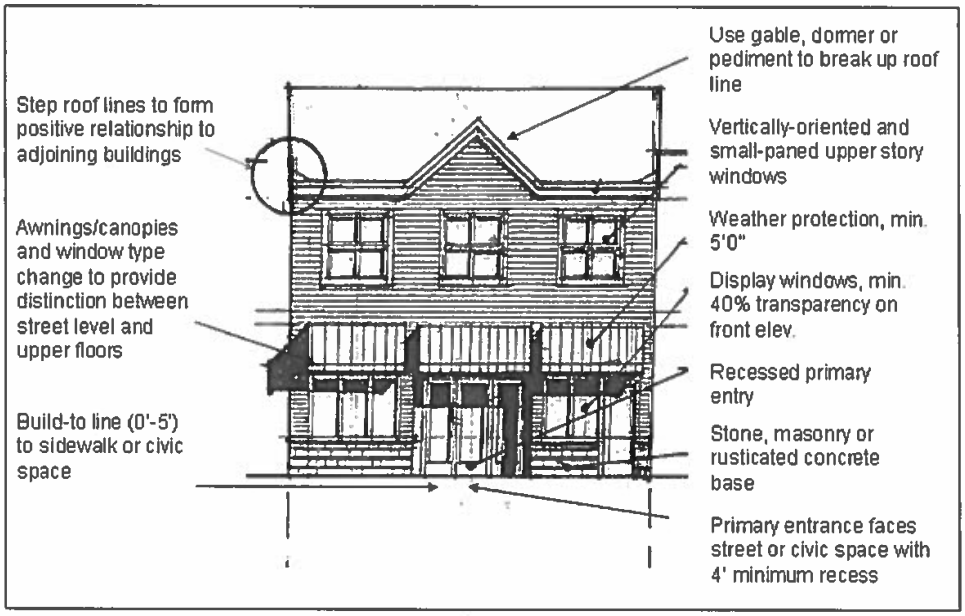
b. Area B - South side of Pioneer Boulevard between Scales Avenue and Bruns Avenue, and for the Odd Fellows Hall on the north side of Pioneer Boulevard:

(1) The preferred siding material for building remodels is wood lap siding, consistent with the farm-style structures in that area.

(2) Building forms and detailing should express a farmhouse vernacular; buildings should incorporate front-facing gables, covered porches, and divided or double hung sash windows.

(3) Paint color should not contrast with the white-washed buildings on this block.

Figure 17.90.110-B: Typical Building Elements in Historic Roadside Commercial (Farmhouse-Style)



17.90.30 POWERS AND DUTIES

Staff shall review plans for compliance with the Development Code and other applicable regulations. The Planning Director may tailor the extent of the review by deleting or combining steps when not warranted by the scale of the development.

17.90.40 TYPE OF REVIEW

A. Type I – Administrative

Type I review applies to single family dwellings, duplex dwellings, manufactured homes on individual lots, manufactured homes within MH parks, and permitted residential accessory dwellings and structures.

Type I review also applies to exterior building alterations or additions on existing commercial or industrial buildings, multi-family dwellings, and non-residential uses on residentially zoned lots where the proposed alteration or addition meets the following criteria:

1. Exterior alterations other than general maintenance as defined in Section 17.90.10(B).
2. Modifications to the number of parking spaces by not more than 10 percent;
3. Modifications to the area devoted to landscaping or civic space by not more than 10 percent;

4. Building additions in the C-1 and C-3 zones containing less than 1,000 square feet.
5. Building additions in the C-2, I-1, and I-2 zones containing less than 3,000 square feet.

B. Type II – Director's Review

Type II review includes floor area expansions greater than the thresholds for a Type I review and all other multi-family, commercial, industrial development and non-residential development on residentially zoned land that is in compliance with code standards, except where a Type III procedure is requested or required.

C. Type III – Quasi-Judicial

Type III review includes development where the applicant has requested Type III Design Review or the Director has determined the review will involve more than a nominal amount of discretion in applying this chapter's standards to the application. The more a request seeks to deviate from a standard, the greater the burden on the applicant to demonstrate the request complies with the standard's intent.

COMMENT: This project has a drive-thru which is a Conditional Use and requires a Type III review process.

17.90.70 EXPIRATION OF APPROVAL

Design Review approval shall be void after two (2) years from the date of the Final Order, or lesser time as the Planning Commission may specify, unless the applicant has submitted plans for building permit approval or demolition approval, as applicable, within this timeframe. The Director may grant one extension through a Type I procedure, not to exceed one (1) year, upon a written request from the applicant prior to the expiration date of the approval and a finding that the applicant has made a good faith effort to implement the approved plan.

17.90.80 MODIFYING APPROVALS

A. Major Modification. A major modification to a Design Review approval shall be processed as a new application. Major Modifications include but are not limited to:

1. Changes in proposed land use;
2. Substantial change in building elevation and materials;
3. Changes in type and location of access ways and parking areas where off-site traffic would be affected;
4. Increase in the floor area proposed for nonresidential use by more than 10 percent from what was previously specified;
5. Increase in the total ground area proposed to be covered by structures or parking by more than 10 percent from what was previously specified;
6. Reduction of project amenities provided, such as civic space, recreational facilities, screening, and/or landscaping provisions by more than 10 percent from what was previously specified, and;

7. Any other modification to a requirement established at the time of Design Review approval.

B. Minor Modification. Minor Modifications may include any of the changes listed above provided the change is below the quantifiable thresholds for a Major Modification, per Section 17.90.80(A). Minor modifications shall be processed as a Type I or Type II decision at the Director's discretion; a Type II procedure shall be used where the modification requires interpretation of a discretionary standard.

17.90.90 SUBMISSION REQUIREMENTS - TYPE I

A. Number of Copies: 2

B. Site Plan. As determined by the Planning Director, the site plan shall be drawn at an approved engineering scale (e.g., 1"=100'; 1"=50'; 1"=20'; or 1"=10') and shall include the applicant's entire property including:

1. Dimensions of the property;
2. Proposed building location;
3. Easements of record;
4. Parcel boundaries;
5. Driveway location;
6. Contour lines at the following minimum intervals:
   a. 2' intervals for slopes 0%-14.9%
   b. 5' or 10' intervals for slopes between 15%-25%
   c. Identification of areas exceeding 25%
7. Flood and Slope Hazard Overlay District boundaries;
8. Drainage, including adjacent lands;
9. Natural hazard areas, including potential flood or high ground water, landslides, erosion, drainage ways, and weak foundation soils;
10. Marsh or wetland areas, underground springs, wildlife habitat areas, wooded areas, and surface features such as earth mounds and large rock outcroppings;
11. Streams and stream corridors;
12. Location of trees over 11-inches or greater DBH (6-inches or greater in FSH Overlay District);
13. Additional information as required by the Director such as soils, geology, hydrologic study, photometric analysis, etc.

C. Building elevations showing the required design standards.

17.90.100 SUBMISSION REQUIREMENTS - TYPE II AND TYPE III

A. Number of Copies: Type II – 8 copies, Type III – 15 copies

B. Digital Version – A compact disc containing a digital version of the required narrative in

Microsoft Word format and a plan set in PDF format.

C. Project Narrative documenting compliance with applicable code criteria. If the application involves any deviations from the Code standards (i.e., Type III Design Review), the narrative shall describe how the proposal meets or exceeds the intent of the standard(s) for which a deviation is requested.

D. Site Analysis Map. An analysis of the site showing the relationship between the site and adjacent properties to contain the following:

1. Property boundaries, dimensions, and gross area;
2. Topographic contour lines at two-foot intervals for slopes 0-10 percent and five foot intervals for slopes greater than 10 percent;
3. Location of approved Flood and Slope Hazard Overlay District boundaries and restricted development areas per Chapter 17.60;
4. Site features including existing structures, pavement, large surface features such as earth mounds and large rock outcroppings;
5. Contour lines at the following intervals:
   a. 2' intervals for slopes 0-14.9%
   b. 5' or 10' intervals for slopes between 15%-25%
   c. Identification of areas exceeding 25%;
6. Location and width of public and private streets, drives, sidewalks, rights-of-ways, and easements;
7. Location, size, and species of trees 11-inches and greater DBH (6-inches or greater DBH in FSH Overlay District);
8. North arrow, scale, names and addresses of all persons listed as owners of the subject property on the most recently recorded deed;
9. Name and address of project designer, engineer, surveyor, and/or planner, if applicable;
10. Other information as required by the Director such as soils, geology, hydrologic study, etc.

E. Proposed site plan. The site plan shall contain the following information:

1. The proposed development site, including boundaries, dimensions, and gross area;
2. Features identified on the existing site analysis maps that are proposed to remain on the site;
3. Features identified on the existing site map, if any, which are proposed to be removed or modified by the development;
4. The location and dimensions of all proposed public and private streets, drives, rights-of-way, and easements;
5. The location and dimensions of all existing and proposed structures, utilities, pavement and other improvements on the site. Setback dimensions for all existing and proposed buildings shall be provided on the site plan;
6. The location and dimensions of entrances and exits to the site for vehicular, pedestrian,

and bicycle access;

7. The location and dimensions of all parking and vehicle circulation areas (show striping for parking stalls and wheel stops);
8. Pedestrian and bicycle circulation areas, including sidewalks, internal pathways, pathway connections to adjacent properties, and any bicycle lanes or trails;
9. Loading and service areas for waste disposal, loading and delivery;
10. Outdoor recreation spaces, common areas, plazas, outdoor seating, street furniture, and similar improvements;
11. Location, type, and height of outdoor lighting;
12. Location of mail boxes, if known;
13. Name and address of project designer, if applicable;
14. Locations of bus stops and other public or private transportation facilities;
15. Locations, sizes, and types of signs;
16. Location of retaining walls.

F. Preliminary Utility Plan. (Including the location of all electrical transformers and utility meters)

G. Traffic Impact Study or Traffic Letter (as determined by the Planning Director) in compliance with City standards.

H. Photometric Analysis and cut sheets of proposed lighting demonstrating compliance with Chapter 15.30, Dark Sky Ordinance.

I. Preliminary Grading Plan. A preliminary grading plan indicating where and to what extent grading will take place, including general contour lines, slope ratios, slope stabilization proposals, and natural resource protection proposals consistent with the provisions of this code.

J. Architectural Drawings. Architectural drawings shall contain the following:

1. Building elevations;
2. Building materials: colors and type (including color board);
3. Retaining walls including type and height;
4. Other drawings or studies (e.g., line-of-sight analysis, perspective, model, visual simulation, etc.) as deemed necessary for evaluating the application as determined necessary by the Planning Director.

K. Landscape Plan. Landscape plans shall contain the following:

1. Property and lot boundaries and rights-of-way;
2. Structures and impervious surfaces including parking lots;
3. General landscape development plan, including plant specifications keyed to plan map and including botanical names, common names, sizes, numbers, and methods of planting and maintenance, location of existing plants and groups of plants proposed;
4. Description of soil conditions and plans for soil treatment such as stockpiling of topsoil, addition of soil amendments, and plant selection requirements, relating to soil conditions;

5. Details of irrigation method;
6. Landscape-related structures such as fences, decks, terraces, patios, shelters, play areas, etc.;
7. Boundaries of open space, recreation or reserved areas;
8. Location of pedestrian or bicycle circulation.

L. Signs. Proposed sign details and dimensions in conformance with Chapter 15.32.

M. Other Information or studies determined to be necessary by the Director prepared by qualified professionals to address specific site features or project impacts (e.g. arborist report, natural hazards, Geotechnical, etc.).

COMMENT: This project requires a Type III review process. The above items are included with this submittal and are intended to meet the listed criteria.

17.90.110 DOWNTOWN AND VILLAGE COMMERCIAL (C-1 AND C-3) DESIGN STANDARDS

Development in the C-1 and C-3 districts shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

A. Site Layout and Vehicle Access

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.110-C and 17.90.110-D)

1. All lots shall abut or have cross access to a dedicated public street.

   COMMENT: This project meets this requirement..

2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley.

   COMMENT: N/A.

3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.110(C). When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required.

   COMMENT: This project meets this requirement..

4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation.

   COMMENT: This project shares access w/ the 7-11 convenience store to the East. No barriers exist or are proposed between the parcels.

5. Urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, shall be used to calm traffic and protect pedestrians in parking areas.

COMMENT: Pedestrian access into the site crosses the drive through lane at its exit. That access has been elevated and incorporates a material / texture that is different than the drive itself in order to calm traffic and protect pedestrians.

6. Where openings occur between buildings facing Proctor Boulevard or Pioneer Boulevard, pedestrian ways shall connect the street sidewalk to any internal parking areas. Development shall avoid creating barriers to pedestrian circulation.

   COMMENT: N/A.

7. Parking lots may include public alley accessed garages at the rear property line, except where a setback is required for vision clearance or to conform to other city standards.

   COMMENT: N/A.

8. Raised walkways or painted crossings from the public street sidewalk to the building entrance(s) are required. Crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or be painted (e.g., colored concrete inlay in asphalt).

   COMMENT: Pedestrian access into the site crosses the drive through lane at its exit. That access has been elevated and incorporates a material / texture that is different than the drive itself in order to calm traffic and protect pedestrians.

9. Joint use of access points and interconnections and cross-over easements between parcels shall be required, where the City determines it is practicable and necessary. A development approval may be conditioned to require a joint use access easement and interconnecting driveways or alleys to comply with access spacing and other applicable code requirements.

   COMMENT: An existing ingress and egress easement is in place between our site and the 7/11 to the east. ODOT has approved the dual use of the existing driveway to serve both properties.

10. Connection to Adjacent Properties: The location of any real improvements to the property must provide for a future street and pedestrian connection to adjacent properties where the City determines this is practicable and necessary.

    COMMENT: N/A.

11. Through lots and corner lots may be permitted with two access points, one onto each abutting street, where necessary to serve a centralized, shared parking facility. Such access points must conform to the above access spacing requirements and parking must be internalized to the property.

    COMMENT: N/A.

12. Free-standing buildings shall be connected to one another with a seamless pedestrian network that provides access to building entrances and civic spaces.

    COMMENT: N/A. This project consists of only one free-standing building / no inter-connection is required.

Figure 17.90.110-C: Downtown Block Elements

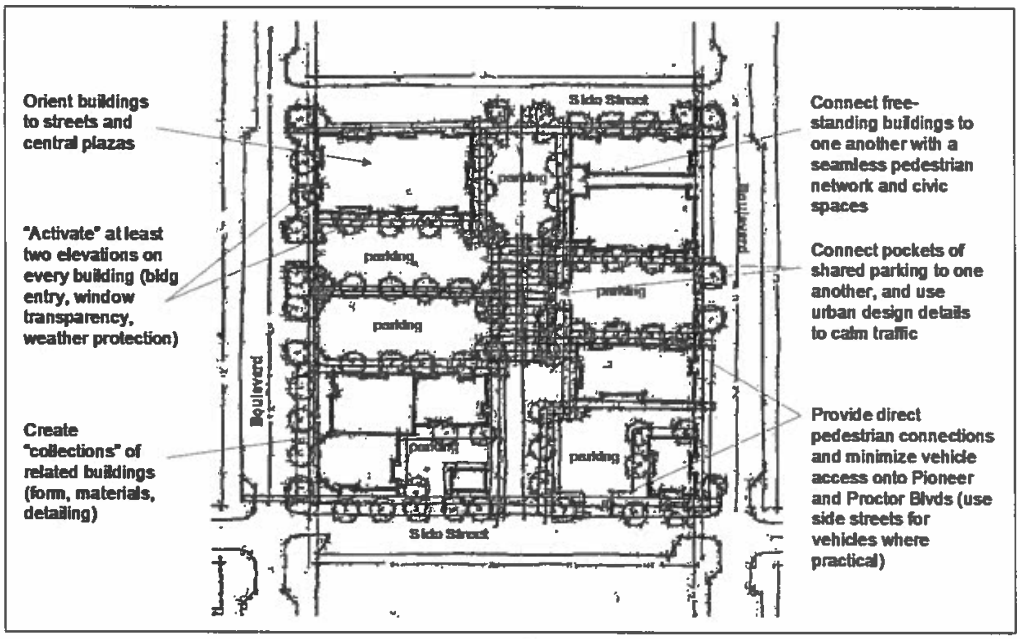
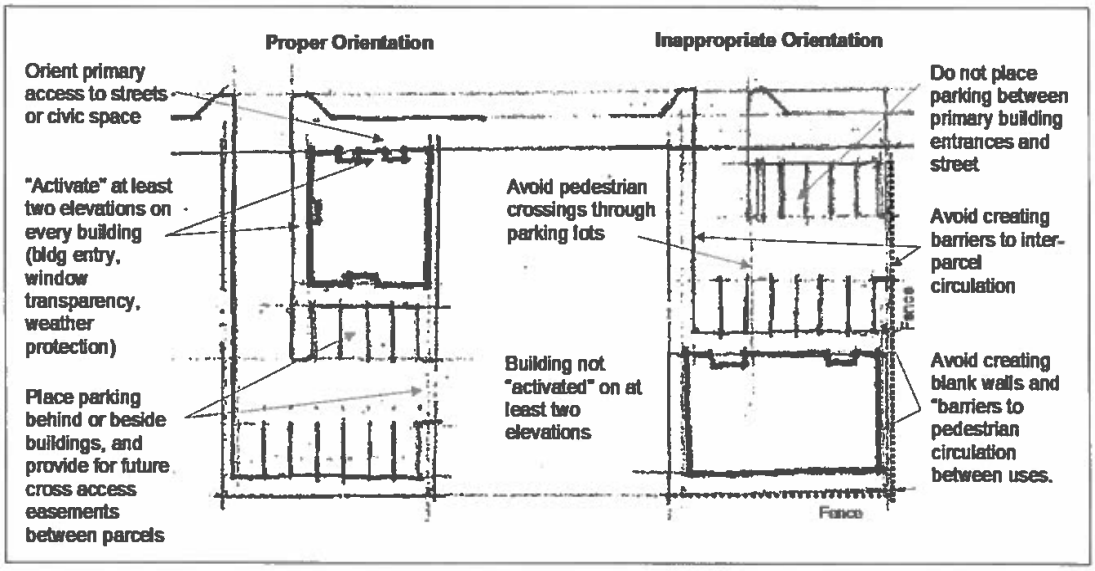


Figure 17.90.110-D: Downtown Building Orientation



B. Building Facades, Materials, and Colors

Intent: To provide building façades, materials and colors consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, Color Palettes (Appendices C and D), and photos (Appendix E)

1. **Articulation.** The Sandy Style includes asymmetrical building forms, which by definition require buildings to be articulated, varied, and provide visual interest. This standard is met by dividing elevations of a structure visible from an abutting public street or pedestrian way into smaller areas or planes to minimize the appearance of bulk as viewed from the street as follows:

    a. All elevations visible from an abutting public street or pedestrian way shall be divided into distinct planes no more than 30 lineal feet long to include the following:

        1) Wall planes meeting this standard shall include a feature or variation in the wall plane that projects or recedes at least six (6) inches from the adjacent plane, for a length of at least four (4) feet. Changes in plane may include but are not limited to recessed entries, bays, secondary roof forms (e.g., gables, lower roof sheds, dormers and towers), canopies, awnings, projections, recesses, alcoves, pergolas, porticos, roof overhangs, or other features consistent with the Sandy Style.

            COMMENT: There are no un-articulated building planes greater than 30'. Due to the small size of the building, only the North and South elevations are longer than 30' total. Those elevations both have secondary roof forms projecting perpendicular to their related walls in a manner complementary to the Style and proportional to the project.

        2) Wall planes shall incorporate at least one visually contrasting and complementary change in materials or changes in texture or patterns, including trim, moldings, or other ornamental devices.

            COMMENT: Detailed Elevations have been included with this submittal showing a small but well articulated building with multiple, complementary materials, textures and trim details. Stone, Stucco, Wood / Heavy Timber all work together to unify form and material in a manner in keeping with the intent of the Sandy Style.

        3) The lower and upper floors of multi-story buildings shall be clearly delineated by using pedestrian shelters, change in siding materials, heavy timber or natural wood accents (e.g., brackets, paneling or other detailing).

            COMMENT: N/A.

2. **Pedestrian Shelters.** Buildings must incorporate pedestrian shelters, as follows:

    a. Pedestrian shelters shall be provided over the building's primary entrance(s) and pedestrian areas (i.e., sidewalks and civic spaces) abutting the subject building.

        COMMENT: The primary pedestrian entrance, the drive-thru and the required civic space are all sheltered with architectural roof elements.

    b. Features such as canopies, arcades, awnings, roofs overhangs, covered porches,

alcoves, and/or porticoes are required.

COMMENT: The building incorporates multiple canopies and covered porches into the architectural expression.

c. Pedestrian shelters must extend at least five (5) feet over the pedestrian area.

COMMENT: All pedestrian shelters extend a minimum of 5' over pedestrian areas.

d. Shelters designed with gables (e.g., over building entrances) are preferred over flat shelters, and must comply with the roof pitch standards in Section 17.90.110(C). Dome or bubble shaped awnings are not permitted.

COMMENT: All shelters are designed with the preferred gable roof form.

3. **Building Materials.** Exterior building materials shall convey an impression of strength and durability consistent with the Sandy Style, as follows:

a. Buildings on the same site shall be architecturally unified. This provision shall apply to new construction, additions, and remodeling such that buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. Unity does not mean repetition or mirroring of building elevations.

COMMENT: N/A. There is only one building on this site.

b. Strong base materials such as natural stone (e.g., basalt, granite, river stone), split-faced rusticated concrete block, or brick are required. Cultured stone may be allowed if it has a stone texture and is similar in appearance and durability to natural stone. A building's base must extend at least 36 inches but not more than 60 inches above the adjacent finished grade and be included on those sides of the building visible from the abutting public street. If the site contains a grade differential making construction of a minimum 36-inch base impracticable, the reviewing body may allow portions of the base to be less than 36-inches.

COMMENT: A strong base material has been incorporated throughout the project. A 36" brick veneer wainscot with a brick cap is shown where there is horizontal siding above and a 36" manufactured stone veneer wainscot with stone cap is shown where there is brick veneer above. Additionally, heavy timber wood posts are supported with a 66" manufactured stone veneer wainscot with stone cap. All are intended to create a strong but varied base to this project.

c. Foundations shall be designed to match the scale of the building being supported. Examples include sheathing the foundation structure with base materials and wall siding.

COMMENT: Exposed foundations are minimized for this project. Where practical and allowed by current code, exposed foundations are to be covered by the base material.

d. Siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, or a combination of these materials. Stucco, synthetic stucco, and metal are permitted only as specified below. Vinyl, plastic or similar siding is not permitted.

COMMENT: Siding materials proposed include horizontal, composite wood and / or brick veneer with manufactured stone wainscot elements. See the Elevations / Renderings included with this submittal for additional information.

1) Where wood siding is used, it shall consist of horizontal (e.g., lap, v-groove, or tongue-and-groove) siding, vertical (board and batten) siding, shingles, or combinations thereof. Vertical grooved (i.e., T1-11) sheet siding and similar materials are prohibited.

   COMMENT: Composite wood siding is intended to run horizontally and is indicated as such on the elevations.

2) Where board-and-batten siding is used, battens shall be a minimum of 2-inches wide x 1-inch deep and spaced 24 inches apart or closer; rough-sawn boards (specialty panel) are preferred over panels having a resin overlay.

   COMMENT: N/A.

3) Where masonry siding is used, it shall consist of brick, stone, or rusticated concrete block, and must incorporate decorative patterns over not less than 15 percent of every elevation where it is used. Examples of decorative patterns include multi-toned masonry units, such as brick, stone, or cast stone, in layered or geometric patterns or split-faced concrete block to simulate rusticated stone-type construction. Changes in pattern should be used to accentuate breaks in building stories, corners, windows, structural bays, and building tops (e.g., parapets where flat roofs are allowed).

   COMMENT: Brick veneer is indicated as a wainscot below composite wood siding locations and as a more distinct element on the Southeast corner of the building. At the corner location a manufactured stone wainscot creates a strong base that differentiates and enhances the brick. The brick at the corner also extends up to a detailed rowlock / soldier course cap to further accentuate the prominent corner as well as the material selection.

4) Where metal siding is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation (e.g., wainscoting or other accent paneling). Metal must be architectural grade and have a non-reflective (burnished or painted) finish conforming to the approved Color Palette. Metal may also be used for flashing, gutters, downspouts, brackets, lighting, and signage and similar functional elements.

   COMMENT: No metal siding is proposed. Where heavy timber brackets and metal flashing, gutters, downspouts are included as part of the detail relative to the roof elements, such elements will be architectural grade and non-reflective.

5) Where stucco or synthetic stucco is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation.

   COMMENT: N/A.

e. Building elevations facing a public right-of-way or civic space shall incorporate at least three (3) of the following features: Using these features may also address other code requirements, such as those related to building articulation, change in relief, pedestrian shelters, and storefront elements.

   1) Exposed, heavy timbers;

COMMENT: Exposed, heavy timber elements are incorporated in this project (1 of 3).

2) Exposed natural wood color beams, posts, brackets and/or trim (e.g., eaves or trim around windows);

COMMENT: Exposed natural wood color beams, posts and brackets are incorporated in this project. (2 of 3)

3) Natural wood color shingles (e.g., used as siding or to accent gable ends);

4) Metal canopies;

COMMENT: Metal roof canopies are incorporated in this project. (3 of 3)

5) Heavy metal brackets (e.g., cast iron or similar appearance), which may be structural brackets or applied as cosmetic detailing; *and,*

COMMENT: Heavy metal bracket details are incorporated in this project (bonus).

6) Similar features, consistent with the Sandy Style.

f. Materials required on elevations visible from an abutting public street must turn the building corner and incorporate appropriate transitions onto elevations not requiring these materials for a distance of not less than two (2) feet.

COMMENT: Material transitions are whole and consistent around the entire building. Such transitions relate to building masses rather than which elevation they are located on for a more unified expression.

4. **Colors.** Building exteriors shall comply with the following standards:

a. Permitted colors include warm earth tones (tans, browns, reds, grays and greens) conforming to the Color Palette provided in Appendix C.

COMMENT: The color and material palette is intended to meet this criteria and is indicated on the Building Elevations and Renderings included with this submittal.

b. High-intensity primary colors, metallic colors and black, may be utilized as trim and detail colors only, not to exceed one (1) percent of the surface area of any elevation. Such color shall not be used as primary wall colors.

COMMENT: There are no high-intensity primary colors, metallic colors proposed for this project. Black has been proposed only as an accent where heavy metal brackets are incorporated.

c. Day-glow colors, highly reflective colors, and similar colors are not permitted.

COMMENT: OK

Figure 17.90.110-E: Typical Building Elements in Sandy Style (Mixed Use Example)

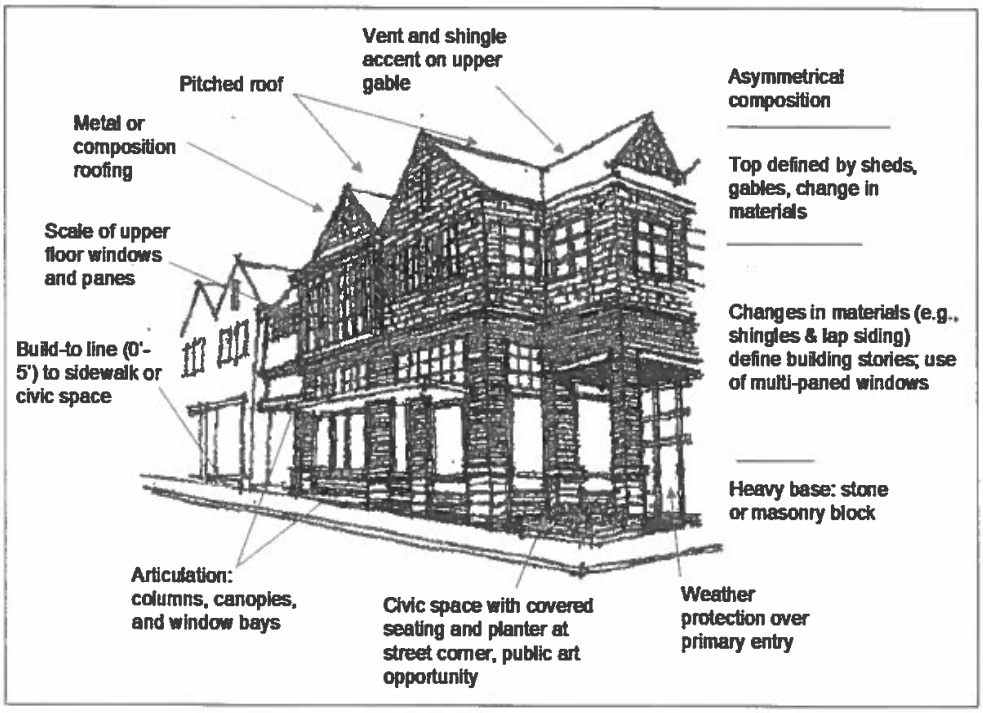


Figure 17.90.110-F: Typical Building Elements in Sandy Style (Mixed Use Example)

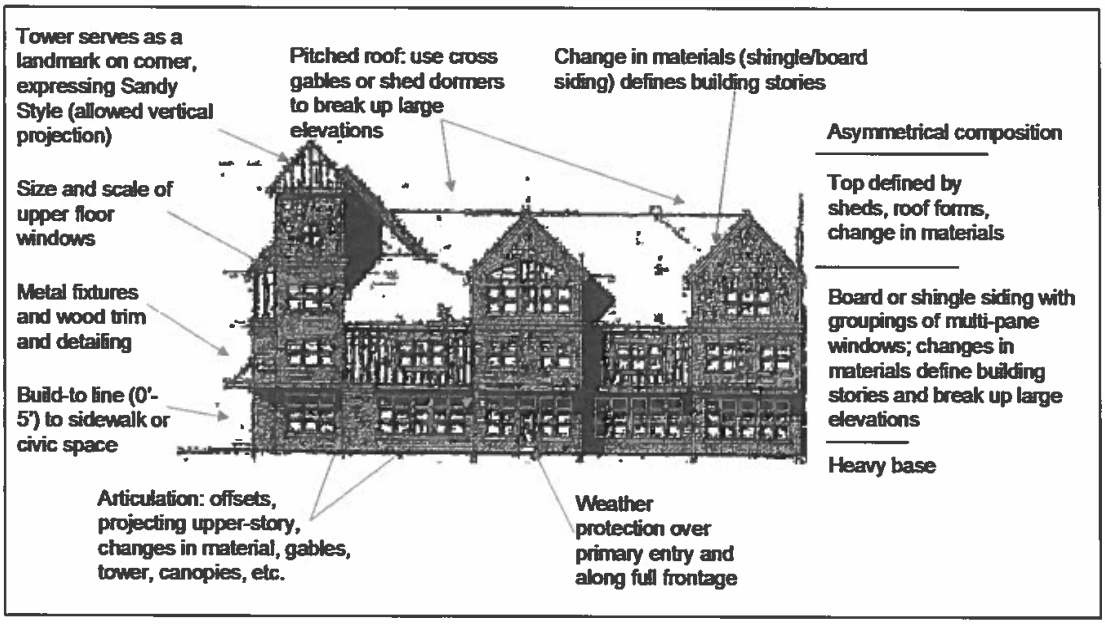
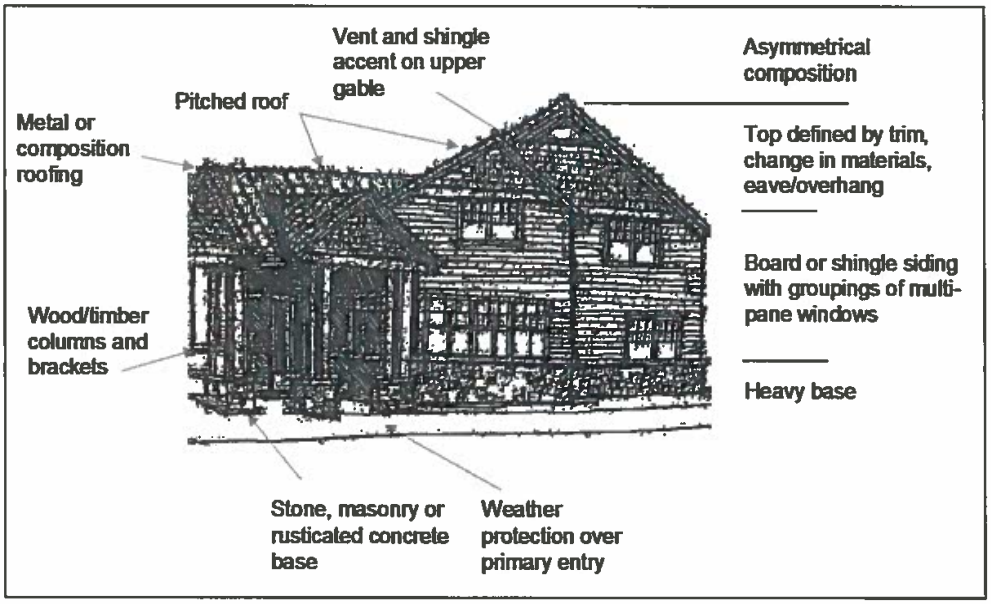


Figure 17.90.110-G: Typical Building Elements in Sandy Style (Commercial Building)



C. Roof Pitch, Materials, and Parapets

Intent: To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Except as provided in subsections 17.90.110(C)(8), below, pitched (gabled or hipped) roofs are required on all new buildings with a span of 50-feet or less. Gable and hipped roof forms must achieve a pitch not less than the following:

Zoning District	Primary Roof Forms (minimum)	Secondary Roof Forms (minimum)
C-1, C-3	6:12	4:12

COMMENT: Pitched / gable roof elements cover the walk-up / pedestrian entry (North), the drive-thru (South), and the Civic / Patio space (East). The small core building is proposed as flat roof / parapet - this will require a Special Variance to this Section (17.90.110 (C.1)).

Please see Section 17.66.80 for additional information relative to this variance.

2. As provided above, "Primary Roof Forms" are those that individually comprise 20 percent or more of the total surface area of a roof elevation. Secondary roof forms (e.g., dormers, towers, cupolas, etc.) are those that comprise less than 20 percent of the roof

elevation. See also, Section 17.74.20 Vertical Projections.

COMMENT: Due to the small size of the building itself the line between Primary and Secondary Roof forms is difficult to distinguish. This project is intended to incorporate all roof elements into a cohesive whole. See comment 17.90.110 (C.1) for additional information.

3. When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street

   COMMENT: Prominent gable roof forms oriented toward the abutting street where visible from that street.

4. Pitched roof surfaces visible from an abutting public street shall provide a secondary roof form (e.g. dormer) in the quantity specified below. Secondary roof forms may be located anywhere on the roof, although grouping these features is preferred.

Roof Length	Number of Secondary Roof Forms
30 – 40 feet	1
41 – 80 feet	2
81 feet and greater	4

   COMMENT: Due to the small size of the building itself the line between Primary and Secondary Roof forms is difficult to distinguish. This project is intended to incorporate all roof elements into a cohesive whole. See comment 17.90.110 (C.1) for additional information.

5. Visible roof materials must be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D.

   COMMENT: Visible roof materials are intended to be standing seam metal and meet the Miller Historic Color palette referenced.

6. All roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Roof plans and elevations must show proposed equipment locations, approximate dimensions, and line of sight from public rights-of-way and civic spaces. The reviewing body may require additional equipment setbacks, screen walls, or other mitigation to ensure compliance.

   COMMENT: Due to the small size of the building itself a core parapet concept with multiple articulated gable roof forms has been proposed. The parapet is intended to be of a height that allows all roof mounted equipment and flue pipes to be fully screened from view from below. See comment 17.90.110 (C.1) for additional information.

7. A-frame buildings and Mansard-style roofs are not permitted.

   COMMENT: N/A.

8. Exception to Pitched Roof: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form. An alternative roof form includes an "applied pitched roof" or flat roof constructed over the building or portion of the building as specified below. An example when a pitched roof is considered impractical would be the need to have large rooftop stove vents over the kitchen portion of a restaurant. Roof forms constructed under this exception shall comply with the standards below.

   COMMENT: Due to the small size of the building itself a core Flat Roof / parapet concept with multiple articulated gable roof forms has been proposed. The parapet is intended to be of a height that allows all roof mounted equipment and flue pipes to be fully screened from view from below. See comment 17.90.110 (C.1) for additional information.

   a. Applied Pitched Roof: An "applied pitched roof" is the preferred alternative roof form and shall be considered first. An "applied pitched roof" is a roof form with the general appearance of a pitched roof in terms of materials, pitch, and overhang, but does not extend all the way from the eave of the building to the ridge of the roof as a typical pitched roof. An "applied pitched roof" shall be constructed according to the following:

      1) For buildings with a span of less than 50 feet, the "applied pitched roof" shall extend at least 50 percent of the distance from the eave to the ridge as if had been constructed as a pitched roof;

      2) For buildings with a span of 50 feet or greater, the applied pitched roof shall extend at least 12 feet from eave.

      3) The reviewing body may require buildings with a span of 50 feet or greater to include an "applied pitched roof" in lieu of a flat roof along street facing elevations.

   b. Flat Roof: Flat roofs shall comply with the following standards:

      1) Sandy Style stepped parapets and detailed coursing shall be provided on those elevations visible from an abutting public street. Parapets shall be varied so that the length of a parapet does not exceed 30 feet without a change in the parapet height of at least 2 feet or as necessary to hide rooftop equipment.

         COMMENT: The building is small so the Flat Roof parapet core is small. Parapets completely surround all flat roof building sides and vary in height at three distinct building masses and by 2'-3' in height relative to each other to create suitable architectural articulation. Varied brick parapet caps are incorporated to further articulate the condition.

      2) Average parapet height shall not exceed 15 percent of the supporting wall height, and the maximum parapet height shall not at any point exceed one-third (1/3) of the height of the supporting wall;

         COMMENT: Due to the small size of the building itself will vary between 12"-36" in height but will not exceed 1/3 of the height of the supporting wall.

      3) A cornice projecting at least six (6) inches from the building face shall be provided at the roofline of all elevations visible from abutting public rights-of-ways and pedestrian ways;

COMMENT: Parapet caps are intended to be brick, as such they project +/- 2" from the parapet / building face, an appropriate expression of the material itself as well as in keeping with the smaller scale and proportion of the building.

4) Parapet corners shall be stepped and the parapet be designed to emphasize the center or primary entrance(s), unless the primary entrance is at the corner of the building.

COMMENT: Due to the small size of the building itself a core parapet concept with multiple articulated gable roof forms has been proposed. This highlights the primary entrance(s) and civic space. The parapet is articulated further in building mass and varying parapet height. As such the parapet corners have been maintained in whole rather than over-articulating the small scale of the building itself.

D. Building Orientation and Entrances

Intent: To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Buildings shall be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off-street parking on a parcel as required by SDC 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).

   COMMENT: Parking is proposed entirely behind the building meeting that part of this standard.

   This project also has a drive-thru component. For maximum vehicle cue depth, flow and safety, the drive-thru is located between the building and the street affecting our ability to meet the 50% street frontage and requiring a Special Variance to this Section (17.90.110 (D.1).

   Please see Section 17.66.80 for additional information relative to this variance.

2. Where parking is placed between a front façade and a street, a landscaped berm and/or architectural features, such as a knee wall, colonnade, arbor, trellis and/or similar device, shall be placed behind the sidewalk to partially screen the parking area from the sidewalk. The partial screen shall be designed to achieve at least 50 percent opacity at the time of installation, with openings for walkways connecting to the building's primary entrance.

   COMMENT: N/A.

3. Ground floor spaces shall face a public street and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel). Where the reviewing authority determines that facing the building to a street is not practical, it may require the building to face a civic space.

   COMMENT: The core building is small, as such we can not meet the 50% site street frontage requirement. This will require a Special Variance to this Section (17.90.110

(D.1)) - see below for additional information.

4. Buildings located at the intersection of two streets shall use a corner building entrance; where a corner entrance is not practical due to the internal functioning of the building space or due to physical constraints of the site (e.g., topography, accessibility, or similar circumstances), a building entrance must be provided within 40 feet of the corner. The building corner must use detailing that emphasizes the corner location and is consistent with the Sandy Style. Examples of acceptable detailing include a rounded or chamfered(beveled) corner, weather protecting canopy, plaza, sculpture, and/or similar pedestrian-oriented features.

   COMMENT: N/A.

5. Upper story residential units shall have an entrance separate from the groundfloor (commercial) space and conform to applicable building codes.

   COMMENT: N/A

6. Buildings shall provide at least two elevations where the pedestrian environment is "activated". An elevation is "activated" when it meets the window transparency requirements in subsection 17.90.110(E), below, and contains a customer entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway or civic space. Where providing a customer entrance on two (2) elevations is not practical, the reviewing body may allow a singleentrance.

   COMMENT: South (40%), and East (41%) elevations meet window transparency requirements of 17.90.110(E) while the North Elevation (33%) nearly does. All serve to provide covered architectural elements at the drive-through, patio / Civic space, and pedestrian walk-up entries respectively.

   Strictly speaking, none of the elevations have access to the interior of the building. Since the project does meet the window transparency requirements, we propose they meet the intent of the "activated" elevations.

7. Primary entries shall face a public street or a civic space and shall be spaced not more than 30 feet apart on average. Ancillary shops shall provide entries every 30 feet, on average.

   COMMENT: N/A.

8. Primary entrances shall be architecturally emphasized and visible from the abutting public right-of-way or civic space and shall be sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches or art, should also be used to emphasize an entrance.

   COMMENT: With no customer access within the building, identifying a primary entrance is a challenge. If the pedestrian walk-up is considered the primary entrance, its location on the North elevation best directs access from the parking lot but does not meet the visibility from the public right-of-way.

   We propose the window transparency / activation of two elevations and architectural articulation of roof forms addressing multiple types of distinct customer uses (including the required Civic space) all serve to meet the intent of this section.

E. Windows

Intent: To promote business vitality, public safety and aesthetics through effective window

placement and design, consistent with the Sandy Style. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, and 17.90.110-I, and representative photos in Appendix E.

1. **Unified Design.** Building plans must provide for unity in window placement and design so that all sides of a building relate to one another and multiple buildings on a development site relate to one another.

   COMMENT: This project meets this requirement.

2. **Ground Floor Windows**. The ground floor elevation of all new buildings shall contain display areas, windows, and doorways along street frontages and where the building abuts a civic space as follows: Lots with multiple street frontages are required to meet this standard on only two frontages.

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

   COMMENT: This project meets this requirement.

   a. Windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished grade. Where the internal functions of a building preclude windows at this height, the reviewing body may approve locating windows above or below this height. Display boxes affixed to a building's exterior are not counted in meeting the above standard.

      COMMENT: This project meets this requirement.

   b. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented.

      COMMENT: This project meets this requirement.

   c. Windows with any dimension exceeding six (6) feet shall be divided into smaller panes (e.g., 2 foot by 2 foot grid) with real divided panes, vinyl inserts or applied dividers.

      COMMENT: This project meets this requirement.

   d. Windows shall have trim or moldings at least three (3) inches in width around them, or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills.

      COMMENT: This project meets this requirement.

3. Upper Floor Window Standards.

   a. The reviewing authority may require buildings exceeding 20 feet in height to provide upper-story windows along "activated" frontages. Such windows may be required for

attic space, or applied to roof forms where no second story exists, to meet the articulation requirements under Section 17.90.110(B)(1).

b. Windows shall be square or vertically oriented. Individual window units shall not exceed five (5) feet by seven (7) feet. Any portion of a window unit with a dimension exceeding four (4) feet shall be divided into smaller panes.

c. At least half of all the window area in upper floors shall be made up of glass panes with dimensions no greater than two (2) feet by three (3) feet, unless approved by variance or adjustment. Upper story windows that have 1 foot by 1 foot grid inside double pane glass are appropriate and are encouraged.

d. Window trim and moldings shall be compatible with those used on the ground floor.

4. **Prohibited Windows.** The following window types are prohibited:
   a. Darkly tinted windows, mirrored windows, and similar windows are prohibited adjacent to street sidewalks, civic spaces and walkways.

      COMMENT: This project meets this requirement.

   b. Glass curtain windows are not permitted facing public right-of-ways, except where the reviewing body finds that such windows are consistent with the Sandy Style.

      COMMENT: This project meets this requirement.

F. Landscaping and Streetscape Design

Intent: To promote business vitality, public safety and aesthetics through effective landscaping and streetscape design, consistent with the Sandy Style; and to provide for a pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, and Downtown Sandy Streetscape Design)

1. The provisions of Chapter 17.92, Landscaping and Screening General Standards shall apply except in the C-1 Zoning District where conformance with the Downtown Sandy Streetscape Design, as illustrated in Appendix F is required.

   COMMENT: This project meets this requirement.

2. Where any conflict arises between provisions of the Sandy Streetscape Design and other city standards (e.g., sidewalk width, materials, or similar specifications), the Streetscape Design shall prevail. All applicable provisions of Chapter 17.92 Landscaping and Screening General Standards must be met, except as modified by the Downtown Sandy Streetscape Design.

G. Civic Space

Intent: To connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for the public, consistent with Sandy's Downtown Streetscape Design. (See Figures 17.90.110-H and 17.90.110-I).

1. Not less than three (3) percent of the ground floor area of every development shall be improved as civic space.

   COMMENT: Civic Space is 644 SF or 37% of the ground floor area (1740 SF). This

project meets this requirement.

2. All civic spaces shall have dimensions of not less than eight (8) feet across and have a surface area of not less than 64 square feet. No civic space is required if the size of this space results in an area of less than 64 square feet.

   COMMENT: This project meets this requirement.

3. Civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review.

   COMMENT: This project provides covered patio / plaza and exterior seating and therefore meets this requirement.

4. The highest priority locations for civic space are those areas with the highest pedestrian activity (e.g., street corners and mid-block pedestrian access ways) that have a western or southern exposure.

   COMMENT: Civic Space is located in an ideal and highly visible location. This project meets this requirement.

5. Unless impractical, civic spaces shall abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Where a right-of-way connection is not possible, the owner must provide a public access way easement to the civic space. Civic spaces shall not be gated or closed to public access, unless otherwise required by the city.

   COMMENT: This project meets this requirement.

6. Exceptions: Building additions and remodels subject to Type I Design Review are not required to set aside or improve civic space, though they are encouraged to do so.

   COMMENT: N/A

Figure 17.90.110-H: Civic Space Example 1

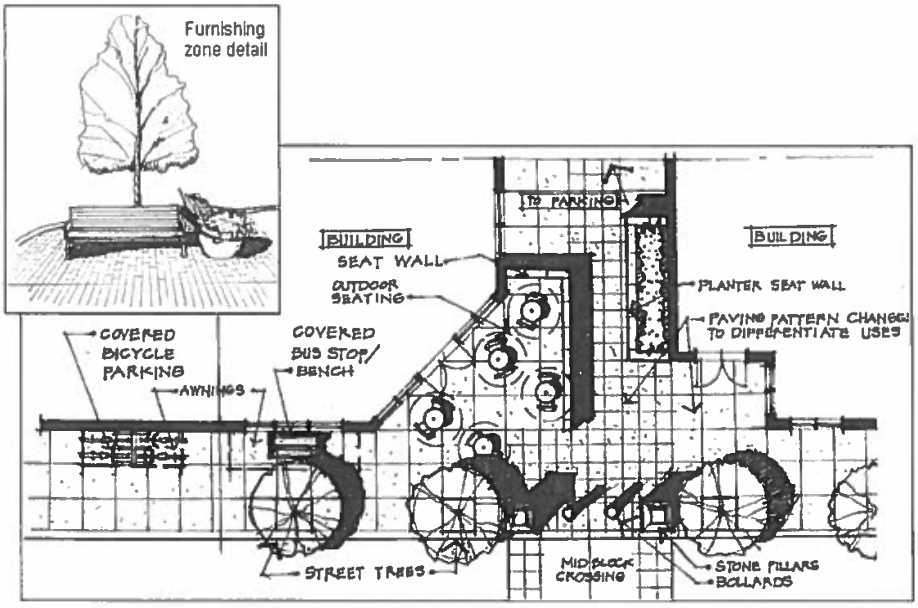
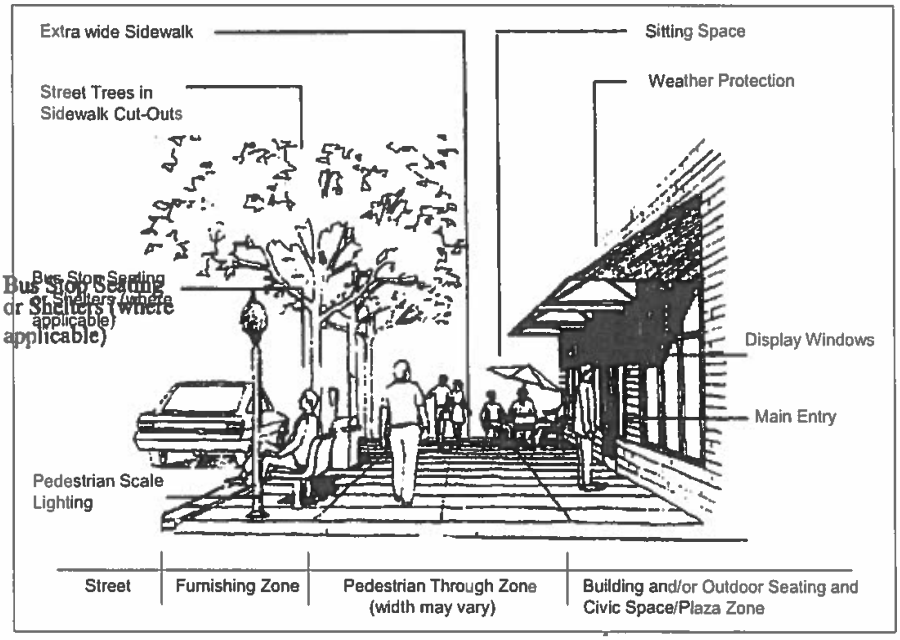


Figure 17.90.110-I: Civic Space Example 2



H. Lighting

Intent: To promote business vitality, public safety and aesthetics through effective outdoor lighting, consistent with the Sandy Style.

1. Streetscape lighting shall conform to the Downtown Sandy Streetscape Design and the requirements of Chapter 15.30, Dark Sky Ordinance.

   COMMENT: This project meets this requirement.

2. Exterior lighting must be an integral part of the architectural design and must complement any ornamental street lighting and remain in context with the overall architectural character of the district. On-site light fixtures conforming to the Sandy Style are encouraged.

   COMMENT: This project meets this requirement.

3. Lighting must be adequate for safety purposes. Walkways, parking lots, and building entrances should be illuminated at 1.5 – 2.0 foot candles.

   COMMENT: This project meets this requirement.

I. Safety and Security

Intent: To promote natural surveillance of public spaces for safety and security.

1. Locate windows in a manner that enables tenants, employees and police to watch over pedestrian, parking and loading areas.

   COMMENT: This project meets this requirement.

2. In commercial, public and semipublic development, including civic spaces, locate windows in a manner that enables surveillance of interior activity from the public right-of-way.

   COMMENT: This project meets this requirement.

3. Provide street address numbers measuring a minimum of six (6) inches high, which clearly locates buildings and their entries for patrons and emergency services.

   COMMENT: This project meets this requirement.

4. Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way and other public areas. (See also, subsection H Lighting.)

   COMMENT: This project meets this requirement.

J. External Storage and Screening

Intent: To promote land use compatibility and aesthetics, particularly where development abuts public spaces.

1. Exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited.

   COMMENT: No exterior storage of merchandise and / or materials is planned.

2. Where such storage is allowed, it must be screened from view from public rights of way and civic spaces.

COMMENT: N/A.

3. Mechanical, electrical, communications equipment including meters and transformers, and service and delivery entrances and garbage storage areas shall be screened from view from public rights-of-way and civic spaces.

   COMMENT: This project meets this requirement.

4. Trash collection and recycling storage areas must be located within the structure or otherwise screened from view in an enclosed facility. Such facilities must be screened from view from public rights-of-way and civic spaces behind a screening wall constructed to match the materials used on the primary building(s) on the subject site.

   COMMENT: A new Trash Enclosure is proposed with this project - see Civil / Architectural Plans and Renderings.

5. Exceptions to the above provisions may be allowed through Design Review where no other practical alternative exists and such equipment is made to be visually subordinate to the proposed building and landscape, for example, through the use of common materials for screening walls or landscape berms. The reviewing body may require additional setbacks, screening walls or other mitigation, for aesthetic reasons and to minimize odors or noise impacts on adjoining properties, public rights-of-way or civic spaces.

   COMMENT: N/A

17.90.120 GENERAL COMMERCIAL AND INDUSTRIAL (C-2 and I-1) AND NON-RESIDENTIAL USES IN RESIDENTIAL ZONES DESIGN STANDARDS

Development in the C-2 and I-1 districts and non-residential uses in a residential zone shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

A. Site Layout and Access.

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.120-A and 17.90.120-B)

1. All lots shall abut or have cross access to a dedicated public street.
2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley.
3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.120-A. When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required.
4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation.

CHAPTER 17.92
LANDSCAPING AND SCREENING
GENERAL STANDARDS - ALL ZONES

17.92.00 INTENT

The City of Sandy recognizes the aesthetic and economic value of landscaping and encourages its use to establish a pleasant community character, unify developments, and buffer or screen unsightly features; to soften and buffer large scale structures and parking lots; and to aid in energy conservation by providing shade from the sun and shelter from the wind. The community desires and intends all properties to be landscaped and maintained.

This chapter prescribes standards for landscaping, buffering, and screening. While this chapter provides standards for frequently encountered development situations, detailed planting plans and irrigation system designs, when required, shall be reviewed by the City with this purposes clause as the guiding principle.

17.92.10 GENERAL PROVISIONS

A. Where landscaping is required by this Code, detailed planting plans shall be submitted for review with development applications. No development may commence until the Director or Planning Commission has determined the plans comply with the purposes clause and specific standards in this chapter. All required landscaping and related improvements shall be completed or financially guaranteed prior to the issuance of a Certificate of Occupancy.

B. Appropriate care and maintenance of landscaping on-site and landscaping in the adjacent public right-of-way is the right and responsibility of the property owner, unless City ordinances specify otherwise for general public and safety reasons. If street trees or other plant materials do not survive or are removed, materials shall be replaced in kind within 6 months.

C. Significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development. Trees of 25-inches or greater circumference measured at a height of 4-½ ft. above grade are considered significant. Plants to be saved and methods of protection shall be indicated on the detailed planting plan submitted for approval. Existing trees may be considered preserved if no cutting, filling, or compaction of the soil takes place between the trunk of the tree and the area 5-ft. outside the tree's drip line. Trees to be retained shall be protected from damage during construction by a construction fence located 5 ft. outside the dripline.

D. Planter and boundary areas used for required plantings shall have a minimum diameter of 5-ft. (2-½ ft. radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of 7-½ ft.

E. In no case shall shrubs, conifer trees, or other screening be permitted within vision clearance areas of street, alley, or driveway intersections, or where the City Engineer otherwise deems such plantings would endanger pedestrians and vehicles.

F. Landscaped planters and other landscaping features shall be used to define, soften or screen the appearance of off-street parking areas and other activity from the public street. Up to 35

percent of the total required landscaped area may be developed into pedestrian amenities, including, but not limited to sidewalk cafes, seating, water features, and plazas, as approved by the Director or Planning Commission.

G. Required landscaping/open space shall be designed and arranged to offer the maximum benefits to the occupants of the development as well as provide visual appeal and building separation.

H. Balconies required for entrances and exits shall not be considered as open space except where such exits and entrances are for the sole use of the unit.

I. Roofed structures shall not be included as open space except for open unenclosed public patios, balconies, gazebos, or other similar structures or spaces.

J. Driveways and parking areas shall not be included as open space.

K. All areas not occupied by paved roadways, walkways, patios, or buildings shall be landscaped.

L. All landscaping shall be continually maintained, including necessary watering, weeding, pruning and replacing.

COMMENT: The proposed landscape design complies with provisions of 17.92.10 above. The Project shall comply with future maintenance requirements indicated.

17.92.20 MINIMUM IMPROVEMENTS - LANDSCAPING AND SCREENING

The minimum landscaping area of a site to be retained in landscaping shall be as follows:

ZONING DISTRICT OR USE	PERCENTAGE
R-3	25%
Manufactured Home Park	20%
C -1 Central Business District	10%
C - 2 General Commercial	20%
C - 3 Village Commercial	10%
I - 1 Industrial Park	20%
I - 2 Light Industrial	15%
I - 3 Heavy Industrial	10%

COMMENT: The project is Zoned as C-1 and requires 10% landscaped area. The proposed design provides 17% landscaped area and therefore complies with this requirement.

17.92.30 REQUIRED TREE PLANTINGS

Planting of trees is required for all parking lots with 4 or more parking spaces, public street frontages, and along private drives more than 150 feet long. Trees shall be planted outside the street right-of-way except where there is a designated planting strip or City adopted street tree

plan.

The City maintains a list of appropriate trees for street tree and parking lot planting situations. Selection of species should be made from the city-approved list. Alternate selections may be approved by the Director following written request. The type of tree used shall determine frequency of trees in planting areas. Trees in parking areas shall be dispersed throughout the lot to provide a canopy for shade and visual relief.

Area/Type of Planting	Canopy	Spacing
Street Tree	Medium	30 ft. on center
Street Tree	Large	50 ft. on center
Parking Lot Tree	Medium	1 per 8 cars
Parking Lot Tree	Large	1 per 12 cars

COMMENT: Six street trees are proposed at a minimum 30' on center. 13 parking spaces are proposed and therefore two medium trees are proposed within the parking lot area. The project complies with this requirement.

Trees may not be planted:

- Within 5 ft. of permanent hard surface paving or walkways, unless specific species, special planting techniques and specifications approved by the Director are used.
- Unless approved otherwise by the City Engineer:
  - Within 10 ft. of fire hydrants and utility poles
  - Within 20 ft. of street light standards
  - Within 5 ft. from an existing curb face
  - Within 10 ft. of a public sanitary sewer, storm drainage or water line
- Where the Director determines the trees may be a hazard to the public interest or general welfare.
- Trees shall be pruned to provide a minimum clearance of 8 ft. above sidewalks and 12 ft. above street and roadway surfaces.

COMMENT: The project design indicates trees planted in a 5' width buffer area. The tree species indicated in this condition are small in stature and are not within 5' of public right of way, street lights or utilities. No onsite trees are proposed within 10' of proposed Sanitary Sewer, Storm drainage, or water lines.

17.92.40 IRRIGATION

Landscaping shall be irrigated, either with a manual or automatic system, to sustain viable plant life.

COMMENT: The project shall be equipped with a permanent, below-grade, automatic drip irrigation system per planting note 4 on sheet L10.

17.92.50 TYPES AND SIZES OF PLANT MATERIALS

A. At least 75% of the required landscaping area shall be planted with a suitable combination of trees, shrubs, or evergreen ground cover except as otherwise authorized by Chapter 17.92.10 F.

COMMENT: All softscape areas are proposed to be planted. The project complies with this requirement.

B. Plant Materials. Use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged where possible.

COMMENT: All plant materials indicated on plant schedules on sheets L11 and L20 are native or adaptive plant species.

C. Trees shall be species having an average mature spread of crown greater than 15 feet and having trunks which can be maintained in a clear condition with over 5 feet of clear wood (without branches). Trees having a mature spread of crown less than 15 feet may be substituted by grouping the same so as to create the equivalent of a 15-foot crown spread.

COMMENT: All proposed trees comply with this standard.

D. Deciduous trees shall be balled and burlapped, be a minimum of 7 feet in overall height or 1 ½ inches in caliper measured 6 inches above the ground, immediately after planting. Bare root trees will be acceptable to plant during their dormant season.

COMMENT: All proposed trees comply with this standard.

E. Coniferous trees shall be a minimum five feet in height above ground at time of planting.

COMMENT: All proposed trees comply with this standard.

F. Shrubs shall be a minimum of 1 gallon in size or 2 feet in height when measured immediately after planting.

COMMENT: All proposed plants comply with this standard. See plant schedule on sheet L20.

G. Hedges, where required to screen and buffer off-street parking from adjoining properties shall be planted with an evergreen species maintained so as to form a continuous, solid visual screen within 2 years after planting.

COMMENT: All proposed shrubs comply with this standard.

H. Vines for screening purposes shall be a minimum of 1 gallon in size or 30 inches in height immediate after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.

COMMENT: NA

I. Groundcovers shall be fully rooted and shall be well branched or leafed. If used in lieu of turf in whole or in part, ground covers shall be planted in such a manner as to provide complete coverage in one year.

COMMENT: All proposed groundcovers shall comply with this standard.

J. Turf areas shall be planted in species normally grown as permanent lawns in western Oregon. Either sod or seed are acceptable. Acceptable varieties include improved perennial ryes and fescues used within the local landscape industry.

COMMENT: NA

K. Landscaped areas may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, decorative hard paving and gravel areas, interspersed with planted areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscape area.

COMMENT: NA No artificial features are proposed.

17.92.60 REVEGETATION IN UNLANDSCAPED OR NATURAL LANDSCAPED AREAS

A. Areas where natural vegetation has been removed or damaged through grading or construction activity in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements shall be replanted.

B. Plant material shall be watered at intervals sufficient to assure survival and growth.

C. The use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged to reduce irrigation and maintenance demands.

COMMENT: NA

17.92.70 LANDSCAPING BETWEEN PUBLIC RIGHT-OF-WAY AND PROPERTY LINES

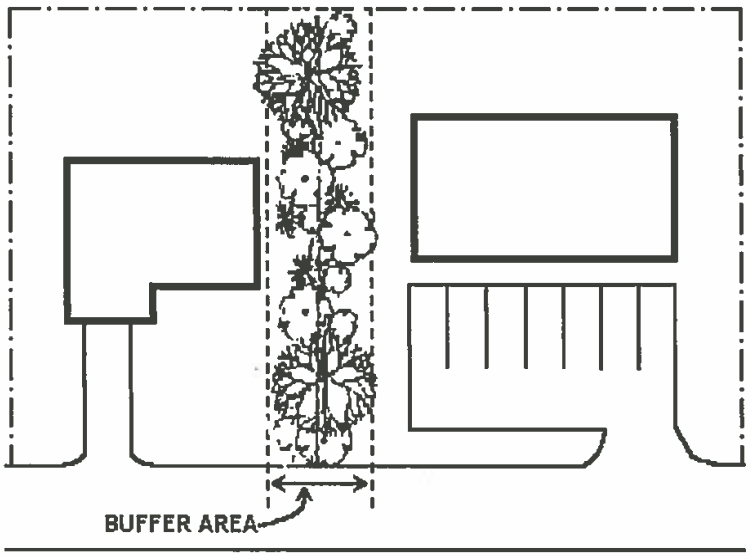
Except for portions allowed for parking, loading, or traffic maneuvering, a required setback area abutting a public street and open area between the property line and the roadway in the public street shall be landscaped. That portion of the landscaping within the street right-of-way shall not count as part of the lot area percentage to be landscaped.

COMMENT: There is a triangular 300 sf. Landscaped area between the property line and back of sidewalk. This area is indicated to be landscaped and irrigated, but has not been counted in the lot area percentage. The project complies with this requirement.

17.92.80 BUFFER PLANTING - PARKING, LOADING AND MANUEVERING AREAS

Buffer plantings are used to reduce building scale, provide transition between contrasting architectural styles, and generally mitigate incompatible or undesirable views. They are used to soften rather than block viewing. Where required, a mix of plant materials shall be used to achieve the desired buffering effect.

Buffering is required in conjunction with issuance of construction permits for parking areas containing 4 or more spaces, loading areas, and vehicle maneuvering areas. Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Decorative walls and fences may be used in conjunction with plantings, but may not be used by themselves to comply with buffering requirements. Exception: truck parking lots are exempt from parking bay buffer planting requirements.



COMMENT: An interesting palette of native and adaptive plant materials are proposed for site buffering areas at the right-of-way and the west edge of the site. The project complies with this requirement.

17.92.90 SCREENING (HEDGES, FENCES, WALLS, BERMS)

Screening is uses where unsightly views or visual conflicts must be obscured or blocked and where privacy and security are desired. Fences and walls used for screening may be constructed of wood, concrete, stone, brick, and wrought iron, or other commonly used fencing/wall materials. Acoustically designed fences and walls are also used where noise pollution requires mitigation.

A. Height and Opacity. Where landscaping is used for required screening, it shall be at least 6 ft. in height and at least 80 percent opaque, as seen from a perpendicular line of sight, within 2 years following establishment of the primary use of the site.

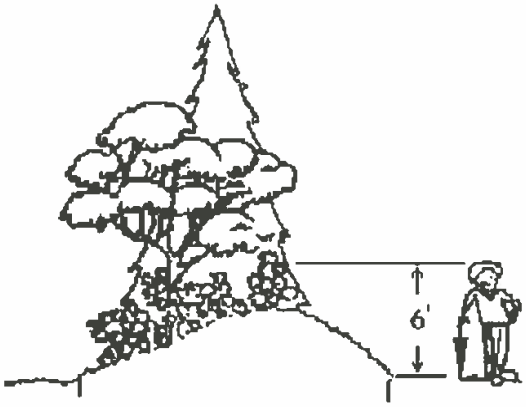
B. Chain Link Fencing. A chain link fence with slats shall qualify for screening only if a landscape buffer is also provided in compliance with Section 17.92.00 above.

C. Height Measurement. The height of hedges, fences, walls, and berm shall be measured from the lowest adjoining finished grade, except where used to comply with screening requirements for parking, loading, storage, and similar areas. In these cases, height shall be

measured from the finished grade of such improvements. Screening is not permitted within vision clearance areas.

COMMENT: Opaque vegetated hedge screens are proposed along the north edge of the site between the vehicle queuing and the property line to screen cars from adjacent properties. The trash enclosure is proposed to have an opaque screen at all elevations. The project complies with this requirement.

D. Berms. Earthen berms up to 6 ft. in height may be used to comply with screening requirements. Slope of berms may not exceed 2:1 and both faces of the slope shall be planted with ground cover, shrubs, and trees.

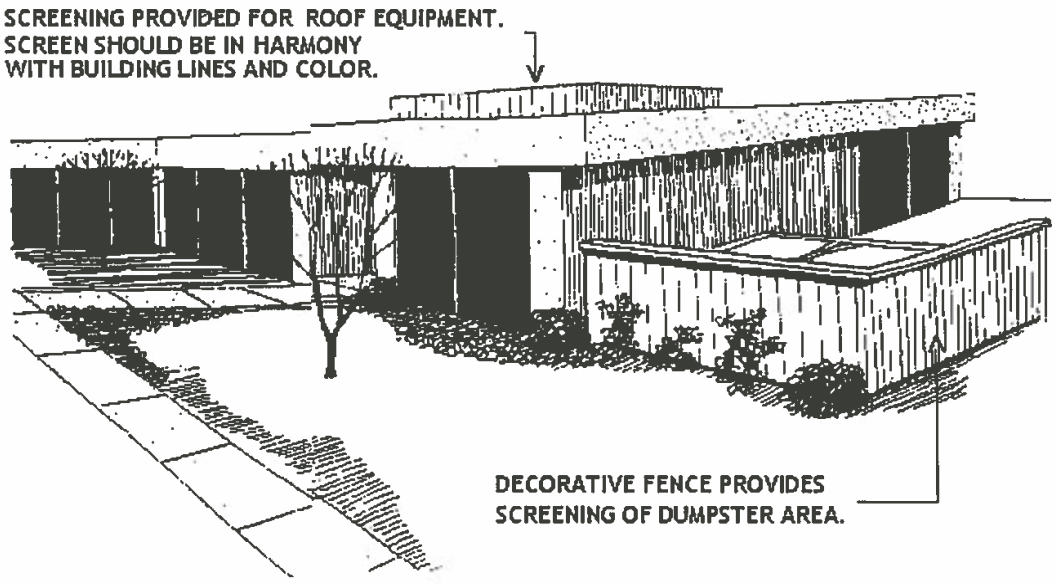


A. Long expanses of fences and walls shall be designed to prevent visual monotony through use of offsets, changes of materials and textures, or landscaping.

17.92.100 SCREENING OF SERVICE FACILITIES

Site-obscuring shrubbery or a berm, wall or fence shall be placed along a property line between residential and commercial and industrial zones and around unsightly areas such as trash and recycling areas, gas meters, ground level air conditioning units, disc antennas exceeding 36 inches in diameter and equipment storage or an industrial or commercial use with outside storage of equipment or materials.

COMMENT: The trash/recycling area is proposed to be enclosed with a 6' height sight-obscuring enclosure. This requirement is met.



CHAPTER 17.94
DRIVE-UP USES

17.94.00 INTENT

These provisions are established to ensure safe, functional drive-up uses while not impeding flow of traffic. For purposes of this section, a vehicle shall be considered no less than twenty feet in length.

The width and turning radius of drive-up aisles shall be approved through the Type I design review process.

17.94.10 APPLICABLILITY

These regulations govern all drive-up uses in all zoning districts.

17.94.20 MINIMUM REQUIREMENTS

A. Parking maneuvers shall not occur in the stacking area. The stacking area shall not interfere with safe and efficient access to other parking areas on the site or adjacent properties.

COMMENT: Drive-thru stacking does not interfere with normal entry or exit to the parking area. This project meets this requirement.

B. Drive-up aisles and windows must be located a minimum of fifty feet from residential zones to avoid adverse impacts.

COMMENT: There are no residential zones within 50' of this project. This project meets this requirement.

C. All restaurant facilities, except short term food service, providing drive-up service shall provide at least two designated parking spaces immediately beyond the service window or provide other satisfactory methods to allow customers requiring excessive waiting time to receive service while parked.

COMMENT: N/A. This is a short term food service drive-up (coffee shop).

D. The grade of the stacking area to the drive-up shall not exceed a slope of twelve percent.

COMMENT: This project meets this requirement - see Grading Plan, Sheet C3.0 for slope indications.

E. The drive-up shall be designed to provide as much natural ventilation as possible to eliminate the buildup of exhaust gasses.

COMMENT: This project meets this requirement.

F. The sound level of communications systems shall not exceed fifty-five decibels at the property line and shall otherwise comply with provisions of the Sandy Municipal Code regarding sound levels.

COMMENT: This project meets this requirement.

17.92.110 OUTDOOR STORAGE

All outdoor storage areas for commercial, industrial, public and semi-public uses are to be entirely screened by a sight obscuring fence, vegetative materials, or other alternative deemed appropriate by the Director. Exceptions to the preceding requirements include: new or used cars, cycles and trucks (but not including car parts or damaged vehicles); new or used boat sales; recreational vehicle sales; new or used large equipment sales or rentals; manufactured home sales; florists and plants nurseries.

COMMENT: NA

17.92.130 PERFORMANCE BOND

If weather conditions or other circumstances beyond the control of the developer or owner make completion of the landscaping impossible prior to desired occupancy, an extension of up to 6 months may be applied for by posting "security" equal to 120% of the cost of the landscaping, assuring installation within 6 months. "Security" may consist of a performance bond payable to the city, cash, certified check, time certificates of deposit, assignment of a saving account, letter of credit, or other such assurance of access to funds necessary for completion as shall meet the approval of the City Attorney. Upon acceptance of the security, the developer or owner may be allowed occupancy for a period of up to 180 days. If the installation of the landscaping improvement is not completed within 180 days, the City shall have access to the security to complete the installation and/or revoke occupancy. Upon completion of the installation by the city, any portion of the remaining security minus administrative charges of 30% shall be returned to the owner. Costs in excess of the posted security shall be assessed against the property and the City shall thereupon have a valid lien against the property, which will come due, and payable.

COMMENT: The project shall comply with this requirement.

17.92.140 GUARANTEE

All landscape materials and workmanship shall be guaranteed by the installer and/or developer for a period of time not to exceed two years. This guarantee shall insure that all plant materials survive in good condition and shall guarantee replacement of dead or dying plant materials.

COMMENT: The project shall guarantee landscape materials and workmanship for a period of two growing seasons.

17.94.30 STACKING DISTANCE

Drive-up window uses shall provide a minimum stacking area clear of the public right-of-way and parking lot aisles from the window serving the vehicles as follows:

A. Banks. Each lane shall provide a minimum capacity for 5 vehicles.

B. Restaurants. Each lane shall provide a minimum capacity for 8 vehicles.

Short-Term Food Service. Each lane shall provide a minimum capacity for 3 vehicles. Short Term Food Service is defined as a facility serving espresso, ice cream, or other single-service product. A maximum of one designated parking space located at the end of the stacking area may be substituted for one required stacking space for small convenience food stops only.

COMMENT: This project is a Short Term Food Service establishment (Coffee Shop) and stacking for 16 vehicles is provided. This project meets this requirement

C. Other Drive-up Uses:

1. Automotive Fueling Stations. Each lane shall provide a minimum capacity for 4 vehicles.
2. Other Uses. Each lane shall provide a minimum capacity for 2 to 8 vehicles, as determined through the design review process.

CHAPTER 17.98
PARKING, LOADING, AND ACCESS REQUIREMENTS

17.98.00 INTENT

The intent of these regulations are to provide adequate capacity and appropriate location and design of on-site parking and loading areas as well as adequate access to such areas. The parking requirements are intended to provide sufficient parking in close proximity for residents, guests, customers, and/or employees of various land uses. These regulations apply to both motorized vehicles (hereinafter referred to as vehicles) and bicycles.

17.98.10 GENERAL PROVISIONS

A. Provision and Maintenance. The provision of required off-street parking for motor vehicles and bicycles, and loading facilities for motor vehicles is a continuing obligation of the property owners. Building permits or other permits will only be issued after review and approval of site plans showing location of permanent access, parking and loading facilities.

B. Unspecified Requirements. Vehicle and bicycle parking requirements for uses not specified in this chapter shall be determined by the Director based upon the requirements of similar specified uses.

C. New Structure or Use. When a structure is constructed or a new use of land is commenced, on-site vehicle and bicycle parking and loading spaces shall be provided in accordance with Section 17.98.20 below or as otherwise modified through a planned development or specific area plan.

COMMENT: This is a new structure and is subject to vehicle and bicycle parking and loading spaces per Section 17.98.20 below.

D. Alteration of Existing Structures. When an existing structure is altered to the extent that the existing use is intensified, on-site vehicle and bicycle parking shall be provided in the amount required for such intensification.

E. Increased Intensity. When increased intensity requires no more than 2 vehicle spaces, no additional parking facilities shall be required. However, the effects of changes, additions, or enlargements shall be cumulative. When the net effect of one or more changes generates a need for more than two spaces, the additional required spaces shall be provided. Additional spaces shall be required for the intensification but not for the original use.

F. Change in Use. When an existing structure or use of land is changed in use from one use to another use as listed in Section 17.98.20 below and the vehicle and bicycle parking requirements for each use type are the same; no additional parking shall be required. However, where a change in use results in an intensification of use in terms of number of vehicle and bicycle parking spaces required, additional parking space shall be provided in an amount equal to the difference between the number of spaces required for the existing use and number of spaces required for the more intensive use.

G. Time of Completion. Required parking spaces and loading areas shall be improved and available for use prior to issuance of a temporary occupancy and/or final building inspection.

H. Inoperative Motor Vehicles. In any residential district, all motor vehicles incapable of movement under their own power or lacking legal registration shall be completely screened from public view.

I. Truck Parking. In residential zoning districts, no overnight parking of trucks or other equipment on wheels or tracks exceeding a 1-ton capacity used in the conduct of a business activity shall be permitted except vehicles and equipment necessary for farming and truck gardening on the premises where such use is conducted.

J. Mixed Uses. In the case of mixed uses, the total required vehicle and bicycle parking shall be the sum of requirements of individual uses computed separately.

K. Conflicting Parking Requirements. When a building or use is planned or constructed in such a manner that more than one standard is applicable, the use that requires the greater number of parking spaces shall govern.

L. Availability of Parking Spaces. Required vehicle and bicycle parking spaces shall be unobstructed, available for parking of vehicles and bicycles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for parking of vehicles and bicycles used in conducting the business or use and shall not be used for sale, repair, or servicing of any vehicle or bicycle.

M. Residential Parking Analysis Plan. A Residential Parking Analysis Plan shall be required for all new residential planned developments, subdivisions, and partitions to include a site plan depicting all of the following:

1. Location and dimension of required parking spaces as specified in Section 17.98.200.
2. Location of areas where parking is not permitted as specified in Sections 17.98.200(A)(3) and (5).
3. Location and design of parking courts (if applicable).

N. Location of Required Parking.

1. Off-street vehicle parking required for residential uses, except for residential uses in the Central Business District, shall be provided on the development site of the primary structure. Except where permitted by 17.98.40 below, required parking for all other uses in other districts shall be provided on the same site as the use or upon abutting property.
2. **May be utilized in the C-1 Zoning District to meet the minimum parking requirements as specified in Section 17.98.30 (B).**
3. **Bicycle parking required for all uses in all districts shall be provided on the development site in accordance with Section 17.98.160 below.**

O. Unassigned Parking in Residential Districts.

1. Multi-family dwelling units with more than 10 required vehicle parking spaces shall provide unassigned parking. The unassigned parking shall consist of at least 15 percent of the total required parking spaces and be located to be available for use by all occupants and guests of the development.
2. Multi-family dwelling units with more than 10 required bicycle parking spaces may provide shared outdoor bicycle parking. The shared bicycle parking shall consist of at least 15 percent of the total required parking spaces and be located such that they are available for shared use by all occupants and guests of the development.

P. Fractions. When the sum of the required vehicle and bicycle parking spaces is a fraction of a space (0.5 or more of a space) a full space shall be required.

Q. Maximum Parking Allowed. Commercial or Industrial zoned properties shall not be permitted to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.

COMMENT: Parking for 12 customers and / or employees is required - Parking for 13 vehicles has been provided. Two Bike Parking spaces are required and it is intended to provide 4. This project meets this requirement.

17.98.20 OFF-STREET PARKING REQUIREMENTS

A. **Off Street Parking Requirements.** Off street parking shall conform to the following standards:

1. All square footage measurements are gross square feet of total floor area.
2. 18 lineal inches of bench shall be considered 1 seat.
3. Except as otherwise specified, parking for employees shall be provided based on 1 space per 2 employees for the largest shift in addition to required parking specified in Sections A6-A9 below.
4. Where less than 5 parking spaces are required, then only one bicycle space shall be required except as otherwise modified in Sections 5-9 below.
5. In addition to requirements for residential off street parking, new dwellings shall meet the on-street parking requirements in Section 17.98.200.

6.

Residential Uses	Number of Parking Spaces	Number of Bicycle Spaces
Single Family Detached	2 per dwelling	0
Single Family Attached	2 per dwelling	0
Duplexes	2 per dwelling	0
Accessory Dwelling Units	1 per dwelling	0
Manufactured Home Park	2 per dwelling, plus 1 visitor space for each 10 vehicle spaces	0
Multi-Family Dwellings	1.5 per studio unit or 1 bedroom 2.0 per 2 bedroom 2.25 per 3 bedroom or greater	1 per dwelling unit
Congregate Housing, Retirement Homes, Intermediate Care Facilities, and Halfway Houses	1 per each 3 residents, plus 1 per 2 employees	5% or 2 whichever is greater
Group Care Facilities	1 per 1000 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

7.

Community Service, Institutional and Semi-Public Uses	Number of Parking Spaces	Number of Bicycle Spaces
Administrative Services	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

Community Recreation Buildings	1 per 200 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Church, Chapel, or Auditorium	1 per 4 fixed seats or 1 per each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Library or Museums	1 per 300 sq. ft., plus 1 per 2 employees	30%
Lodge, Fraternal and Civic Assembly with/or without eating and drinking facilities	1 per 4 fixed seats or 1 for each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Hospitals	1 per 1000 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Day Care/Preschool/Kindergarten	2 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Elementary	2 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Middle School/Junior High	3 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Senior High	6 per classroom, plus 1 per each employee	5% or 2 whichever is greater
School – Vocational or College	6 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater

8.

Commercial Uses	**Number of Parking Spaces**	**Number of Bicycle Spaces**
Retail Sales, general or personal services	1 per 200 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Shopping centers	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Retail Sales, Bulky Merchandise (examples: furniture or motor vehicles)	1 per 800 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
General, professional or banking offices and services	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Eating or Drinking Establishments COMMENT: This project is a Short Term Food establishment (Coffee Shop).	1 per 250 sq. ft. of gross floor area or 1 per 4 fixed seats or stools, plus 1 per 2 employees	5% or 2 whichever is greater
Grocery Store; Food and Beverage Retail Sales, Convenience Store	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

Funerals and Interment Services: Crematory and Undertaking Interring and Cemeteries are exempt	1 per 4 fixed seats or 1 space for each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Fuel Sales	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Medical or dental office or clinic	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Participant Sports or Recreation: Indoor or Outdoor; Spectator Sports; Theater or similar use	1 per 4 fixed seats or 1 space per 4 participants based on projected participant capacity, plus 1 per 2 employees	5% or 2 whichever is greater
Transient Habitation: Campground or RV Park	1 per designated space, plus 1 visitor space for each 8 spaces, plus 1 per 2 employees	Exempt
Hotel or Motel	1 per guest room or suite, plus 1 per 2 employees	Exempt

9.

Industrial Uses	**Number of Parking Spaces**	**Number of Bicycle Spaces**
Sales, Storage, Rental, Services and Repairs of: Agricultural and Animals Automotive/Equipment Fleet Storage Light Equipment Non-operating vehicles, boats and recreational vehicles Building Equipment	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Sales, Storage, Rental, and Repairs of: Heavy Equipment, Farm Equipment	1 per 800 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Storage, distribution, warehousing, or manufacturing establishment; air, rail, trucking freight terminal	1 per employee on the largest shift, plus 1 per 2 employees	5% or 2 whichever is greater

17.98.30 REDUCTION OF PARKING REQUIREMENTS

A. Transit Amenity Reduction.

1. Any existing or proposed use in C-1 and C-3 Zoning Districts subject to minimum parking requirements and located within 400 feet of an existing transit route may reduce the number of required parking spaces by up to 10% by providing a transit stop and related amenities including a public plaza, pedestrian sitting areas, or additional landscaping provided such landscaping does not exceed 25% of the total area dedicated for transit oriented purposes.

2. Required parking spaces may be reduced at a ratio of 1 parking space for each 100 square feet of transit amenity space provided above and beyond the minimum requirements.
3. Uses, which are not eligible for these reductions, include truck stops, building materials and lumber sales, nurseries and similar uses not likely to be visited by pedestrians or transit customers.

B. Central Business District and Village Commercial District. Required off-street parking for non-residential uses in the C-1 and C-3 Zoning District may be reduced by 25 percent.

COMMENT: N/A.

17.98.40 SHARED USE OF PARKING FACILITIES

A. Except for residential uses, required parking facilities may be located on an adjacent parcel of land or separated only by an alley, provided the adjacent parcel is maintained in the same ownership as the use it is required to serve.

B. In the event that several parcels occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements for the uses computed separately.

C. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facility used jointly, to the extent that it can be shown by the owners or operators that the needs of the facilities do not materially overlap (e.g., uses primarily of day time versus night time uses) and provided that such right of joint use is evidenced by a deed, lease, contract or similar written instrument establishing such joint use.

17.98.50 SETBACKS

A. Parking areas, which abut a residential zoning district, shall meet the setback of the most restrictive adjoining residential zoning district.

COMMENT: N/A. There are no residential zones abutting this project.

B. Required parking shall not be located in a required front or side yard setback area abutting a public street except in industrial districts. For single family and two-family dwellings, required off-street parking may be located in a driveway.

COMMENT: There are no parking spaces within any front or side yard setbacks. This project meets this requirement.

C. Parking areas shall be setback from a lot line adjoining a street the same distance as the required building setbacks. Regardless of other provisions, a minimum setback of 5 feet shall be provided along the property fronting on a public street. The setback area shall be landscaped as provided in this code.

COMMENT: This project meets this requirement.

17.98.60 DESIGN, SIZE AND ACCESS

All off-street parking facilities, vehicular maneuvering areas, driveways, loading facilities, accessways, and private streets shall conform to the standards set forth in this section.

A. Parking Lot Design. All areas for required parking and maneuvering of vehicles shall have a durable hard surface such as concrete or asphalt.

COMMENT: This project meets this requirement.

B. Size of Space.

1. A standard parking space shall be 9 feet by 18 feet.

COMMENT: The site has 9 standard stalls all with a dimension of 9 feet by 18 feet.

2. A compact parking space shall be 8 feet by 16 feet.

COMMENT: The site has 4 compact stalls all with a dimension of 8 feet by 16 feet.

3. Handicapped parking spaces shall be 13 feet by 18 feet. Accessible parking shall be provided for all uses in compliance with the requirements of the State of Oregon (ORS 447.233) and the Americans with Disabilities Act.

COMMENT: The project only required 1 ADA parking stall; therefore it is a Van Accessible stall. This stall is 17 feet by 18 feet.

4. Parallel parking spaces shall be a length of 22 feet.

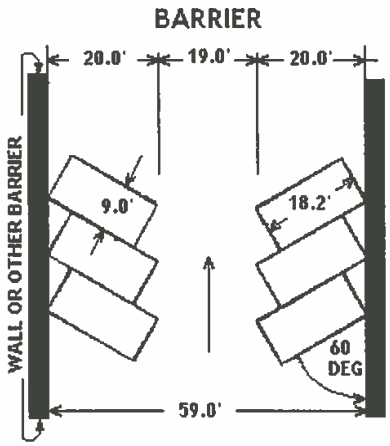
COMMENT: N/A

5. No more than 35 percent of the parking stalls shall be compact spaces.

COMMENT: The site has 4 compact stalls. These stalls account for 31% of the site parking.

C. Aisle Width.

Parking Aisle	Single Sided One-Way	Single Sided Two-Way	Double Sided One-Way	Double Sided Two-Way
90 degree	20 feet	22 feet	25 feet	25 feet
60 degree	20 feet	20 feet	20 feet	20 feet
45 degree	20 feet	20 feet	20 feet	20 feet
Parallel	12 feet	12 feet	16 feet	16 feet



17.98.70 ON-SITE CIRCULATION

A. Groups of more than three (3) parking spaces shall be permanently striped.

B. Backing and Maneuvering. Except for a single family dwelling or two family dwelling, groups of more than 3 parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles enter the right-of-way (except for alleys) in a forward manner. Parking spaces shall not have backing or maneuvering movements for any of the parking spaces occurring across public sidewalks or within any public street, except as approved by the City Engineer. Evaluations of requests for exceptions shall consider constraints due to lot patterns and impacts to the safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

COMMENT: This project meets this requirement.

17.98.80 ACCESS TO ARTERIAL AND COLLECTOR STREETS

A. Location and design of all accesses to and/or from arterials and collectors (as designated in the Transportation System Plan) are subject to review and approval by the City Engineer. Where practical, access from a lower functional order street may be required. Accesses to arterials or collectors shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions may be granted by the City Engineer. Evaluations of exceptions shall consider posted speed of the street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

COMMENT: Vehicular access to and from the project site is via an existing driveway approach off of Procter Avenue, an Arterial Street. Due to the "change in use" of the site, ODOT required the project submit for approval to use the existing driveway approach for the project. On January 31, 2019 ODOT approved the driveway approach. The existing driveway is located less than 150 feet from the intersection of Proctor Avenue and Ten Eyck Road.

B. No development site shall be allowed more than one access point to any arterial or collector street (as designated in the Transportation System Plan) except as approved by the City

Engineer. Evaluations of exceptions shall consider posted speed of street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

COMMENT: Only 1 access point is requested for this project.

C. When developed property is to be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in A and B above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.

COMMENT: The existing driveway location does not meet the City requirement of 150 feet from an intersection. The project is requesting an exception be granted by the City Engineer, to allow for the existing driveway to continue to be used.

17.98.90 ACCESS TO UNIMPROVED STREETS

Access to Unimproved Streets. Development may occur without access to a City standard street when that development constitutes infill on an existing substandard public street. A condition of development shall be that the property owner sign an irrevocable petition for street improvements and/or a declaration of deed restrictions agreeing to future completion of street improvements. The form shall be provided by the City and recorded with the property through the Clackamas County Recorder's Office. This shall be required with approval of any of the following applications:

- Land partitions
- Conditional uses
- Building permits for new non-residential construction or structural additions to non-residential structures (except accessory development)
- Building permits for new residential units

17.98.100 DRIVEWAYS

A. A driveway to an off-street parking area shall be improved from the public roadway to the parking area a minimum width of 20 feet for a two-way drive or 12 feet for a one-way drive but in either case not less than the full width of the standard approach for the first 20 feet of the driveway.

COMMENT: Drive and aisle widths are detailed on the Architectural Enlarged Site Plan (Sheet A1.1) as well as the Civil Site Plan (Sheet C2.0). This project meets this requirement.

B. A driveway for a single-family dwelling shall have a minimum width of 10 feet.

C. A driveway for a two-family dwelling shall have a minimum width of 20 feet. A driveway approach must be constructed in accordance with applicable city standards and the entire driveway must be paved with asphalt or concrete.

D. Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve feet for their entire length and width but such clearance may be reduced in parking structures.

E. No driveway shall traverse a slope in excess of 15 percent at any point along the driveway length.

COMMENT: There are no driveway slopes in excess of 15% for this project. This project meets this requirement.

F. The location and design of the driveway shall provide for unobstructed sight per the vision clearance requirements. Requests for exceptions to these requirements will be evaluated by the City Engineer considering the physical limitations of the lot and safety impacts to vehicular, bicycle, and pedestrian traffic.

COMMENT: Vehicular access to and from the project site is via an existing driveway approach off of Procter Avenue, an Arterial Street. Due to the "change in use" of the site, ODOT required the project submit for approval to use the existing driveway approach for the project. On January 31, 2019 ODOT approved the driveway approach. The existing driveway is located less than 150 feet from the intersection of Proctor Avenue and Ten Eyck Road. There are no modification to the existing vision clearances. Per Section 17.98.110.A no vision clearance analysis is required due to the sites location within the Central Business District.

17.98.110 VISION CLEARANCE

A. Except within the Central Business District, vision clearance areas shall be provided at intersections of all streets and at intersections of driveways and alleys with streets to promote pedestrian, bicycle, and vehicular safety. The extent of vision clearance to be provided shall be determined from standards in Chapter 17.74 and taking into account functional classification of the streets involved, type of traffic control present at the intersection, and designated speed for the streets.

COMMENT: N/A. This project is within the Central Business District.

B. Traffic control devices, streetlights, and utility installations meeting approval by the City Engineer are permitted within vision clearance areas.

17.98.120 LANDSCAPING AND SCREENING

A. Screening of all parking areas containing 4 or more spaces and all parking areas in conjunction with an off-street loading facility shall be required in accordance with zoning district requirements and Chapter 17.98. Where not otherwise specified by district requirement, screening along a public right-of-way shall include a minimum 5-ft. depth of buffer plantings adjacent to the right-of-way.

COMMENT: This project proposes a 5' width screen planting zone along the entire right-of-way frontage. This project meets this requirement.

B. When parking in a commercial or industrial district adjoins a residential zoning district, a sight-obscuring screen that is at least 80% opaque when viewed horizontally from between 2

and 8 feet above the average ground level shall be required. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within 3 years after installation.

COMMENT: N/A. This project does not adjoin a residential zoning district.

C. Except for a residential development which has landscaped yards, parking facilities shall include landscaping to cover not less than 10% of the area devoted to parking facilities. The landscaping shall be uniformly distributed throughout the parking area and may consist of trees, shrubs, and ground covers.

COMMENT: The project proposes a total of 6,061 sf of area for parking and 766 sf (12.6%) of that area is landscaped.

D. Parking areas shall be divided into bays of not more than 20 spaces in parking areas with 20 or more spaces. Between, and at the end of each parking bay, there shall be planters that have a minimum width of 5 feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. Truck parking and loading areas are exempt from this requirement.

COMMENT: The largest parking bay is 11 spaces and has a minimum of 5' width planting areas adjacent. Trees are located in all adjacent planters with the exception of the northwest planted, which is a lined stormwater planter lacking the depth for a tree. This project meets this requirement.

E. Parking area setbacks shall be landscaped with major trees, shrubs, and ground cover as specified in Chapter 17.92.

COMMENT: See planting sheets L10, L11, L20 for planting information. This project meets this requirement.

F. Wheel stops, bumper guards, or other methods to protect landscaped areas shall be provided. No vehicle may project over a property line or a public right-of-way. Parking may project over an internal sidewalk, but a minimum clearance of 5 feet for safe pedestrian circulation is required.

COMMENT: Wheel stops are provided for this project and no vehicle projects over a property line or into a public right-of-way. This project meets this requirement.

17.98.130 PAVING

A. Parking areas, driveways, aisles and turnarounds shall be paved with concrete, asphalt or comparable surfacing, constructed to city standards for off-street vehicle areas.

COMMENT: Parking areas for this project are intended to be asphalt and constructed to City standards. This project meets this requirement.

B. Gravel surfacing shall be permitted only for areas designated for non-motorized trailer or equipment storage, propane or electrically powered vehicles, or storage of tracked vehicles.

COMMENT: N/A

17.98.140 DRAINAGE

Parking areas, aisles and turnarounds shall have adequate provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way and abutting private property.

COMMENT: Parking areas and on-site drainage collection is accomplished via surface collection and below grade conveyance and is detailed on Civil Plans / Utility Plans (Sheet C4.0, C4.1). The site has been divided into small drainage basins to minimize the quantity of surface runoff. Stormwater is managed on site to the maximum extent possible. This project meets this requirement.

17.98.150 LIGHTING

Artificial lighting shall be provided in all required off-street parking areas. Lighting shall be directed into the site and shall be arranged to not produce direct glare on adjacent properties. Light elements shall be shielded and shall not be visible from abutting residential properties. Lighting shall be provided in all bicycle parking areas so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or vehicle parking lots during all hours of use.

COMMENT: Site Lighting is provided, directed into the site and arranged to not produce direct glare on adjacent properties. Fixtures and light levels relative to site boundaries are detailed on the Photometric Plan (Sheet E1.0). This project meets this requirement.

17.98.160 BICYCLE PARKING FACILITIES

Multi-family developments, industrial, commercial and community service uses, transit transfer stations, and park and ride lots shall meet the following standards for bicycle parking facilities. The intent of this section is to provide secure bicycle parking that is visible from a building's primary entrance and convenient to bicyclists.

A. Location.
   1. Bicycle parking shall be located on-site, convenient to primary building entrances, and have direct access to both the public right-of-way and to the main entrance of the principal structure.
   2. Bicycle parking areas shall be visible from building interiors where possible.
   3. For facilities with multiple buildings or parking lots, bicycle parking shall be located in areas of greatest use and convenience to bicyclists.
   4. If the bicycle parking area is located within the vehicle parking area, the bicycle facilities shall be separated from vehicular maneuvering areas by curbing or other barrier to prevent damage to parked bicycles.
   5. Curb cuts shall be installed to provide safe, convenient access to bicycle parking areas.

B. Bicycle Parking Space Dimensions.
   1. Each required bicycle parking space shall be at least 2 ½ feet by 6 feet. If covered, vertical clearance of 7 feet must be provided.
   2. An access aisle of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking. Vertical or upright bicycle storage structures are exempted from the parking space length.

C. Security.
   1. Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be located.
   2. Racks requiring user-supplied locks shall accommodate both cable and U-shaped locks. Racks shall be designed and installed to permit the frame and both wheels to be secured, with removal of the front wheel, or the frame and one wheel to be secured, if both wheels remain on the bicycle.
   3. Bicycle racks shall be securely anchored to the ground or a structure and shall be designed to hold bicycles securely by means of the bicycle frame.
   4. All outdoor bicycle parking facilities shall provide adequate shelter from precipitation where possible.

D. Signing. Where bicycle facilities are not directly visible and obvious from the public right-of-way, entry or directional signs shall be provided to direct bicyclists from the public right-of-way to the bicycle parking facility.

E. Exemptions. Temporary street side sales and temporary uses such as fireworks stands, Christmas tree sales lots, single-family and two-family residences are exempt from the standards.

COMMENT: Bicycle Parking will be provided at a paved ribbon rack adjacent to the front public access to the building. At minimum, 2 spaces will be provided per Table 17.98.20.8. This project meets this requirement.

17.98.170 CARPOOL AND VANPOOL PARKING

New industrial, commercial, and community service uses with more than 50 employees shall meet the following minimum requirements for carpool and vanpool parking.

COMMENT: N/A. This project will have less than 50 employees.

A. Number and Marking. At least 10% but not less than 1 of the employee parking spaces shall be marked and signed for use as a carpool/vanpool space. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only".

B. Location. Designated carpool/vanpool parking spaces shall be the closest employee parking spaces to the building entrance normally used by employees except for any handicapped spaces provided.

17.98.180 SCHOOL DESIGN REQUIREMENTS

A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading children shall be located on the site of a school having a capacity greater than 25 students.

17.98.190 OFF-STREET LOADING FACILITIES

A. The minimum area required for commercial and industrial loading spaces is as follows:

1. 250 square feet for buildings of 5,000 to 19,999 square feet of gross floor area.
2. 500 square feet for buildings of 20,000 to 49,999 square feet of gross floor area
3. 750 square feet for buildings in excess of 50,000 square feet of gross floor area.

B. The required loading berth shall be not less than 10 feet in width by 35 feet in length and shall have an unobstructed height clearance of 14 feet.

C. Loading areas shall be screened from public view from public streets and adjacent properties except in industrial districts and shall require the same screening as parking lots.

D. Sufficient space for turning and maneuvering of vehicles shall be provided on the site in accordance with the standard specifications established by the City Engineer.

E. Entrances and exits shall be provided at locations approved in accordance with applicable ordinances and statutes.

F. No off-street loading facilities shall be required where buildings abut a public alley in such a manner that loading operations can be conducted from said alley in accordance with applicable traffic and parking ordinances.

COMMENT: N/A

17.98.200 RESIDENTIAL ON-STREET PARKING REQUIREMENTS

A. **Residential On-Street Parking Requirements**. Residential on-street parking shall conform to the following standards:

1. In addition to required off-street parking, all new residential planned developments, subdivisions and partitions shall provide one (1) on-street parking space within 200 feet of each dwelling except as provided in Section 17.98.200(A)(6) below.

2. The location of residential on-street parking shall be reviewed for compliance with this section through submittal of a Residential Parking Analysis Plan as required in Section 17.98.10(M).

3. Residential on-street parking shall not obstruct required clear vision areas and shall not violate any local or state laws.

4. Parallel residential on-street parking spaces shall be 22 feet minimum in length.

5. Residential on-street parking shall be measured along the curb from the outside edge of a driveway wing or curb cut. Parking spaces must be set back a minimum of 15 feet from an intersection and may not be located within 10 feet of a fire hydrant.

6. Portions of residential on-street parking required by this section may be provided in parking courts that are interspersed throughout a development when the following standards are met:
   a. No more than eight (8) parking spaces shall be provided in a parking court;
   b. Parking spaces within a parking court shall be nine (9) feet wide and 18 feet in depth;

c. Notwithstanding Section 17.98.70, vehicles parked in a parking court are permitted to back onto the public right-of-way from the parking court;
d. A parking court shall be located within 200 feet of the dwellings requiring parking in accordance with the requirements of Section 17.98.10(M);
e. No more than two (2) parking courts shall be provided within a block, with only one (1) parking court provided along a block face;
f. A parking court shall be paved in compliance with the standards of this chapter and the latest adopted grading and drainage standards;
g. If a parking court is adjacent to a public right-of-way, it shall be publicly owned and maintained;
h. If a parking court is adjacent to a private drive, it shall be privately owned and maintained. For each parking court there shall be a legal recorded document which includes:
    i A legal description of the parking court;
    ii Ownership of the parking court;
    iii Use rights; and
    iv A maintenance agreement and the allocation and/or method of determining liability for maintenance of the parking court;
i. A parking court shall be used solely for the parking of operable passenger vehicles.

CHAPTER
17.100 LAND
DIVISION

17.100.00 INTENT

The intent of this chapter is to implement the Comprehensive Plan, to provide procedures, regulations, and design standards for land divisions and associated improvements and to provide for orderly and efficient land division patterns supported by a connected system of streets, water supply, sewage and drainage facilities.

The division of land is the initial step in establishing Sandy's ultimate development pattern. The framework of streets, blocks and individual lots is implemented through the land division process. Density, units per gross acre, and dimensional standards are established in zoning district regulations.

This chapter presents the review procedures, design standards and improvement requirements for land divisions. Procedures for replats and property line adjustments are also addressed in this chapter.

17.100.10 GENERAL PROVISIONS

A. No land shall be divided prior to approval of a minor partition, major partition or subdivision in accordance with this Code.

B. No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure on the remainder of a lot with less than the minimum lot, yard or setback requirements of the zoning district.

C. Land division is processed by approval of a tentative plan prior to approval of the final land division plat or map. Where a Type II or Type III procedure is required for land division approval, that procedure shall apply to the tentative plan approval. As long as there is compliance with the approved tentative plan and conditions, the Director shall have the authority to approval final plats and maps for land divisions through a Type I procedure.

17.100.20 LAND DIVISION CLASSIFICATION - TYPE I, II OR III PROCEDURES

A. Type I Land Division (Property Line Adjustment). Property line adjustments shall be a Type I procedure if the resulting parcels comply with standards of the Development Code and this chapter.

B. Type I Land Division (Minor Partition). A minor partition shall be a Type I procedure if the land division does not create a street and the resulting parcels comply with the standards of the zoning district and this chapter.

COMMENT: This project includes an application for a Type 1 Land Division.

C. Type II Land Division (Major Partition or Subdivision). A major partition or subdivision shall be a Type II procedure when a street is extended, satisfactory street conditions exist and

the resulting parcels/lots comply with the standards of the zoning district and this chapter. Satisfactory street conditions exist when the Director determines one of the following:

1. Existing streets are stubbed to the property boundaries and are linked by the land division.
2. An existing street or a new proposed street need not continue beyond the land division in order to complete an appropriate street system or to provide access to adjacent property.
3. The proposed street layout is consistent with a street pattern adopted as part of the Comprehensive Plan or an officially adopted City street plan.

D. Type II Land Division (Minor Revised Plat). A minor replat of an existing platted subdivision shall be a Type II procedure when the street(s) are existing and no extension or reconstruction/realignment is necessary, when the replat does not increase the allowable density, the resulting parcels comply with the standards of the zoning district and this chapter, and the replat involves no more than six (6) lots.

E. Type III Land Division (Major Partition or Subdivision). A major partition or subdivision shall be a Type III procedure if unsatisfactory street conditions exist or the resulting parcels/lots do not comply with the standards of the zoning district and this chapter. The Director shall determine if unsatisfactory street conditions exist based on one of the following criteria:

1. The land division does not link streets that are stubbed to the boundaries of the property.
2. An existing street or a new proposed street will be extended beyond the boundaries of the land division to complete a street system or provide access to adjacent property.
3. The proposed street layout is inconsistent with a street pattern adopted as part of the Comprehensive Plan or officially adopted City street plan.

F. Type III Land Division (Major Replat). A major replat involves the realignment of property lines involving more than six lots, even if the subdivision does not increase the allowable density. All parcels resulting from the replat must comply with the standards of the zoning district and this chapter. Any replat involving the creation, extension or modification of a street shall be processed as a major replat.

17.100.30 PROPERTY LINE ADJUSTMENT

Approval of a property line adjustment is required to move a common boundary between two parcels or lots. A Type I property line adjustment is not considered a development action for purposes of determining whether floodplain, greenway, or right-of-way dedication or improvements are required.

A. Application Requirements. Property line adjustment applications shall be made on forms provided by the city and shall be accompanied by:

1. Eight copies of the property line adjustment map;
2. The required fee;
3. Any data or narrative necessary to explain the application.

B. Map Information. The property line adjustment map and narrative shall include the following:

1. The names, addresses and phone numbers of the owner(s) of the subject parcels and authorized representative;

2. Scale of the drawing using an engineer's scale;
3. North arrow and date;
4. Legal description of the property;
5. Dimensions and size of the parcels involved in the property line adjustment;
6. Approximate locations of structures, utilities, rights-of-way and easements;
7. Points of access, existing and proposed;
8. Any natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
9. Approximate topography, particularly noting any area of steep slope.

C. Approval Criteria. The Director shall approve a request for a property line adjustment if the following criteria are satisfied:
1. No additional parcels are created.
2. All parcels meet the density requirements and dimensional standards of the base zoning district.
3. Access, utilities, easements, and proposed future streets will not be adversely affected by the property line adjustment.

D. Final Approval. Three paper copies of the final map shall be submitted within one year of approval of the property line adjustment. The final map shall include a boundary survey, which complies with ORS Chapters 92 and 209. The approved final map, along with required deeds, must be recorded with Clackamas County.

17.100.40 MINOR AND MAJOR PARTITIONS

Approval of a partition is required for a land division of 3 or fewer parcels in a calendar year. Partitions, which do not require creation or extension of a street for access, is classified as a Type I minor partition. Partitions, which require creation or extension of a street for access is classified as a Type II, major partition.

A. Preapplication Conference. The applicant for a minor or major partition shall participate in a preapplication conference with city staff to discuss procedures for approval, applicable state and local requirements, objectives and policies of the Sandy Comprehensive Plan, and the availability of services. A preapplication conference is required.

COMMENT: A preapplication Conference has been held for this project.

B. Application Requirements. Partition applications shall be made on forms provided by the planning department and shall be accompanied by:
1. Eight copies of the tentative plan for the minor or major partition;
2. The required fee;
3. Any data or narrative necessary to explain the application;
4. List of affected property owners.

COMMENT: These requirements have been met.

C. Tentative Partition Plan. The tentative plan shall be a minimum of 8 1/2 x 11 inches in size and shall include the following information:
1. The date, north point, engineering scale, and legal description;

2. Name and address of the owner of record and of the person who prepared the partition plan;
3. Zoning, size and dimensions of the tract to be partitioned;
4. Size, dimensions and identification of proposed parcels (Parcel 1, Parcel 2, Parcel 3);
5. Approximate location of any structures on the tract to be partitioned, including setbacks to proposed parcel boundaries;
6. Location, names and widths of streets, sidewalks and bikeways within the tract to be partitioned and extending 400 feet beyond the tract boundaries;
7. Location, width and purpose of existing and proposed easements on the tract to be partitioned;
8. Location and size of sewer, water and drainage facilities proposed to serve the tract to be partitioned;
9. Natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
10. Approximate topography, particularly noting any area of steep slope;
11. A plan for future parcel redivision, if the proposed parcels are large enough to be redivided under the comprehensive plan or zoning designation.

COMMENT: These requirements have been met.

D. Approval Criteria. The Director or Planning Commission shall review the tentative plan for a minor or major partition based on the classification procedure (Type I, II or III) and the following approval criteria:
1. The proposed partition is consistent with the density, setback and dimensional standards of the base zoning district.
2. The proposed partition is consistent with the design standards set forth in this chapter.
3. Adequate public facilities are available or can be provided to serve the proposed partition.
4. All proposed improvements meet City standards.
5. The plan preserves the potential for future redivision of the parcels, if applicable.

E. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative partition plan as deemed necessary. In no event, however, shall the Director or Planning Commission require greater dedications or conditions than could be required if the entire tract were subdivided.

F. Approval of Tentative Partition Plan. When a tentative partition plan has been approved, all copies shall be marked with the date and conditions of approval. One copy shall be returned to the applicant, one copy shall be sent to the county and one copy shall be retained by the city.

G. Approval Signatures for Final Partition Map. Following review and approval of a final partition map, the Director shall:
1. Review Plat for Accuracy. The Director may require field investigations to verify that the plat survey is accurate. The applicant shall be notified and afforded an opportunity to make corrections if needed.
2. Sign the plat to certify that the map is approved.
3. Notify the applicant that the partition map and accompanying documents have been approved and are ready for recording with the Clackamas County Recorder.
4. Deliver the signed original to the applicant who shall deliver the original and two exact

copies to the County Recorder's office. One recorded copy shall be returned to the City of Sandy immediately after recording is completed.

H. Effective Date for Final Partition Map Approval. The partition shall become final upon recording of the approved partition map together with any required documents with the County Recorder. Work specifically authorized following tentative approval may take place prior to processing of the final partition map. The documents effectuating a partition shall become null and void if not recorded with the County Recorder within one year following approval.

I. Improvements. The same improvements shall be installed to serve each parcel of a partition as required of a subdivision. Improvement standards are set forth in Section 17.90. If the Director and City Engineer find a need to vary the improvement standards for a partition, the application shall be processed through a Type III hearing and may except specific improvements.

J. Exceptions to Improvements. Exceptions to improvements may be approved in transition areas or other areas as deemed appropriate by the city. In lieu of excepting an improvement, the Planning Commission may recommend to the city council that the improvement be installed in the area under special assessment financing or other facility extension policies of the city.

17.100.50 NONRESIDENTIAL PARTITIONS OR SUBDIVISIONS

This section includes special provisions for partitions or subdivisions of land that is zoned for commercial or industrial use.

A. Principles and Standards. In addition to the standards established for partitions or subdivisions, the applicant for a nonresidential partition or subdivision shall demonstrate that the street, parcel and block pattern proposed is adapted to uses in the vicinity. The following principles and standards shall be observed:
   1. Proposed commercial and industrial parcels shall be suitable in area and dimensions to the types of development anticipated.
   2. Street right-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated.
   3. Special requirements may be imposed by the city with respect to street, curb, gutter and sidewalk design and construction.
   4. Special requirements may be imposed by the city with respect to the installation of public utilities, including but not limited to water, sewer, and stormwater drainage facilities.
   5. Efforts shall be made to protect adjacent residential areas from potential nuisance from a proposed commercial or industrial subdivision. Such efforts may include the provision of extra depth in parcels backing up on existing or potential residential development and landscaped buffers.
   6. Streets carrying nonresidential traffic, particularly truck traffic, should not normally be extended through adjacent residential areas.

   COMMENT: These requirements have been met.

17.100.60 SUBDIVISIONS

Approval of a subdivision is required for a land division of 4 or more parcels in a calendar year. A two-step procedure is required for subdivision approval: (1) tentative plat review and approval; and (2) final plat review and approval.

A. Preapplication Conference. The applicant for a subdivision shall participate in a preapplication conference with city staff to discuss procedures for approval, applicable state and local requirements, objectives and policies of the Sandy Comprehensive Plan, and the availability of services. The preapplication conference provides the opportunity to discuss the conceptual development of the property in advance of formal submission of the tentative plan in order to save the applicant unnecessary delay and cost.

B. Application Requirements for a Tentative Plat. Subdivision applications shall be made on forms provided by the planning department and shall be accompanied by:
   1. 20 copies of the tentative plat;
   2. Required fee and technical service deposit;
   3. 20 copies of all other supplementary material as may be required to indicate the general program and objectives of the subdivision;
   4. Preliminary title search;
   5. List of affected property owners.

C. Format. The Tentative Plat shall be drawn on a sheet 18 x 24 inches in size and at a scale of one inch equals one hundred feet unless an alternative format is approved by the Director at the preapplication conference. The application shall include one copy of a scaled drawing of the proposed subdivision, on a sheet 8 1/2 x 11, suitable for reproduction.

D. Data Requirements for Tentative Plat.
   1. Scale of drawing, north arrow, and date.
   2. Location of the subdivision by section, township and range, and a legal description sufficient to define the location and boundaries of the proposed tract.
   3. A vicinity map, showing adjacent property boundaries and how proposed streets may be extended to connect to existing streets.
   4. Names, addresses, and telephone numbers of the owner(s) of the property, the engineer or surveyor, and the date of the survey.
   5. Streets: location, names, paved widths, alleys, and right-of-way (existing and proposed) on and within 400 feet of the boundaries of the subdivision tract.
   6. Easements: location, widths, purpose of all easements (existing and proposed) on or serving the tract.
   7. Utilities: location of storm drainage, sanitary sewers and water lines (existing and proposed) on and abutting the tract. If utilities are not on or abutting the tract, indicate the direction and distance to the nearest locations.
   8. Ground elevations shown by contour lines at two-foot vertical intervals for ground slopes of less than 10 percent and at ten-foot vertical intervals for ground slopes exceeding 10 percent. Ground elevation shall be related to an established benchmark or other datum approved by the Director.
   9. Natural features such as marshes, rock outcroppings, watercourses on and abutting the property, location of wooded areas.
   10. Approximate location of areas subject to periodic inundation or storm sewer overflow, location of any floodplain or flood hazard district.

11. Location, width, and direction of flow of all water courses.
12. Identification of the top of bank and boundary of mandatory setback for any stream or water course.
13. Identification of any associated wetland and boundary of mandatory setback.
14. Identification of any wetland and boundary of mandatory setback.
15. Location of at least one temporary bench mark within the tract boundaries.
16. Existing uses of the property, including location and present use of all existing structures to remain on the property after platting.
17. Lots and Blocks: approximate dimensions of all lots, minimum lot sizes, and proposed lot and block numbers.
18. Existing zoning and proposed land use.
19. Designation of land intended to be dedicated or reserved for public use, with the purpose, conditions, or limitations of such reservations clearly indicated.
20. Proposed development phases, if applicable.
21. Any other information determined necessary by the Director at the preapplication conference, such as a soil report or other engineering study, traffic analysis, floodplain or wetland delineation, etc.

E. Approval Criteria. The Director or Planning Commission shall review the tentative plat for the subdivision based on the classification procedure (Type II or III) set forth in Section 17.12 and the following approval criteria:
1. The proposed subdivision is consistent with the density, setback and dimensional standards of the base zoning district, unless modified by a Planned Development approval.
2. The proposed subdivision is consistent with the design standards set forth in this chapter.
3. The proposed street pattern is connected and consistent with the Comprehensive Plan or official street plan for the City of Sandy.
4. Adequate public facilities are available or can be provided to serve the proposed subdivision.
5. All proposed improvements meet City standards.
6. The phasing plan, if requested, can be carried out in a manner that meets the objectives of the above criteria and provides necessary public improvements for each phase as it develops.

F. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative plat as deemed necessary.

G. Improvements. A detailed list of required improvements for the subdivisions shall be set forth in the approval and conditions for the tentative plat.

H. Tentative Plat Expiration Date. The final plat shall be delivered to the Director for approval within one year following approval of the tentative plat, and shall incorporate any modification or condition required by approval of the tentative plat. The Director may, upon written request of the subdivider, grant an extension of the tentative plat approval for up to one additional year.

I. Submission of Final Plat. The applicant shall survey the subdivision and prepare a final plat in conformance with the tentative plat approval and the requirements of ORS Chapter 92.

J. Information on Plat. In addition to information required for the tentative plat or otherwise specified by state law, the following information shall be shown on the final plat for the subdivision:

1. Tract boundary lines, right-of-way lines of streets and property line with dimensions, bearings or deflection angles and radii, arcs, points of curvature and tangent bearings. All bearings and angles shall be shown to the nearest one-second and all dimensions to the nearest 0.01 foot. If circular curves are proposed in the plat, the following data must be shown in table form: curve radius, central angles, arc length, and bearing of long chord. All information shown on the face of the plat shall be mathematically perfect.
2. Easements denoted by fine dotted lines, clearly identified and, if already of record, their recorded references. If an easement is not definitely located of record, a statement of the easement shall be given. The width of the easement, its length and bearing, and sufficient ties to locate the easement with respect to the subdivision shall be shown. If the easement is being dedicated by the plat, it shall be properly referenced in the owner's certificates of dedication.
3. Any building setback lines if more restrictive than the city zoning ordinance.
4. Location and purpose for which sites, other than residential lots, are dedicated or reserved.
5. Easements and any other areas for public use dedicated without any reservation or restriction.
6. A copy of any deed restrictions written on the face of the plat or prepared to record with the plat with reference on the face of the plat.
7. The following certificates that may be combined where appropriate:
   a) A certificate signed and acknowledged by all parties having any recorded title interest in the land, consenting to the preparation and recording of the plat.
   b) A certificate signed and acknowledged as above, dedicating all land intended for public use except land which is intended for the exclusive use of the lot owners in the subdivision, their licensees, visitors, tenants and servants.
   c) A certificate with the seal of and signed by the engineer or the surveyor responsible for the survey and final plat.
   d) Other certificates now or hereafter required by law.
8. Supplemental Information with Plat. The following data shall accompany the final plat:
   a) A preliminary title report issued by a title insurance company in the name of the owner of the land, showing all parties whose consent is necessary and their interest in the tract.
   b) Sheets and drawings showing the following:
      1) Traverse data including the coordinates of the boundary of the subdivision and ties to section corners and donation land claim corners, and showing the error of closure, if any.
      2) The computation of distances, angles and courses shown on the plat.
      3) Ties to existing monuments, proposed monuments, adjacent subdivisions, street corners and state highway stationing.
   c) A copy of any deed restrictions applicable to the subdivision.
   d) A copy of any dedication requiring separate documents.
   e) A list of all taxes and assessments on the tract which have become a lien on the tract.
   f) A certificate by the engineer that the subdivider has complied with the improvement requirements.
9. Certification by the city engineer or by the owner of a privately owned domestic water

supply system, that water will be available to the property line of each and every lot depicted in the final plat.

K. Technical Plat Review. Upon receipt by the city, the plat and supplemental information shall be reviewed by the city engineer and Director through a Type I procedure. The review shall focus on conformance of the final plat with the approved tentative plat, conditions of approval and provisions of city, county or state law applicable to subdivisions.

1. The city engineer may make field checks as needed to verify that the final plat is sufficiently correct on the ground, and city representatives may enter the subdivision property for this purpose.
2. If the city engineer or Director determines that full conformance has not been made, he shall advise the subdivider of the changes or additions that must be made and shall afford the subdivider an opportunity to make the changes or additions.
3. All costs associated with the technical plat review and recording shall be the responsibility of the applicant.

L. Approval of Final Plat. The signatures of the Director and the city engineer shall indicate approval of the final plat. After the plat has been approved by all city and county officials, two prints of all data (plat face, dedications, certificates, approvals and one copy of recorded restrictive and protective covenants) shall be returned to the city engineer within 20 working days of recording.

M. Recording of Final Plat. Approval of the plat by the city shall be conditioned on its prompt recording. The subdivider shall, without delay, submit the plat to the county assessor and the county governing body for signatures as required by ORS 92.100. The plat shall be prepared as provided by ORS 92.080. Approval of the final plat shall be null and void if the plat is not submitted for recording within thirty days after the date the last required approving signature has been obtained.

17.100.70 LAND DIVISION DESIGN STANDARDS

All land divisions shall be in conformance with the requirements of the applicable base zoning district and this chapter, as well as with other applicable provisions of this Code. Modifications to these requirements may be accomplished through a Planned Development. The design standards in this section shall be used in conjunction with street design standards included in the City of Sandy Transportation System Plan and standards and construction specifications for public improvements as set forth in adopted Public Facilities Plans and the Sandy Municipal Code.

17.100.80 CHARACTER OF THE LAND

Land which the Director or the Planning Commission finds to be unsuitable for development due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations or topography, utility easements, or other features which will reasonably be harmful to the safety, health, and general welfare of the present or future inhabitants of the partition or subdivision and the surrounding areas, shall not be developed unless adequate methods are formulated by the subdivider and approved by the Director or the Planning Commission to solve the problems created by the unsuitable land conditions.

17.100.90 ACCESS CONTROL GUIDELINES AND COORDINATION

A. Notice and coordination with ODOT required. The city will coordinate and notify ODOT regarding all proposals for new or modified public and private accesses on to Highways 26 and 211.

B. It is the city policy to, over time, reduce noncompliance with the Oregon Highway Plan Access Management Policy guidelines.

C. Reduction of compliance with the cited State standards means that all reasonable alternatives to reduce the number of accesses and avoid new non-complying accesses will be explored during the development review. The methods to be explored include, but are not limited to: closure, relocation, and consolidation of access; right-in/right-out driveways; crossover easements; and use of local streets, alleys, and frontage roads.

17.100.100 STREETS GENERALLY

No subdivision or partition shall be approved unless the development has frontage or approved access to an existing public street. In addition, all streets shall be graded and improved in conformance with the City's construction standards, approved by the City Engineer, in accordance with the construction plans.

A. Street Connectivity Principle. The pattern of streets established through land divisions should be connected to: (a) provide safe and convenient options for cars, bikes and pedestrians; (b) create a logical, recognizable pattern of circulation; and (c) spread traffic over many streets so that key streets (particularly U.S. 26) are not overburdened.

B. Transportation Impact Studies. Transportation impact studies may be required by the city engineer to assist the city to evaluate the impact of development proposals, determine reasonable and prudent transportation facility improvements and justify modifications to the design standards. Such studies will be prepared in accordance with the following:
   1. A proposal established with the scope of the transportation impact study shall be coordinated with, and agreed to, by the city engineer. The study requirements shall reflect the magnitude of the project in accordance with accepted transportation planning and engineering practices. A professional civil or traffic engineer registered in the State of Oregon shall prepare such studies.
   2. If the study identifies level-of-service conditions less than the minimum standards established in the Sandy Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered as part of the land use decision for the proposal.

C. Topography and Arrangement. All streets shall be properly related to special traffic generators such as industries, business districts, schools, and shopping centers and to the pattern of existing and proposed land uses.

D. Street Spacing. Street layout shall generally use a rectangular grid pattern with modifications as appropriate to adapt to topography or natural conditions.

E. Future Street Plan. Future street plans are conceptual plans, street extensions and connections on acreage adjacent to land divisions. They assure access for future development and

promote a logical, connected pattern of streets. It is in the interest of the city to promote a logical, connected pattern of streets. All applications for land divisions shall provide a future street plan that shows the pattern of existing and proposed future streets within the boundaries of the proposed land divisions, proposed connections to abutting properties, and extension of streets to adjacent parcels within a 400 foot radius of the study area where development may practically occur.

F. Connections. Except as permitted under Exemptions, all streets, alleys and pedestrian walkways shall connect to other streets within the development and to existing and planned streets outside the development and to undeveloped properties which have no future street plan. Streets shall terminate at other streets or at parks, schools or other public land within a neighborhood.

Where practicable, local roads shall align and connect with other roads when crossing collectors and arterials.

Proposed streets or street extensions shall be located to provide direct access to existing or planned transit stops, and existing or planned neighborhood activity centers, such as schools, shopping areas and parks.

G. Exemptions.
1. A future street plan is not required for partitions of residentially zoned land when none of the parcels may be redivided under existing minimum density standards.
2. Standards for street connections do not apply to freeways and other highways with full access control.
3. When street connection standards are inconsistent with an adopted street spacing standard for arterials or collectors, a right turn in/right turn out only design including median control may be approved. Where compliance with the standards would result in unacceptable sight distances, an accessway may be approved in place of a street connection.

COMMENT: The project meets these guidelines.

17.100.110 STREET STANDARDS AND CLASSIFICATION

Street standards are illustrated in the figures included at the end of this chapter. Functional definitions of each street type are described in the Transportation System Plan as summarized below.

A. Major arterials are designed to carry high volumes of through traffic, mixed with some unavoidable local traffic, through or around the city. Major arterials should generally be spaced at 1-mile intervals.

B. Minor arterials are designed to collect and distribute traffic from major and minor arterials to neighborhood collectors and local streets, or directly to traffic destinations. Minor arterials should generally be spaced at 1-mile intervals.

C. Residential minor arterials are a hybrid between minor arterial and collector type streets that allow for moderate to high traffic volumes on streets where over 90% of the fronting lots are

residential.

D. Collector streets are designed to collect and distribute traffic from higher type arterial streets to local streets or directly to traffic destinations. Collector streets should generally be spaced at 1/2-mile intervals.

E. Local streets are designed to provide direct access to abutting property and connect to collector streets. A general spacing of 8-10 local streets per mile is recommended.

F. Cul-de-sacs and dead end streets are discouraged. If deemed necessary, cul-de-sacs shall be as short as possible and shall not exceed 400 feet in length.

G. Public access lanes are designed to provide primary access to a limited number of dwellings when the construction of a local street is unnecessary.

H. Alleys are designed to provide access to multiple dwellings in areas where lot frontages are narrow and driveway spacing requirements cannot be met.

17.100.120 BLOCKS AND ACCESSWAYS

A. Blocks. Blocks shall have sufficient width to provide for two tiers of lots at appropriate depths. However, exceptions to the block width shall be allowed for blocks that are adjacent to arterial streets or natural features.

B. Residential Blocks. Blocks fronting local streets shall not exceed 400 feet in length, unless topographic, natural resource, or other similar physical conditions justify longer blocks. Blocks may exceed 400 feet if approved as part of a Planned Development, Specific Area Plan, adjustment or variance.

C. Commercial Blocks. Blocks located in commercial districts shall not exceed 400 feet in length.

D. Pedestrian and Bicycle Access Way Requirements. In any block in a residential or commercial district over 600 feet in length, a pedestrian and bicycle accessway with a minimum improved surface of 10 feet within a 15-foot right-of-way or tract shall be provided through the middle of the block. To enhance public convenience and mobility, such accessways may be required to connect to cul-de-sacs, or between streets and other public or semipublic lands or through greenway systems.

17.100.130 EASEMENTS

A minimum eight (8) foot public utility easement shall be required along property lines abutting a right-of-way for all lots within a partition or subdivision. Where a partition or subdivision is traversed by a watercourse, drainage way, channel or stream, the land division shall provide a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse, and such further width as determined needed for water quality and quantity protection.

17.100.140 PUBLIC ALLEYS

A. Public alleys shall have a minimum width of 20 feet. Structural section and surfacing shall conform to standards set by the City Engineer.

B. Existing alleys may remain unimproved until redevelopment occurs. When development occurs, each abutting lot shall be responsible for completion of improvements to that portion of the alley abutting the property.

C. Parking within the alley right-of-way is prohibited except as provided in Section 17.100.140(D) below.

D. An alley with a minimum width of 28 feet may permit parallel parking on one side of the alley only.

17.100.150 RESIDENTIAL SHARED PRIVATE DRIVES

A shared private drive is intended to provide access to a maximum of two (2) dwelling units.

A. Criteria for Approval

Shared private drives may be approved by the Director when one or more of the following conditions exist:

1. Direct access to a local street is not possible due to physical aspects of the site including size, shape, or natural features.
2. The construction of a local street is determined to be unnecessary.

B. Design

1. A shared private drive constructed to city standards shall not serve more than two (2) dwelling units.
2. A shared access easement and maintenance agreement shall be established between the two units served by a shared private drive. The language of the easement and maintenance agreement shall be subject to approval by the Director.
3. Public utility easements shall be provided where necessary in accordance with Section 17.100.130.
4. Shared private drives shall be fully improved with an all weather surface (e.g. concrete, asphalt, permeable pavers) in conformance with city standards. The pavement width shall be 20 feet.
5. Parking shall not be permitted along shared private drives at any time and shall be signed and identified accordingly.

17.100.160 PUBLIC ACCESS LANES

Public access lanes are designed to provide primary access to a limited number of dwellings where the construction of a local street is not necessary. Public access lanes are intended to serve a maximum of six (6) dwelling units.

A. Criteria for Approval

Public access lanes may be approved by the Director when certain conditions exist which make the construction of a standard local street unnecessary. Approval of public access lanes shall be based on one or more of the following:

1. Physical conditions such as natural features, unusual lot size, shape, or other unique features prevent the construction of a local street.

2. It is determined that construction of a local street is not necessary to facilitate orderly development of a future street system.
3. It is determined that there are no logical extensions of an existing local street to serve the site.

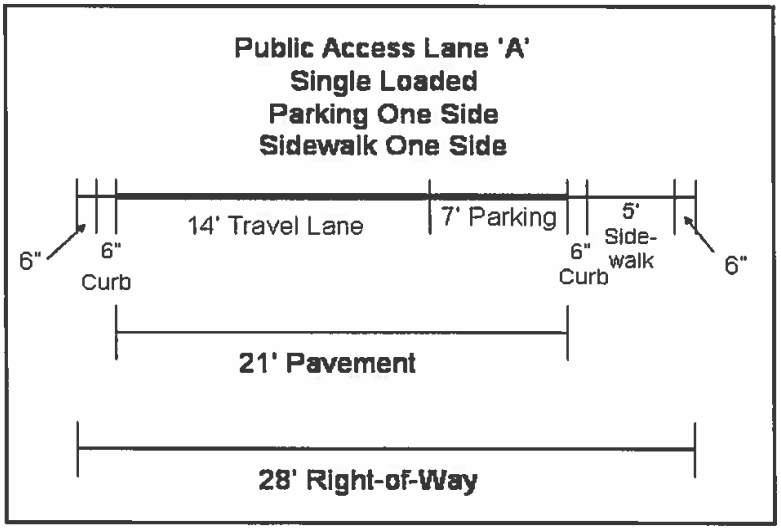
B. General Provisions

1. A public access lane may serve a maximum of six (6) dwelling units.
2. Public access lanes are subject to spacing requirements of Section 17.100.120.
3. Public utility easements shall be provided where necessary in accordance with Section 17.100.130.
4. If a public access lane is designed as a dead end, a turnaround shall be provided at the point where the lane terminates. The design of the turnaround shall be subject to approval by the Director and the Fire Department.
5. Parking shall be prohibited in public access lane turnarounds.

C. Public Access Lane Design

1. Public Access Lane 'A' (Figure 17.100 - A)
   a) Public access lane 'A' is designed to be single loaded and provide access to lots located on one side of the lane only.
   b) Public access lanes shall be constructed to city standards and must meet the required dimensions as specified in this section.
   c) Curbside sidewalks on the side of the lane which abuts lot frontage are along public access lanes to achieve specified dimensions.
   d) Planter strips are not required along public access lanes due to the minimal lots served. Lots abutting a public access lane are required to have street trees planted in accordance with Section 17.100.290.
   e) Parking is permitted on one side of a public access lane 'A' as shown in Figure 17.100 - A. Parking shall be permitted on the side of the lane which abuts lot frontages only. Signage shall be displayed to indicate the parking regulations along the lane and in the turnaround.

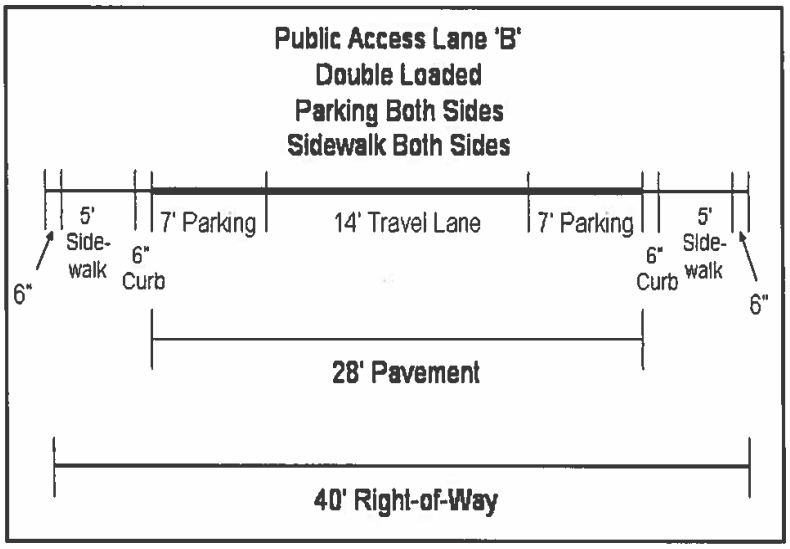
Figure 17.100 – A: Public Access Lane 'A'



Revised by Ordinance No. 2013-04 (effective 07/03/13)

2. Public Access Lane Option 'B' (Figure 17.100 - B).
   a) Public access lane 'B' is designed to be double loaded and provide access to lots located on both sides of the lane.
   b) Public access lanes shall be constructed to city standards and must meet the required dimensions as specified in this section.
   c) Curbside sidewalks are required along both sides of the access lane to achieve specified dimensions.
   d) Planter strips are not required along public access lanes due to the minimal lots served. Lots abutting a public access lane are required to have street trees planted in accordance with Section 17.100.290.
   e) Parking is permitted on both sides of a public access lane 'B' as shown in Figure 17.100 - B. Signage shall be displayed to indicate the parking regulations along the lane and in the turnaround.

Figure 17.100 – B: Public Access Lane 'B'



17.100.170 FLAG LOTS

Flag lots can be created where it can be shown that no other street access is possible to achieve the requested land division. The flag lot shall have a minimum street frontage of 15 feet for its accessway. The following dimensional requirements shall apply to flag lots:

A. Setbacks applicable to the underlying zoning district shall apply to the flag lot.

B. The access strip (pole) may not be counted toward the lot size requirements.

C. The accessway shall have a minimum paved width of 10 feet.

17.100.180 INTERSECTIONS

A. Intersections. Streets shall be laid out so as to intersect as nearly as possible at right angles. A

proposed intersection of two new streets at an angle of less than 75 degrees shall not be acceptable. No more than two streets shall intersect at any one point unless specifically approved by the City Engineer. The city engineer may require left turn lanes, signals, special crosswalks, curb extensions and other intersection design elements justified by a traffic study or necessary to comply with the Development Code.

B. Curve Radius. All local and neighborhood collector streets shall have a minimum curve radius (at intersections of rights-of-way) of 20 feet, unless otherwise approved by the City Engineer. When a local or neighborhood collector enters on to a collector or arterial street, the curve radius shall be a minimum of 30 feet, unless otherwise approved by the City Engineer.

17.100.190 STREET SIGNS

The subdivider shall pay the cost of street signs prior to the issuance of a Certificate of Substantial Completion. The City shall install all street signs and upon completion will bill the developer for costs associated with installation. In addition, the subdivider may be required to pay for any traffic safety devices related to the development. The City Engineer shall specify the type and location of the street signs and/or traffic safety devices.

17.100.200 STREET SURFACING

Public streets, including alleys, within the development shall be improved in accordance with the requirements of the City or the standards of the Oregon State Highway Department. An overlay of asphalt concrete, or material approved by the City Engineer, shall be placed on all streets within the development. Where required, speed humps shall be constructed in conformance with the City's standards and specifications.

17.100.210 STREET LIGHTING

A complete lighting system (including, but not limited to: conduits, wiring, bases, poles, arms, and fixtures) shall be the financial responsibility of the subdivider on all cul-de-sacs, local streets, and neighborhood collector streets. The subdivider will be responsible for providing the arterial street lighting system in those cases where the subdivider is required to improve an arterial street. Standards and specifications for street lighting shall be coordinated with the utility and any lighting district, as appropriate.

17.100.220 LOT DESIGN

A. The lot arrangement shall be such that there will be no foreseeable difficulties, for reason of topography or other conditions, in securing building permits to build on all lots in compliance with the Development Code.

B. The lot dimensions shall comply with the minimum standards of the Development Code. When lots are more than double the minimum lot size required for the zoning district, the subdivider may be required to arrange such lots to allow further subdivision and the opening of future streets to serve such potential lots.

C. The lot or parcel width at the front building line shall meet the requirements of the

Development Code and shall abut a public street other than an alley for a width of at least 20 feet. A street frontage of not less than 15 feet is acceptable in the case of a flag lot division resulting from the division of an unusually deep land parcel which is of a size to warrant division into not more than two parcels.

D. Double frontage lots shall be avoided except where necessary to provide separation of residential developments from arterial streets or to overcome specific disadvantages of topography or orientation.

E. Lots shall avoid deriving access from major or minor arterials. When driveway access from major or minor arterials may be necessary for several adjoining lots, the Director or the Planning Commission may require that such lots be served by a common access drive in order to limit possible traffic hazards on such streets. Where possible, driveways should be designed and arranged to avoid requiring vehicles to back into traffic on minor or major arterials.

17.100.230 WATER FACILITIES

Water lines and fire hydrants serving the subdivision or partition, and connecting the development to City mains, shall be installed to provide adequate water pressure to serve present and future consumer demand. The materials, sizes, and locations of water mains, valves, service laterals, meter boxes and other required appurtenances shall be in accordance with the standards of the Fire District, the City, and the State.

If the city requires the subdivider to install water lines in excess of eight inches, the city may participate in the oversizing costs. Any oversizing agreements shall be approved by the city manager based upon council policy and dependent on budget constraints. If required water mains will directly serve property outside the subdivision, the city may enter into an agreement with the subdivider setting forth methods for reimbursement for the proportionate share of the cost.

17.100.240 SANITARY SEWERS

Sanitary sewers shall be installed to serve the subdivision and to connect the subdivision to existing mains. Design of sanitary sewers shall take into account the capacity and grade to allow for desirable extension beyond the subdivision.

If required sewer facilities will directly serve property outside the subdivision, the city may enter into an agreement with the subdivider setting forth methods for reimbursement by nonparticipating landowners for the proportionate share of the cost of construction.

17.100.250 SURFACE DRAINAGE AND STORM SEWER SYSTEM

A. Drainage facilities shall be provided within the subdivision and to connect with off-site drainage ways or storm sewers. Capacity, grade and materials shall be by a design approved by the city engineer. Design of drainage within the subdivision shall take into account the location, capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas.

B. In addition to normal drainage design and construction, provisions shall be taken to handle

any drainage from preexisting subsurface drain tile. It shall be the design engineer's duty to investigate the location of drain tile and its relation to public improvements and building construction.

C. The roof and site drainage from each lot shall be discharged to either curb face outlets (if minor quantity), to a public storm drain or to a natural acceptable drainage way if adjacent to the lot.

17.100.260 UNDERGROUND UTILITIES

All subdivisions or major partitions shall be required to install underground utilities (including, but not limited to, electrical and telephone wiring). The utilities shall be installed pursuant to the requirements of the utility company.

17.100.270 SIDEWALKS

Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision.

COMMENT: Sidewalks are provided as part of this partition.

17.100.280 BICYCLE ROUTES

If appropriate to the extension of a system of bicycle routes, existing or planned, the Director or the Planning Commission may require the installation of bicycle lanes within streets. Separate bicycle access ways may be required to reduce walking or cycling distance when no feasible street connection is available.

17.100.290 STREET TREES

Where planting strips are provided in the public right-of-way, a master street tree plan shall be submitted and approved by the Director. The street tree plan shall provide street trees approximately every 30' on center for all lots.

COMMENT: Street trees will be provided as part of this partition.

17.100.300 EROSION CONTROL

Grass seed planting shall take place prior to September 30th on all lots upon which a dwelling has not been started but the ground cover has been disturbed. The seeds shall be of an annual rye grass variety and shall be sown at not less than four pounds to each 1000 square feet of land area.

17.100.310 REQUIRED IMPROVEMENTS

The following improvements shall be installed at no expense to the city, consistent with the design standards of Chapter 17.84, except as otherwise provided in relation to oversizing.

A. Drainage facilities
B. Lot, street and perimeter monumentation

C. Mailbox delivery units
D. Sanitary sewers
E. Sidewalks
F. Street lights
G. Street name signs
H. Street trees
I. Streets
J. Traffic signs
K. Underground communication lines, including broadband (fiber), telephone, and cable. Franchise agreements will dictate whether telephone and cable lines are required.
L. Underground power lines
M. Water distribution lines and fire hydrants

17.100.320 IMPROVEMENT PROCEDURES

Improvements installed by a land divider either as a requirement of these regulations or at his own option shall conform to the design standards of Chapter 17.84 and improvement standards and specifications adopted by the city. Improvements shall be installed in accordance with the following general procedure:

A. Improvement work shall not start until plans have been checked for adequacy and approved by the city engineer. To the extent necessary for evaluation of the proposal, improvement plans may be required before approval of the tentative plan of a partition or subdivision.

B. Improvement work shall not start until after the city is notified. If work is discontinued for any reason it shall not resume until the city is notified.

C. Improvements shall be constructed under the inspection and to the satisfaction of the city engineer.

D. All improvements installed by the subdivider shall be guaranteed as to workmanship and material for a period of one year following acceptance by the City Engineer. Such guarantee shall be secured by cash deposit in the amount of the value of the improvements as set by the City Engineer.

E. A map showing public improvements as built shall be filed with the city engineer upon completion of the improvements.

17.100.330 OPTIONS FOR IMPROVEMENTS

Before the signature of the City Engineer is obtained on the final partition or subdivision plat, the applicant shall install the required improvements, agree to install required improvements, or have gained approval to form an improvement district for installation of the improvements required with the tentative plat approval. These procedures are more fully described as follows:

A. Install Improvements. The applicant may install the required improvements for the subdivision prior to recording the final subdivision plat. If this procedure is to be used, the subdivision plat shall contain all the required certifications except the County Surveyor and the Board of County Commissioners. The City shall keep the subdivision plat until the

improvements have been completed and approved by the City Engineer. Upon City Engineer's approval, the City shall forward the final subdivision plat for certification by the Board of County Commissioners and then to the County Clerk for recording; or

B. Agree to Install Improvement. The applicant may execute and file with the City an agreement specifying the period within which required improvements shall be completed. The agreement shall state that if the work is not completed within the period specified, the City may complete the work and recover the full cost and expense from the applicant. A performance guarantee shall be required. The agreement may provide for the construction of the improvements in increments and for an extension of time under specified conditions; or

C. Form Improvement District. The applicant may have all or part of the public improvements constructed under an improvement district procedure. Under this procedure the applicant shall enter into an agreement with the City proposing establishment of the district for improvements to be constructed, setting forth a schedule for installing improvements, and specifying the extent of the plat to be improved. The City reserves the right under the improvement district procedure to limit the extent of improvements in a subdivision during a construction year and may limit the area of the final subdivision plat to the area to be improved. A performance guarantee shall be required under the improvement district procedure. The formation of a LID is entirely within the discretion of the city.

17.100.340 PERFORMANCE GUARANTEE

If the applicant chooses to utilize the opportunities provided under "A" or "B" above, the applicant shall provide a performance guarantee equal to 110% of the cost of the improvements to assure full and faithful performance thereof, in one of the following forms:

A. A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the City Attorney.

B. In lieu of the surety bond, the applicant may:
   1. Deposit with the City cash money to be released only upon authorization of the City Engineer;
   2. Supply certification by a bank or other reputable lending institution that money is being held to cover the cost of required improvements to be released only upon authorization of the City Engineer;
   3. Supply certification by a bank or other reputable lending institution that a line of credit has been established to cover the cost of required improvements, to be utilized only upon authorization of the City Engineer; or
   4. Provide bonds in a form approved by the City Attorney.

C. Such assurance of full and faithful performance shall be for a sum determined by the City Engineer as sufficient to cover the cost of required improvements, including related engineering and incidental expenses.

D. If the applicant fails to carry out provisions of the agreement and the City has expenses resulting from such failure, the City shall call on the performance guarantee for reimbursement. If the amount of the performance guarantee exceeds the expense incurred, the remainder shall be released. If the amount of the performance guarantee is less than the

expense incurred, the applicant shall be liable to the City for the difference.

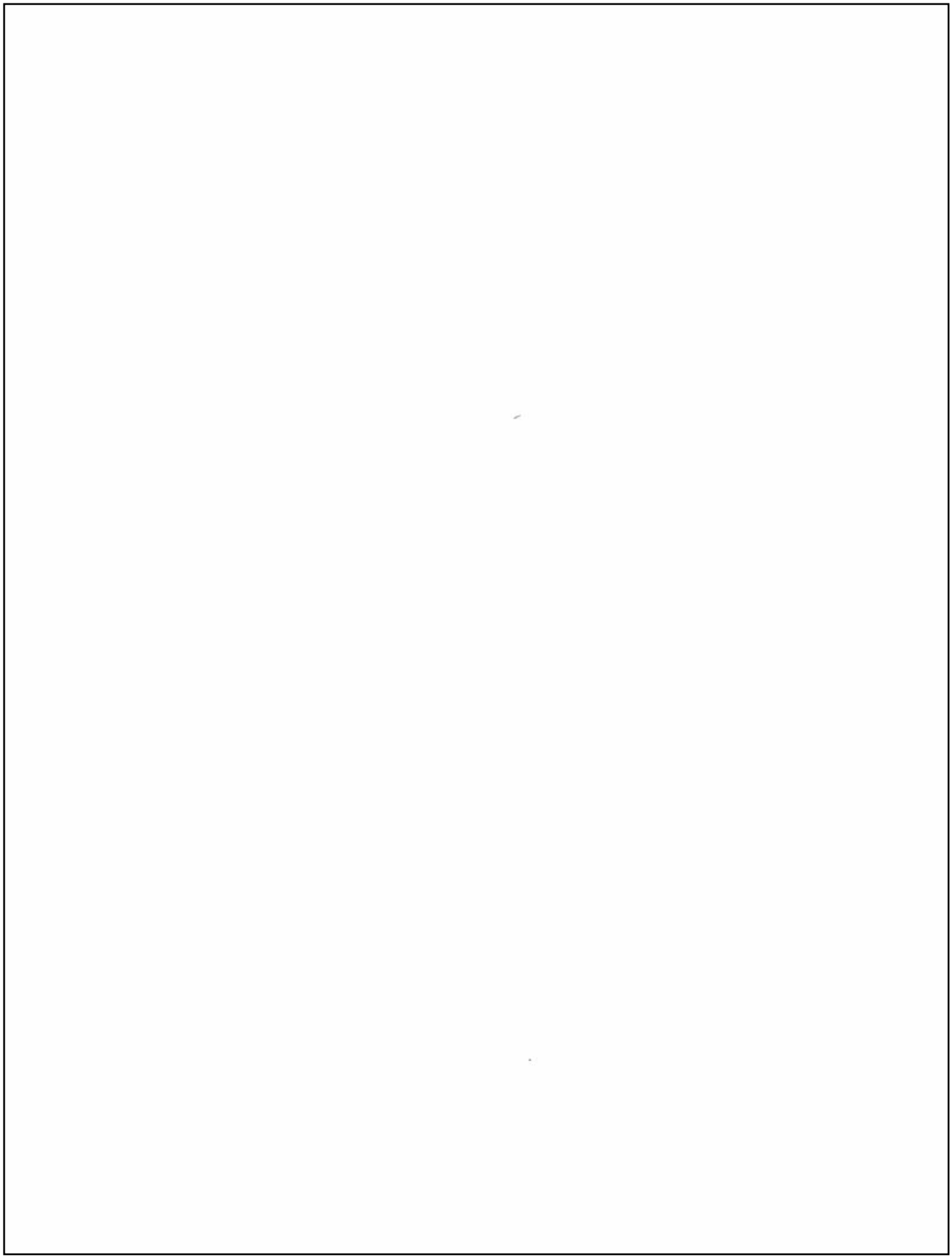


EXHIBIT D

#25840

AGREEMENT CREATING MUTUAL EASEMENTS

THIS AGREEMENT made this 19 day of April, 1984, between THE SOUTHLAND CORPORATION, a Texas corporation (herein "Southland"), with principal offices at 2828 N. Haskell Ave., Dallas, Texas 75204, and FRANCES CALKINS, residing in Sandy, Oregon.

WHEREAS, Southland is the owner of real estate located in Clackamas County, Oregon; more particularly described as Parcel I in Exhibit A attached hereto and made a part hereof (herein "Parcel I"); and,

WHEREAS, FRANCES CALKINS is the owner of real estate located in Clackamas County, Oregon; more particularly described in Parcel II in Exhibit A attached hereto and made a part hereof (herein "Parcel II"); and,

WHEREAS, Southland and Frances Calkins (collectively "Parties") by this Agreement desire to create certain reciprocal mutual easements over and across a portion of Parcel I (herein "Parcel III") more particularly described in Exhibit A attached hereto and made a part hereof, and a portion of Parcel II (herein Parcel IV") more particularly described in Exhibit A attached hereto and made a part hereof. (Parcel III and Parcel IV are collectively referred to as the "Easement Area".)

NOW THEREFORE for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration paid by each to the other, and the mutual benefits to be derived herefrom, Southland and Frances Calkins do hereby agree as follows:

1. Southland and Frances Calkins hereby grant to each other a mutual, reciprocal, and non-exclusive easement, right, and privilege of ingress and egress, both pedestrian and vehicular, over and across the Easement Area from Parcel I to Parcel II and from Parcel II to Parcel I.
2. Southland and Frances Calkins agree that no barriers, fences, curbs, walls, ditches, barricades or other structures or obstacles will be erected on, along or adjacent to the common boundary line between Parcel III and Parcel IV so as to unreasonably burden or interfere with, impede, slow, divert or in any way prevent vehicular and pedestrian traffic from freely passing across the Easement Area to Parcel I and to Parcel II. This Agreement is not to be interpreted as being intended to prevent Southland from ~~constructing, operating and maintaining a self-service gasoline installation on Parcel I or the further or~~ additional development on or use of Parcel I or Parcel II from time to time, so long as such development does not unreasonably interfere with the rights and privileges granted and created herein. The easements, rights and privileges hereinbefore granted shall be used and enjoyed in such a manner as to cause the least possible interference with the conduct and operations of any business now or hereinafter existing on Parcel I or Parcel II.
3. The easements created and granted hereby shall be easements and covenants running with the land, and shall enure to the benefit of, and be binding upon Southland and Frances Calkins and all future owners of all or any portion of Parcel I or Parcel II and their respective heirs, successors and assigns. The owner or owners from time to time of Parcel I or Parcel II may grant the benefit of such easement to its tenants, franchisees, or affiliates, now or hereafter occupying a building or portions thereof on said Parcels for the period of such tenancy, and to the customers, employees, and business invitees of said owner or owners and tenants, franchisees or affiliates, but the same is not intended, and shall not be construed as creating any rights in and for the benefit of the general public.
4. The parties agree that Southland shall be solely responsible for the maintenance and repair of Parcel III, and that Frances Calkins shall be solely responsible for the maintenance and repair of Parcel IV.
5. Southland covenants with respect to Parcel III and Frances Calkins covenants with respect to Parcel IV that it owns said parcel in fee simple, that it has full power and authority to grant the easement provided for herein, and that it will forever warrant and defend the easement interest herein granted against all those claiming by, through or under it, but not otherwise.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

ATTEST:

Frances Calkins
Frances Calkins

DATED: April 19, 1984

84 13677

APR 25 1984

#25840

APR 25 1984

STATE OF TEXAS §
§
COUNTY OF DALLAS §

BEFORE ME, the undersigned, a Notary Public, on this day personally appeared Rulon Brough, Vice President, and Bryan F. Smith, Jr., Assistant Secretary, known to me to be the persons and officers whose names are subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said The Southland Corporation, and that they have executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 17th day of April, A.D. 1984.

(Notarial Seal)

Notary Public

My Commission Expires 3-12-88

STATE OF OREGON,

FORM NO. 33 — ACKNOWLEDGMENT

County of Clackamas

BE IT REMEMBERED, That on this 19 day of April, 19 84 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Frances Calkins

known to me to be the identical individual described in and who executed the within instrument and acknowledged to me that she executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

(SEAL)

Notary Public for Oregon.

My Commission expires 6/23/87

(Notarial Seal)

2

#25840

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

Attest:

Assistant Secretary

THE SOUTHLAND CORPORATION

By: _____
Vice President

Attest:

Secretary

CALIFORNIA ASSOCIATES, INC.

By: _____
President

APR 25 1984

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#25840

EXHIBIT A

Parcel 1

Beginning at an iron pipe which is 40 feet east of the northeast corner of Block 2 of the Otto Meinig's Third Addition to Sandy, Oregon, as recorded in Volume 11, page 30, records of Town Plats of Clackamas County, Oregon; thence South 83° 57' East 190 feet to an iron pipe and the true point of beginning for the tract herein described; thence South 83° 57' East 20 feet to an iron pipe; thence South 77.4 feet to an iron pipe; thence South 89° East 89.2 feet to an iron pipe; thence South 7° West 5.9 feet to an iron pipe; thence South 89° East 7.2 feet to an iron pipe; thence South 1° 30' West 5.8 feet to an iron pipe; thence South 79° East 98.3 feet to an iron pipe; thence South 9° West 125.2 feet more or less to the North boundary line of Highway 26; thence North 79° 42' West along the north boundary line of Highway 26, 201.8 feet to an iron pipe; thence North 188 feet to the place of beginning, being situated in the County of Clackamas and State of Oregon.

Beginning at an iron pipe which is 40 feet East of the northeast corner of Block 2 of Otto Meinig's Third Addition to Sandy, Oregon, as recorded in Volume 11, page 30, records of Town Plats of Clackamas County, Oregon; thence South 83° 57' East 190 feet to an iron pipe and the true point of beginning for the tract herein described; thence South 83° 57' East 20 feet to an iron pipe; thence South 77.4 feet to an iron pipe, thence South 89° East 89.2 feet to an iron pipe; thence North 1° 32' East 69.4 feet to an iron pipe; thence North 83° 57' West 96.6 feet to the point of beginning, all in the County of Clackamas, State of Oregon.

LESS AND EXCEPT:

A tract of land situated in the N.E. 1/4 of Section 13, T 2S, R 4E, W.M. City of Sandy, Clackamas County, Oregon, being described as follows:

Beginning at an iron pipe at the intersection of the south R/W line of Pleasant Avenue with the westerly R/W line of Ten Eyck Rd., County Road No. 675; thence S 39° 58' 37" W along the westerly R/W line of Ten Eyck Road, a distance of 115.99 feet to an iron pipe; said point being the true point of beginning of the tract herein to be described; thence leaving said westerly R/W line and running N 81° 27' 08" W a distance of 143.05 feet to an iron rod; thence S 9° 00' 00" W a distance of 109.36 feet to an iron rod in the northerly R/W line of Mt. Hood Highway 26, Westbound, also known as Proctor Avenue; thence S 78° 22' 15" E along said northerly R/W line a distance of 74.74 feet to an iron rod at the intersection of said northerly R/W line with the westerly R/W line of Ten Eyck Road; thence N 39° 58' 37" E along said westerly R/W line a distance of 132.86 feet to the true point of beginning.

Parcel II

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence N 81° 00' W a distance of 30.00 feet; thence S 9° 00' W a distance of 28.70 feet to a point in the northerly R/W line of Mt. Hood Highway 26; thence tracing said R/W line a distance of 21.17 feet along the arc of a 2904.79 foot radius curve to the right through a central angle of 0° 25' 03" (the chord of which bears S 78° 22' 15" E, 21.17 feet) to a point of tangency; thence S 78° 22' 15" E along said northerly R/W line a distance of 8.86 feet to the point of beginning.

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APR 25 1984

#25840

Parcel III

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence S 81° 00' E a distance of 70.00 feet; thence N 9° 00' E a distance of 26.59 feet; thence S 81° 00' E a distance of 40.69 feet to a point in the westerly R/W line of Ten Eyck Road, County Road No. 675; thence S 39° 58' 37" W along said westerly R/W line a distance of 64.32 feet; thence leaving said westerly R/W line and running N 78° 22' 15" W a distance of 32.70 feet; thence S 11° 37' 45" W a distance of 5.00 feet to a point in the northerly R/W line of Mt. Hood Highway 26, Westbound, also known as Proctor Avenue; thence N 78° 22' 15" W along said northerly R/W line a distance of 44.74 feet to the point of beginning.

APR 25 1964

Parcel IV

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence N 81° 00' W a distance of 30.00 feet; thence S 9° 00' W a distance of 28.70 feet to a point in the northerly R/W line of Mt. Hood Highway 26; thence tracing said R/W line a distance of 21.17 feet along the arc of a 2904.79 foot radius curve to the right through a central angle of 0° 25' 03" (the chord of which bears S 78° 22' 15" E, 21.17 feet) to a point of tangency; thence S 78° 22' 15" E along said northerly R/W line a distance of 8.86 feet to the point of beginning.

STATE OF OREGON } ss
County of Clackamas }

I, Juanita N. Orr, County Clerk, Ex Officio Recorder of Conveyances of the State of Oregon for the County of Clackamas, do hereby certify that the instrument of writing was received for record and is of record in the records of said County at

Witness my hand and seal affixed

JUANITA N. ORR
County Clerk

Deputy

Recording Certificate

CCP No. A-1 13677

EXHIBIT E

Technical Memorandum

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503 248 0313
fax: 503 248 9251
lancasterengineering.com

To: Zach Bonsall, Braden Bernards

Copy: Cole Valley Partners

From: Rocky Martin, EI
Brian Davis

Date: November 28, 2018

Subject: 39625 Proctor Boulevard Dutch Bros. Traffic Analysis Letter

Introduction

This memorandum is written to address the Traffic Analysis Letter (TAL) requirements set forth by the City of Sandy with regards to a proposed 824 square foot Dutch Bros. drive-through coffee facility at 39625 Proctor Boulevard in Sandy, Oregon.

Trip Generation

To estimate the trip generation from the proposed facility, trip rates were taken from the *Trip Generation Manual, Tenth Edition*, published by the Institute of Transportation Engineers (ITE). The trip rates used were those given for land-use category 938, *Coffee/Donut Shop with Drive-Through Window and No Indoor Seating*, based on square footage.

The proposed development is expected to attract pass-by trips and diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway (such as Proctor Boulevard) to patronize a land-use and then continue in their original direction of travel. Diverted trips are trips that divert from a nearby roadway (such as Pioneer Boulevard) not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips and diverted trips do not add new trips to the area roadways, but do add additional turning movements at site access intersections. Pass-by and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. To estimate daily traffic volumes, the average of the morning and evening peak hour pass-by rates was used.

The primary trip generation during the morning peak hour is projected to be 48 trips, with 24 trips entering and exiting the site. During the evening peak hour, the site is projected to generate 8 primary trips, with 4 trips entering and exiting the site. The following table offers a summary of the trip generation.

Table 1: Trip Generation Summary

	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Weekday Total
Proposed Development								
Dutch Bros. Facility	824 s.f.	139	139	278	34	34	68	1648
Pass-by (AM: 83%, PM: 89%)		115	115	230	30	30	60	1417
Net New Trips		**24**	**24**	**48**	**4**	4	8	**231**

Detailed trip generation calculations are included in the appendix to this report.

City of Sandy Standards

Access Driveway Width Standards

Section 17.98.100(A) of the City of Sandy Development Code requires a minimum driveway width of 20 feet for two-way driveways. The existing driveway access at 39695 is 40 feet wide. This standard is met and no mitigations are required.

Minimum City Street Intersection Spacing Standards

According to Section 17.98.90(A) of the City of Sandy Development Code, the minimum distance between an intersection and a proposed access to an Arterial roadway is 150 feet. As there are no new access driveways proposed, a design exception is proposed to grant access to Proctor Boulevard via the existing access driveway, located at 39695 Proctor Boulevard.

City of Sandy TSP Frontage Improvement Requirements

Section 17.84.50 of the City of Sandy Transportation System Plan (TSP) states that *"If there a development site abuts an existing public street not improved to City standards, the abutting street shall be improved to City standards along the full frontage of the property concurrent with development."* Based on a review of the TSP, it is necessary to ensure that the sidewalk corridor along the frontage is 8 feet; this is met in the site plan.

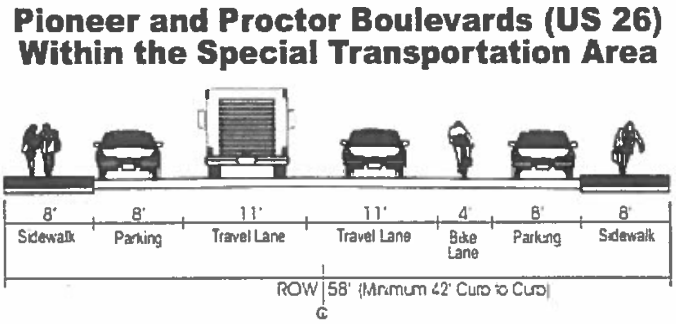


Figure 1: Sandy TSP Requirements for Proctor Boulevard Cross Section

Safety Analysis

Crash data and intersection sight distance analyses were conducted for the study area intersection. The analyses are detailed below, and extensive data are available in the technical appendix of this report.

Crash Data Analysis

Using data obtained from ODOT's Crash Data System, a review of the most recent available five years of crash data (January of 2012 to December of 2016) at the intersection of Proctor Boulevard at SE Ten Eyck Road was performed.

Three crashes were reported at the study intersection. Two of the crashes were rear-end collisions and one was a turning-movement collision. Two of the crashes reported property damage only, and one crash reported a possible injury or complaint of pain. No crash patterns were identified.

Intersection Sight Distance

Intersection sight distance (ISD) was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. Vehicle/object height is assumed to be 3.5 feet above the cross-street pavement.

Sight distance was examined at the existing driveway access location at 39695 Proctor Boulevard. As the speed limit is 25 mph at this location, the required ISD is 280 feet. ISD to the east was measured to be in excess of 1,000 feet, clear through the intersection at SE Ten Eyck Road. ISD requirements are met and no

mitigation is necessary. The following figure depicts what a driver can expect to see from the assumed driver's eye location.

Figure 2: ISD from Proposed Access

Conclusions

The proposed coffee facility is projected to generate 48 new primary site trips in the AM peak hour, 8 new primary trips in the PM peak hour, and 231 new primary daily trips.

The City of Sandy development standards for access driveway widths, minimum intersection spacing, and intersection sight distance are met, and no mitigations are necessary or recommended.

If you require any further assistance or have any questions, please feel free to contact us.

Appendix

EXHIBIT F

Cascade Environmental Solutions, LLC
PO Box 83924 8420 North Ivanhoe Street
Portland, Oregon 97203
Phone: 503.805.4846
www.cascade-environmental.com

Phase I Environmental Site Assessment: Former Sandy Oil

Property Location:
39625 Proctor Boulevard, Sandy, Oregon

Prepared For:

CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212
Attn: John Zachary Bonsall, and tenant:

Dutch Bros. O.C. LLC
1002 Main St.
Oregon City, OR 97045
Attn: Abe Menshenfriend

Prepared By:

Cascade Environmental Solutions
Portland, Oregon

Project: FORMER SANDY OIL

2 November 2018

CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212
Attn: John Zachary Bonsall,
and tenant:

Dutch Bros. O.C. LLC
1002 Main St.
Oregon City, OR 97045
Attn: Abe Menshenfriend

Subject: Phase I Environmental Site Assessment
39625 Proctor Boulevard
Sandy, Oregon 97055

Dear Messrs. Menshenfriend and Bonsall:

Cascade Environmental Solutions (Cascade Environmental) has prepared this Phase I Environmental Site Assessment (ESA) for the property located at 39625 Proctor Boulevard in the city of Sandy, Oregon (project site). This Phase I ESA was performed in accordance with the standards and practices for all appropriate inquiries specified in Title 40, Chapter 1 of the Code of Federal Regulations Part 312 and American Society for Testing and Materials (ASTM) Standard E1527-13. Following is a summary of the Phase I findings:

Phase I ESA Executive Report summary

The project site, located at 39625 Proctor Boulevard in Sandy, Oregon, encompasses map tax lot 24E13AC05500. The most recent sale of the property occurred 08/01/2017 to Westfield Properties, LLC.

- The former Sandy Oil project site is a vacant commercial lot in the city of Sandy, Oregon in Clackamas County. The project site is a 0.65-acre (27,639 sq. ft) lot. It fronts both Highway 26 (Proctor) and Pleasant Street in downtown Sandy. The property is located in Section 13, Township 2 South, Range 4 East of the Willamette Meridian.
- Development in the project site's immediate vicinity is a mixture of residential, light commercial and retail. Adjacent to the east, at the corner of Proctor and SE Ten Eyck Road, sits a small retail complex with a 7-Eleven convenience store and a Money Gram storefront. Adjacent to the west is a Mattress World. One residence is located

northwest of the project site and another sits northeast of the project site. A funeral home and houses are located across Pleasant Street. Directly across Proctor Boulevard is a landscaped street median and a small one-way turning lane on Proctor. Southwest, across Proctor is an ARCO gas station and convenience store.

- The City of Sandy has a population of approximately 10,855 people in a total area of 3.14 square miles. The Mt. Hood Scenic Byway winds through town, once a stopover on the last leg of the Oregon Trail. The city is considered to be on the eastern edge of the Portland Metro area.

- The property is located approximately 1016 ft above sea level. The closest body of water is Cedar Creek, an offshoot of the Sandy River, approximately 2,000 feet to the north-northeast. The topography in the area has between 0 to 7 percent slopes.

- The site was used as a bulk petroleum storage and retail service station from the 1930s through the 1980s and was abandoned in 1989. Sandy Oil Company operated a petroleum bulk storage facility and retail service station at the project site, leaving behind 13 underground storage tanks containing unknown amounts of diesel, gasoline, and heating fuel oil. In February 1989, a prospective purchaser discovered petroleum contamination in soils and shallow groundwater during an environmental assessment of the site. In April 1992, the Sandy Fire Department discovered potentially explosive concentrations of gasoline vapors in a storm drain downgradient from the site. The Sandy Oil site was thought to be the source of the vapors, and Oregon Department of Environmental Quality (DEQ) installed an interceptor trench at the site to try and contain the contamination. (It was later determined that the source of the storm drain contamination was a BP service station at the corner of Revenue Avenue and Proctor Blvd). In February 1994, DEQ contractors removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site. Funding for this removal came from the Orphan Site Account. (The site was officially designated as an Orphan in June 1995). The project site was then listed on the Department of Environmental Quality's Environmental Cleanup Site Information Database as Site #1691.

  In June 1999, DEQ retained Ecology & Environment to conduct a Site Investigation and Removal Assessment of groundwater contamination. Benzene and other gasoline constituents were found to be migrating off-site in groundwater. Low levels of benzene were also found in the indoor air of an adjacent residential property. DEQ installed a vapor barrier at the residence to address the vapor issue. In June 2001, DEQ installed a groundwater treatment system at the site. The evaluation of site was completed in September 2003 with the result that additional information was needed to evaluate a possible risk of vapor migration from soils to indoor air (commercial). Soil vapor sampling was proposed as the best way to assess the risk posed by remaining site soils. A vapor extraction system/air sparging system was installed and subsequently shut down in early 2004, after groundwater concentrations were dramatically reduced in project site and down-gradient wells. In May 2004, groundwater results indicated some rebound to levels just above RBCs for vapor intrusion to a residence in the wells along the western property

line. In October 2004 samples, groundwater concentrations were around the residential vapor intrusion RBC, and are well below occupational RBCs.

In 2007, DEQ issued a conditional No Further Action (NFA) letter and stated that the property may not be *used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.*

The NFA constitutes a historical recognized environmental condition (HREC) for the project site. Additionally, after review of the documents and data available for the project site, Cascade Environmental recommends further investigation of the soil, groundwater and soil vapor at the site, to ensure that any remaining contamination that exists remains below occupational levels and that future users of the project site will be protected.

- Two areas of fill material were observed at the project site in the vicinity of the former tank cavities. Evidence of undocumented fill is indicative of a potential REC for the project site. Cascade environmental recommends testing of the fill material to ensure that the fill material is void of contamination and safe to use during redevelopment of the site.

- Several properties adjacent and surrounding the project site were identified on various environmental databases:

    - The ARCO gas station across Proctor Boulevard is actively being monitored for soil vapor Issues and was monitored for soil and groundwater contamination from 1992 until 2017. Based on the inferred direction of groundwater flow, the regulatory status of the site and the proximity to the project site, this site does not pose a recognized environmental condition (REC) to the project site.

    - The Mattress World property, adjacent to the west of the project site, has a leaking home heating oil tank that is listed as having undergone a soil matrix cleanup with a DEQ status of unassigned. This cleanup is a HREC for the project site, however based on the inferred direction of groundwater flow, of west-northwest this historical cleanup likely does not pose an environmental risk to the project site.

      Cascade Environmental recommends sampling on the western boundary, near the Mattress World site, to ensure no environmental risk exists for the project site. Additionally, due to the proximity of the project site, Cascade Environmental recommends contacting Oregon DEQ and inquiring about the unassigned regulatory status of this site.

    - The 76 station west of the Mattress World has a conditional No Further Action status because cleanup of the contamination would endanger structures and utility lines or be prohibitively expensive.

Based on the inferred direction of groundwater flow, of west-northwest, and the distance from the project site, this site likely does not pose an environmental risk to the project site.

REPORT CONCLUSION

Based on the results of this Phase I ESA, Cascade Environmental recommends further investigation at the project site based on the following RECs discovered:

1) The NFA for the project site constitutes a HREC. Additionally, after review of the documents and data available for the project site, further investigation is warranted to ensure that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected.

2) Two areas of fill material were observed at the project site in the vicinity of the former tank cavities. Evidence of undocumented fill is indicative of a potential REC for the project site. Cascade environmental recommends testing of the fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment of the site.

3) The cleanup on the adjacent site to the west is a HREC for the project site. Cascade Environmental recommends investigation on the western boundary, near the Mattress World site, to ensure no environmental risk exists for the project site. Additionally, due to the proximity of the project site, Cascade Environmental recommends contacting Oregon DEQ and inquiring about the unassigned regulatory status of the adjacent site.

We appreciate the opportunity to be of service to you. Please contact us if you have questions regarding this report.

Sincerely,

Cascade Environmental Solutions

Jennifer Levy
Principal

FROELICH ENGINEERS

Structural and Civil Engineers
with Integrity, Flexibility & Creativity

EXHIBIT G

Stormwater Narrative
Dutch Bros - Sandy

Prepared by: Evan Eykelbosch, PE
Froelich Engineers
.. . .0 SW Upper Boones Ferry Rd, Suite 115
Portland, OR 97224

Project Number: 18-C023

Date: November 27, 2018

The proposed Dutch Bros project is located at 39625 Proctor Blvd in Sandy Oregon. The project site is approximal 28,000 sf and is an L-shaped property abutting both Proctor and Pleasant. The proposed development will subdivide the southern portion of this lot for this development. The northern portion will remain undeveloped for the time being. The lot is currently undeveloped but was previously used as a gas station. The site has documented contamination. Due to site contamination, development of the site requires the oversight of an environmental engineer. Infiltration is not allowed on this site.

The proposed development will include an 800sf +/- Dutch Bro's with a drive-through, parking lot and pedestrian patio (See attached – Utility Plan). The site is divided into three drainage basins that collects runoff within three Flow-Through-Planters (FTP) for stormwater treatment (See attached – Basin). Runoff is then conveyed into a centralized below grade detention system for detention and flow control. Runoff will drain out of the detention facility and tie into 8" stormwater line in Pleasant Street.

The City of Sandy has adopted the City of Portland Stormwater Manual with modified SBUH rain events (See attached – Assumptions). The proposed FTP's were sized using the City of Portland Presumption Approach Calculator (See attached PAC). The below grade detention and flow control system was designed using the HydroCAD software (See attached – HydroCAD). Per City of Sandy requirements, the site must detain the post developed runoff to match the predeveloped runoff from the 2-yr, 5-yr, 10-yr and 25-yr events.

The site is required to provide conveyance for the 25-yr event. The peak runoff for the 25-yr event is 0.53cfs. Using Manning Equation, a 6-inch pipe with 1% slope is capable of conveying this entire event (See attached – Conveyance).

Evan Eykelbosch, PE
Civil Department Manager

Santa Barbara Unit Hydrogragh (SBUH) Assumptions:

(used for Conveyance and Flow Control)

Water Quality (WQ) Storm Event =	**0.83**	in/24-hours	BES
2-year Storm Event=	**3.5**	in/24-hours	Sandy
5-year Storm Event=	**4.5**	in/24-hours	Sandy
10-year Storm Event=	**4.8**	in/24-hours	Sandy
25-year Storm Event=	**5.5**	in/24-hours	Sandy
Time of Concentration	**5.0**	minutes	
Roughness Coefficient	**0.013**		

Curve Number Assumptions:

Impervious Area =	**98**		
Pervious Area =	**73**	Existing	Type C - Woods, Fair

PAC

PAC Report

Project Name Dutch Bros - Sandy	Permit No.	Created 11/6/18 11:57 AM
Project Address 39625 Proctor Blvd Sandy, OR 97055	Designer EME	Last Modified 11/27/18 4:13 PM
	Company Froelich Engineers	Report Generated 11/27/18 4:13 PM

Project Summary

Dutch Bros drive through

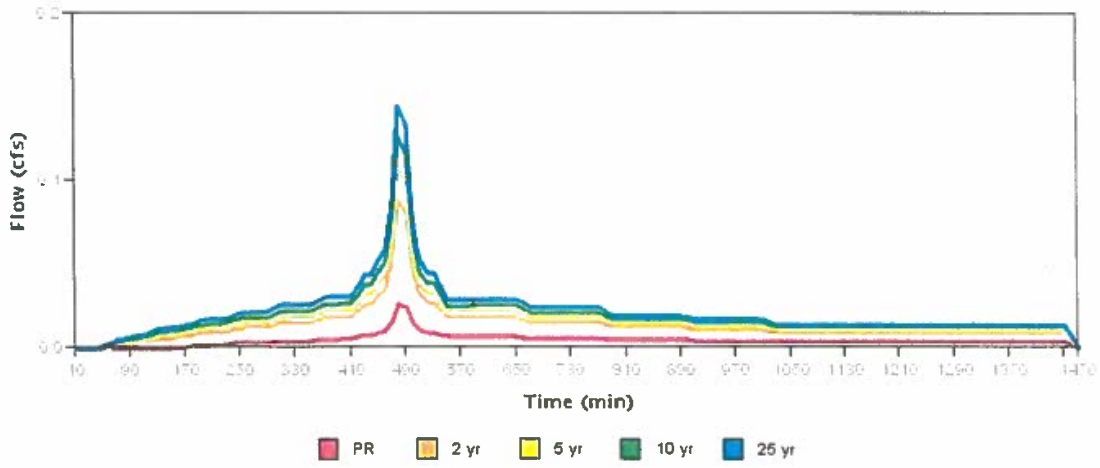
Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
Basin A	[illegible]	0.00	[illegible]	Planter (Flat)	[illegible]	[illegible]	[illegible]	Pass	Not Used
Basin B	[illegible]	0.00	[illegible]	Planter (Flat)	[illegible]	[illegible]	[illegible]	Pass	Not Used
Basin C	[illegible]	[illegible]	[illegible]	Planter (Flat)	[illegible]	[illegible]	[illegible]	Pass	Not Used

Catchment Basin A

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	**Open Pit Falling Head**
	Native Soil Infiltration Rate (I_{test})	0.00 ⚠
Correction Factor	CF_{test}	2
Design Infiltration Rates	Native Soil (I_{dsgn})	0.00 in/hr ⚠
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	12
	Hierarchy Description	**Off-site flow to drainageway, river, or storm-only pipe system**
	Pollution Reduction Requirement	basic
	10-year Storm Requirement	N/A
	Flow Control Requirement	N/A
	Impervious Area	**6200 sq ft** 0.143 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN_{pre})	74
	Post-Development Curve Number (CN_{post})	98

⚠ Indicates value is outside of recommended range

SBUH Results

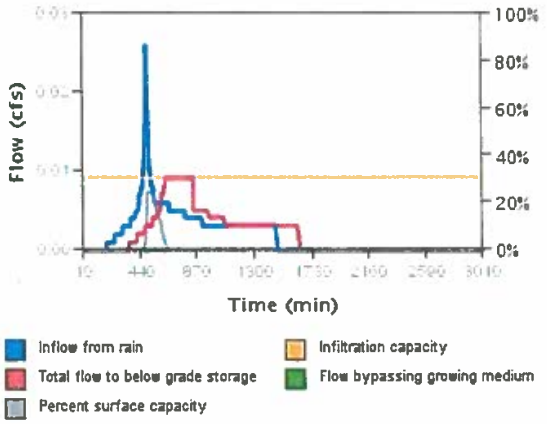


	Pre-Development Rate and Volume		Post-Development Rate and Volume	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
PR	X	0.358	0.026	323.967
2 yr	0.008	246.713	0.088	1121.864
5 yr	0.018	387.113	0.107	1378.858
10 yr	0.029	545.635	0.126	1636.175
25 yr	0.042	718.375	0.145	1893.765

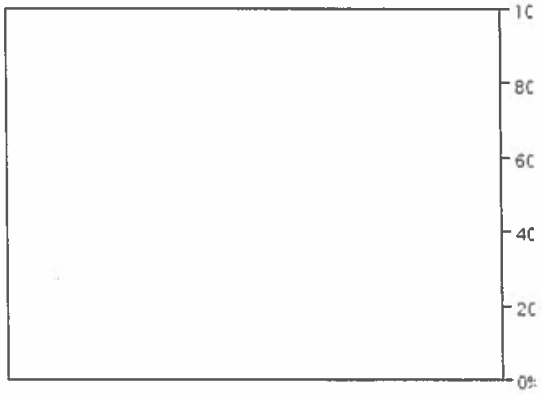
Facility Basin A

Facility Details	Facility Type	**Planter (Flat)**
	Facility Configuration	**D: Lined Facility with RS and [illegible]**
	Facility Shape	**Planter**
	Above Grade Storage Data	
	Bottom Area	**202 sq ft**
	Bottom Width	**[illegible]**
	Storage Depth 1	**[illegible]**
	Growing Medium Depth	**[illegible]**
	Surface Capacity at Depth 1	**[illegible]**
	Design Infiltration Rate for Native Soil	**[illegible]**
	Infiltration Capacity	**[illegible]**
Facility Facts	Total Facility Area Including Freeboard	**202.00 sq ft**
	Sizing Ratio	**[illegible]**
[illegible]	Pollution Reduction Score	**[illegible]**
	Overflow Volume	**[illegible]**
	Surface Capacity Used	**[illegible]**
[illegible]	Flow Control Score	**[illegible]**
	Overflow Volume	**[illegible]**
	Surface Capacity Used	**[illegible]**

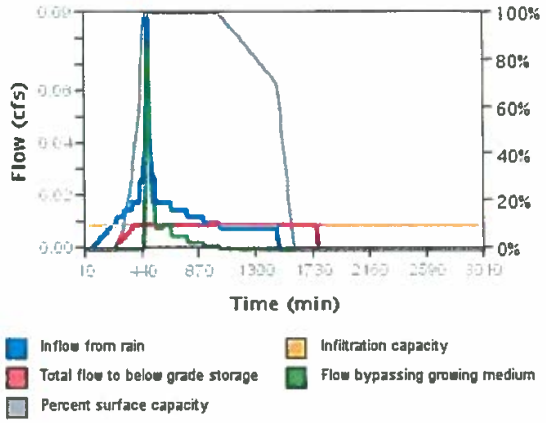
Pollution Reduction Event Surface Facility Modeling



Pollution Reduction Event Below Grade Modeling

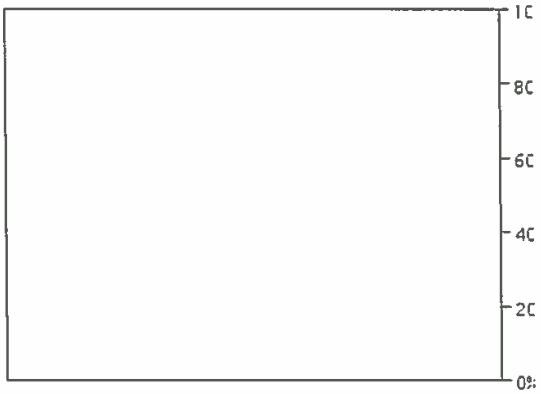


2 Year Event Surface Facility Modeling

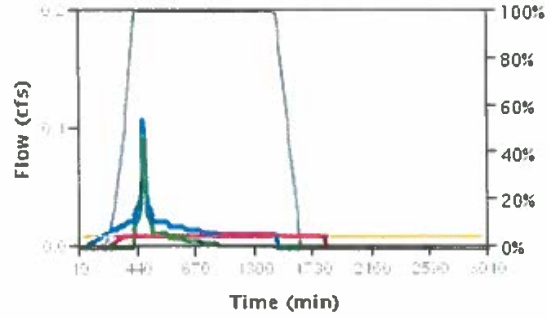


Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

2 Year Event Below Grade Modeling

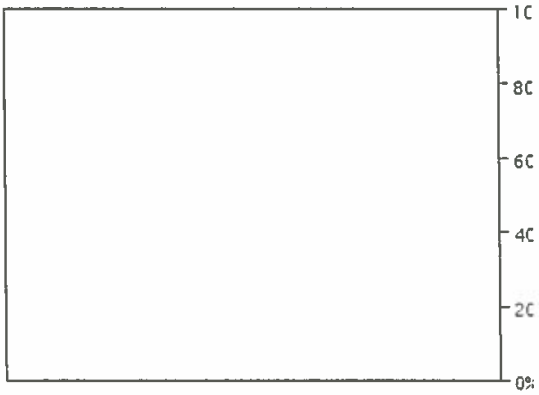


5 Year Event Surface Facility Modeling

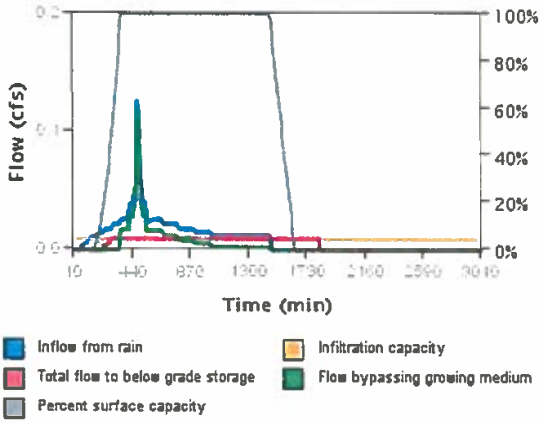


Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

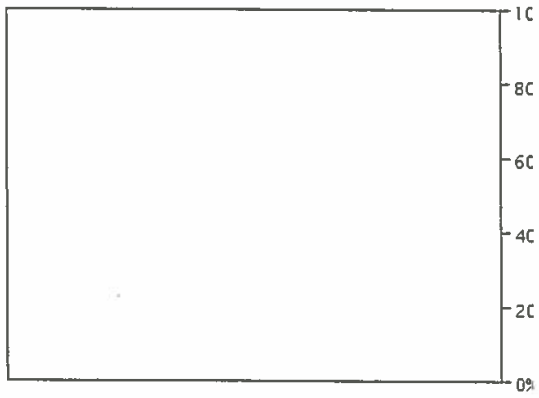
5 Year Event Below Grade Modeling



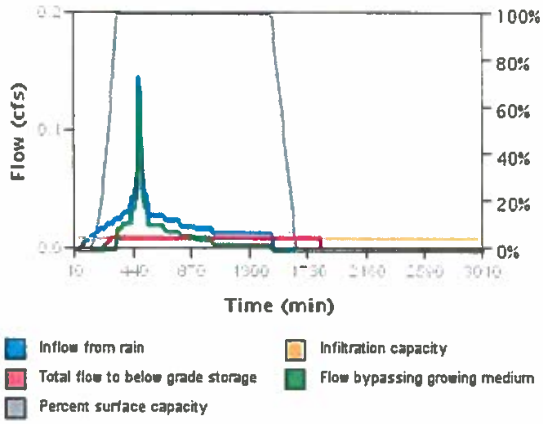
10 Year Event Surface Facility Modeling



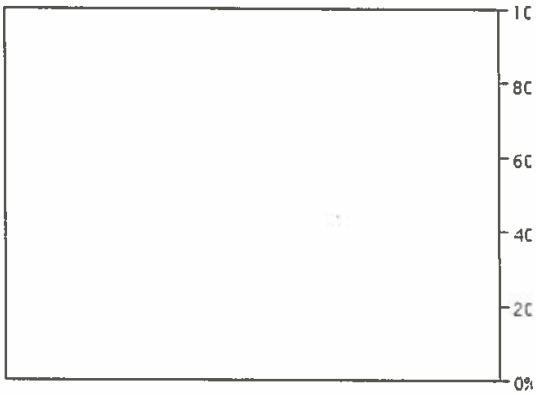
10 Year Event Below Grade Modeling



25 Year Event Surface Facility Modeling



25 Year Event Below Grade Modeling

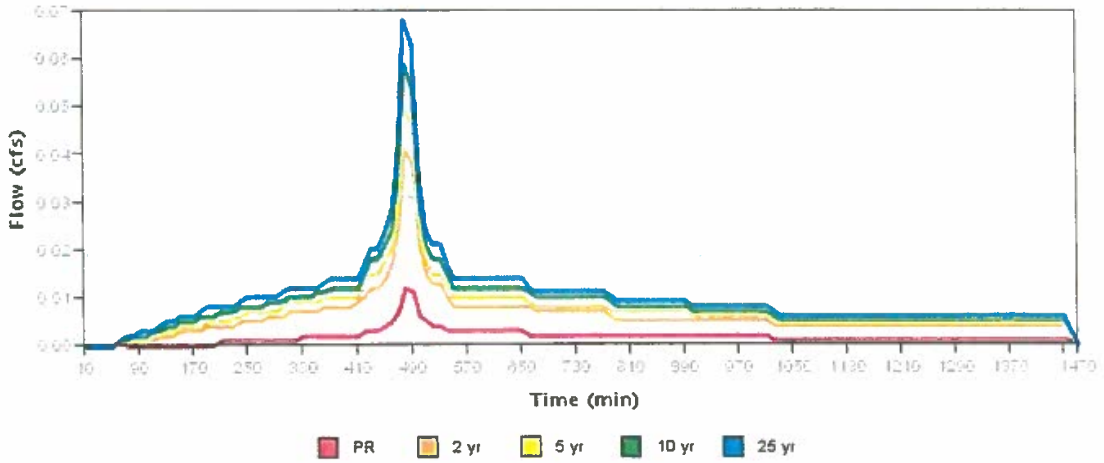


Catchment Basin B

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	**Open Pit Falling Head**
	Native Soil Infiltration Rate (I_{test})	0.00 ⚠
Correction Factor	CF_{test}	0
Design Infiltration Rates	Native Soil (I_{dsgn})	0.00 in/hr ⚠
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	12
	Hierarchy Description	**Off-site flow to drainageway, river, or storm-only pipe system**
	Pollution Reduction Requirement	basic
	10-year Storm Requirement	N/A
	Flow Control Requirement	N/A
	Impervious Area	**2900 sq ft** 0.067 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN_{pre})	74
	Post-Development Curve Number (CN_{post})	98

⚠ Indicates value is outside of recommended range

SBUH Results

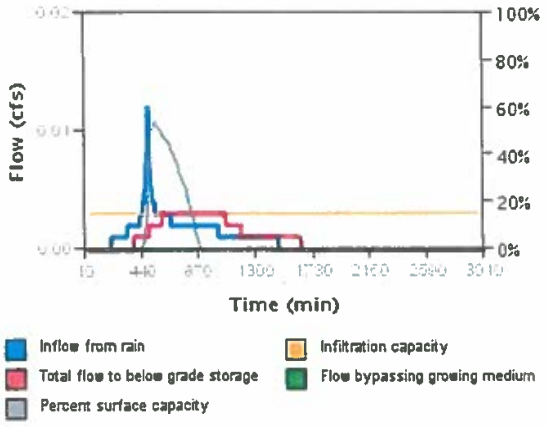


	Pre-Development Rate and Volume		Post-Development Rate and Volume	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
PR	[illegible]	0.167	0.017	151.533
2 yr	0.004	115.398	0.041	524.743
5 yr	0.008	181.069	0.05[illegible]	644.935
10 yr	0.014	255.213	0.059	765.308
25 yr	0.02	336.014	0.068	885.793

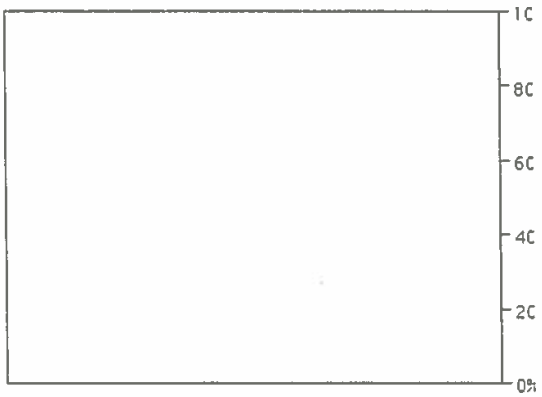
Facility Basin B

Facility Details	Facility Type	**Planter (Flat)**
	Facility Configuration	**D: Lined Facility with RS and [illegible]**
	Facility Shape	**Planter**
	Above Grade Storage Data	
	Bottom Area	**67 sq ft**
	Bottom Width	**[illegible]**
	Storage Depth 1	**[illegible]**
	Growing Medium Depth	**[illegible]**
	Surface Capacity at Depth 1	**[illegible]**
	Design Infiltration Rate for Native Soil	**[illegible]**
	Infiltration Capacity	**[illegible]**
Facility Facts	Total Facility Area Including Freeboard	**67.00 sq ft**
	Sizing Ratio	**[illegible]**
[illegible]	Pollution Reduction Score	**[illegible]**
	Overflow Volume	**[illegible]**
	Surface Capacity Used	**[illegible]**
[illegible]	Flow Control Score	**[illegible]**
	Overflow Volume	**[illegible]**
	Surface Capacity Used	**[illegible]**

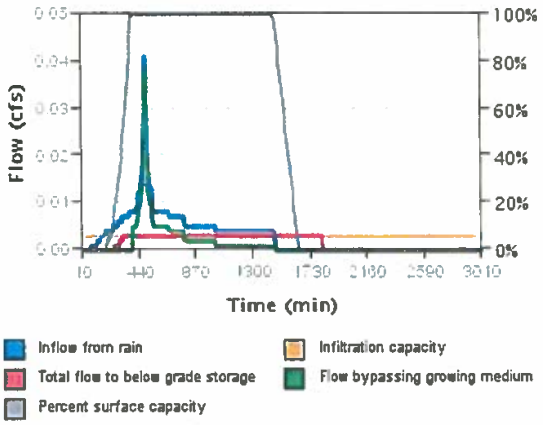
Pollution Reduction Event Surface Facility Modeling



Pollution Reduction Event Below Grade Modeling

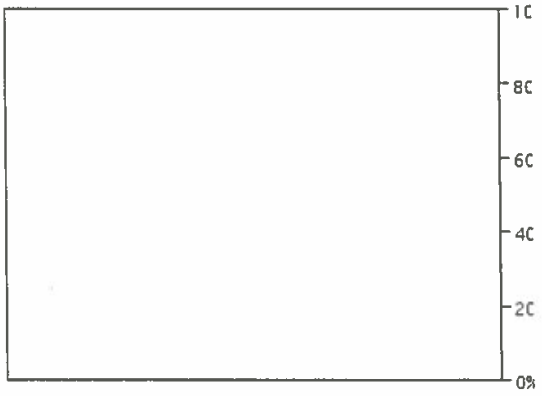


2 Year Event Surface Facility Modeling

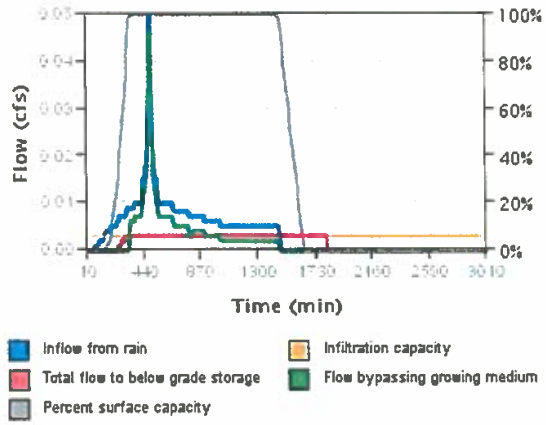


Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

2 Year Event Below Grade Modeling



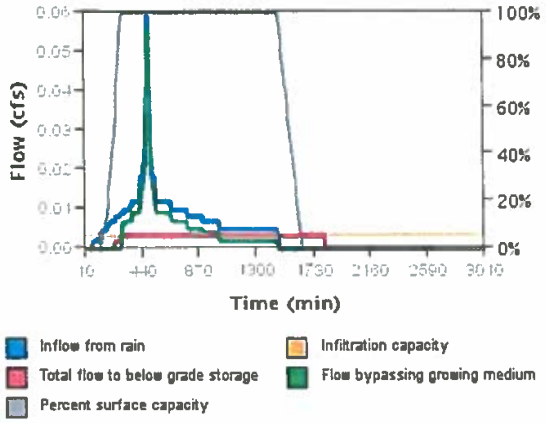
5 Year Event Surface Facility Modeling



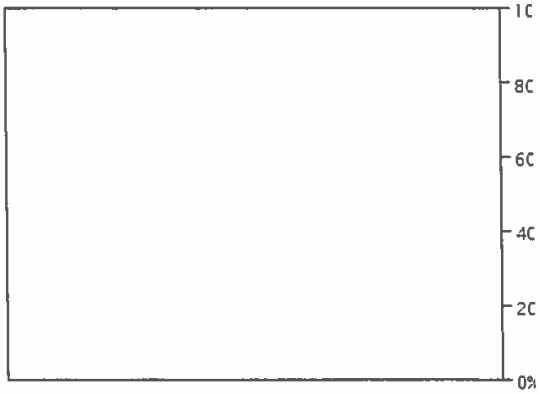
Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

5 Year Event Below Grade Modeling

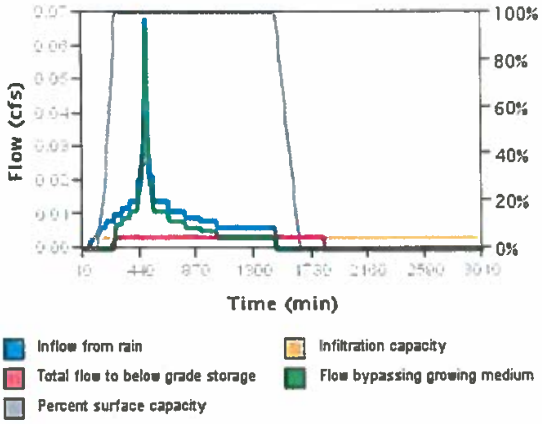
10 Year Event Surface Facility Modeling



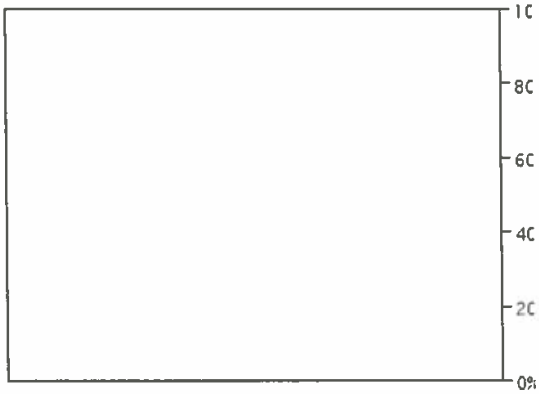
10 Year Event Below Grade Modeling



25 Year Event Surface Facility Modeling



25 Year Event Below Grade Modeling

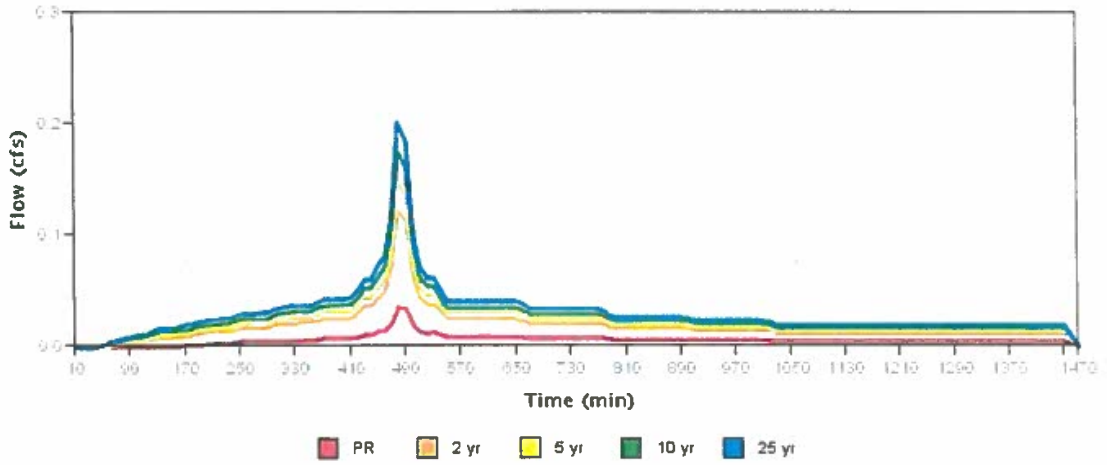


Catchment Basin C

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	**Open Pit Falling Head**
	Native Soil Infiltration Rate (I_{test})	0.00 ⚠
Correction Factor	CF_{test}	2
Design Infiltration Rates	Native Soil (I_{dsgn})	0.00 in/hr ⚠
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	12
	Hierarchy Description	**Off-site flow to drainageway, river, or storm-only pipe system**
	Pollution Reduction Requirement	basic
	10-year Storm Requirement	N/A
	Flow Control Requirement	N/A
	Impervious Area	**8550 sq ft** 0.196 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN_{pre})	74
	Post-Development Curve Number (CN_{post})	98

⚠ Indicates value is outside of recommended range

SBUH Results



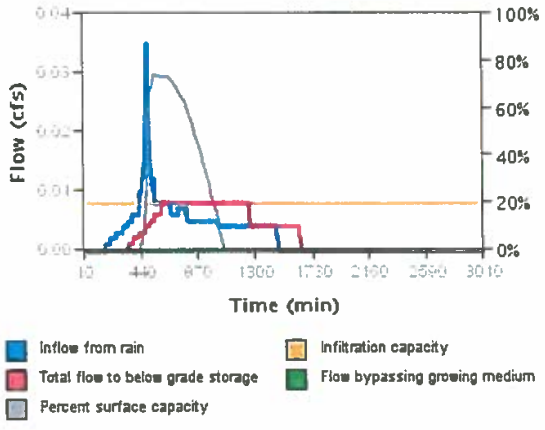
P&C Report: Dutch Bros - Sandy

	Pre-Development Rate and Volume		Post-Development Rate and Volume	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
PR	X	0 493	0 035	446 762
2 yr	0 011	340 335	0 151	1547 087
5 yr	0 025	533 841	0 147	1901 448
10 yr	0 041	757 435	0 174	2256 338
25 yr	0 058	990 662	0 201	2611 563

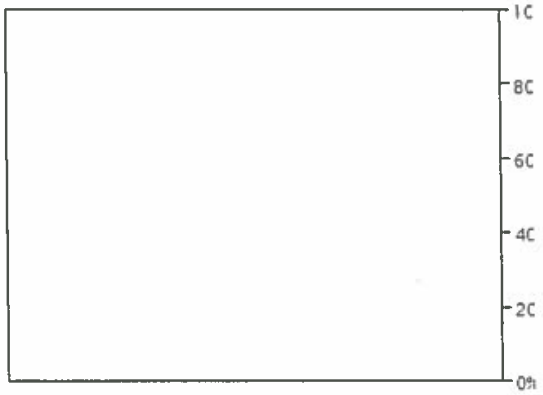
Facility Basin C

Facility Details	Facility Type	**Planter (Flat)**
	Facility Configuration	**D: Lined Facility with RS and [illegible]**
	Facility Shape	**Planter**
	Above Grade Storage Data	
	Bottom Area	**169 sq ft**
	Bottom Width	**[illegible] ft**
	Storage Depth 1	**[illegible] in**
	Growing Medium Depth	**[illegible] in**
	Surface Capacity at Depth 1	**[illegible] cu ft**
	Design Infiltration Rate for Native Soil	**[illegible] in/hr**
	Infiltration Capacity	**[illegible] cfs**
Facility Facts	Total Facility Area Including Freeboard	**169.00 sq ft**
	Sizing Ratio	**[illegible]%**
Pollution Reduction Results	Pollution Reduction Score	**Pass**
	Overflow Volume	**[illegible] cf**
	Surface Capacity Used	**[illegible]%**
Flow Control Results	Flow Control Score	**Not Used**
	Overflow Volume	**[illegible] cf**
	Surface Capacity Used	**[illegible]%**

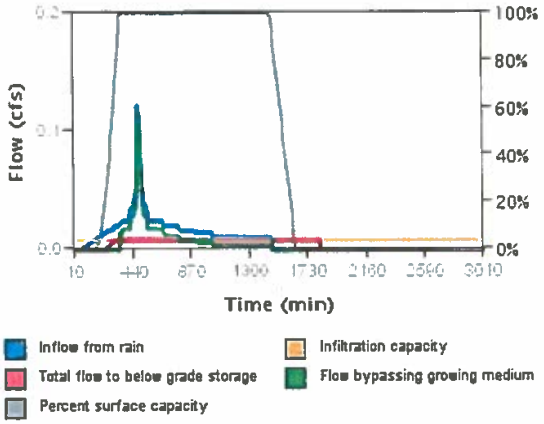
Pollution Reduction Event Surface Facility Modeling



Pollution Reduction Event Below Grade Modeling

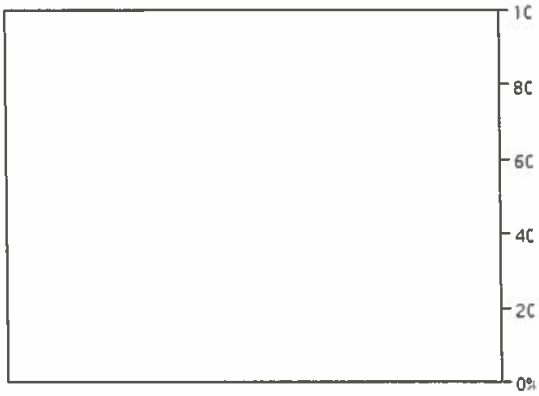


2 Year Event Surface Facility Modeling

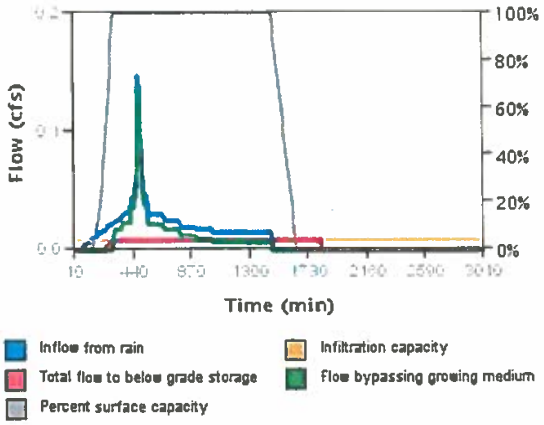


Inflow from rain
Total flow to below grade storage
Percent surface capacity
Infiltration capacity
Flow bypassing growing medium

2 Year Event Below Grade Modeling

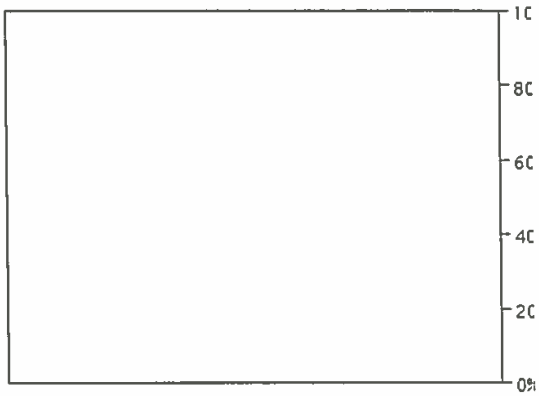


5 Year Event Surface Facility Modeling

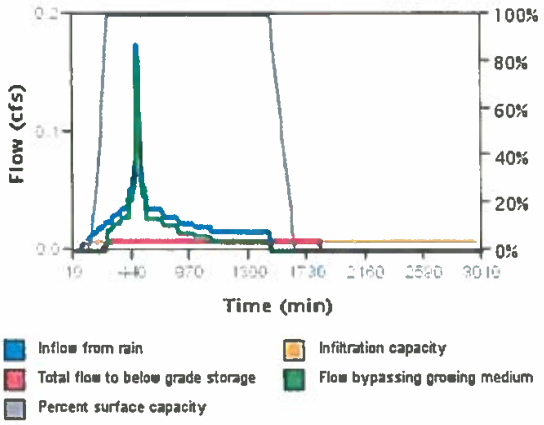


Inflow from rain
Total flow to below grade storage
Percent surface capacity
Infiltration capacity
Flow bypassing growing medium

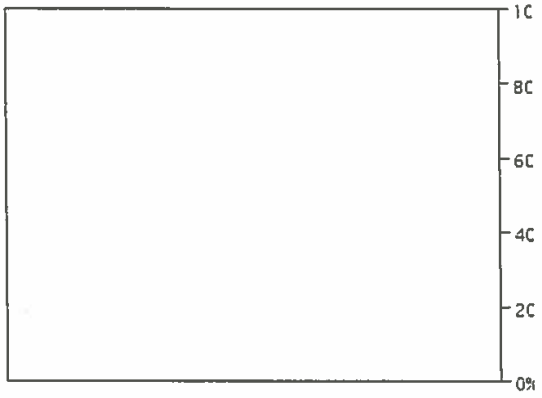
5 Year Event Below Grade Modeling



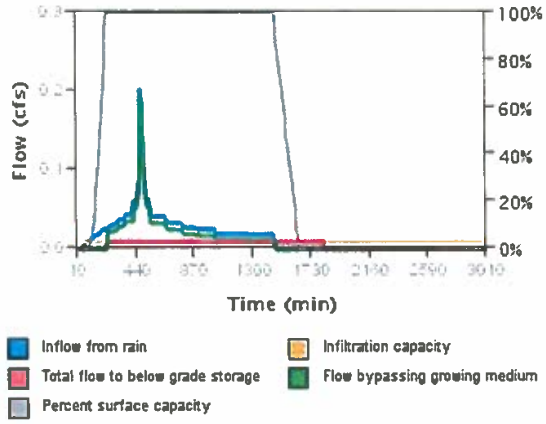
10 Year Event Surface Facility Modeling



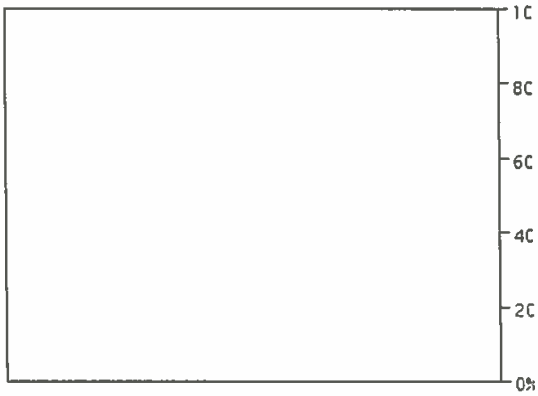
10 Year Event Below Grade Modeling



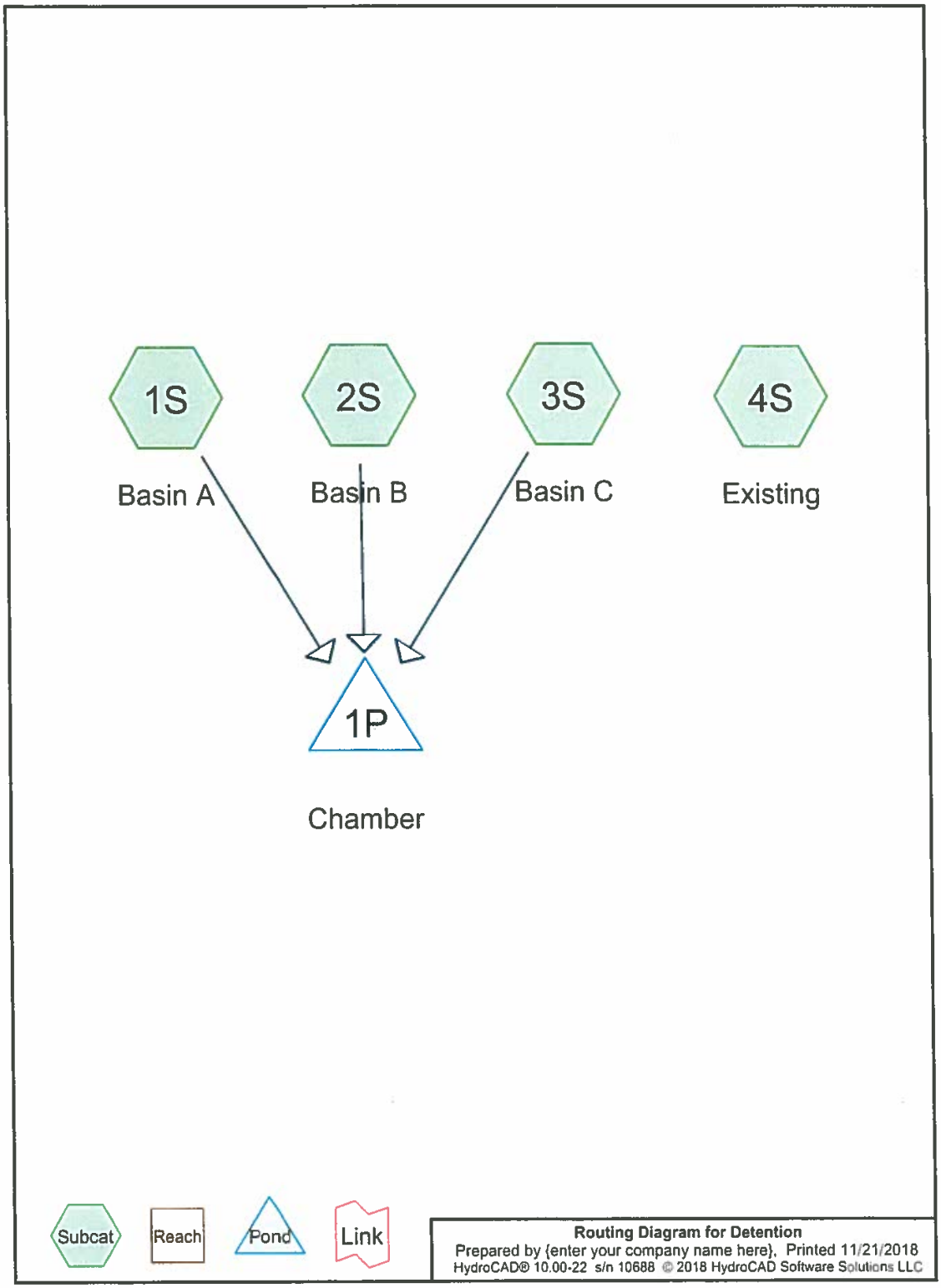
25 Year Event Surface Facility Modeling



25 Year Event Below Grade Modeling



HYDROCAD


1S
2S
3S
4S
Basin A
Basin B
Basin C
Existing
1P
Chamber
Subcat
Reach
Pond
Link
Routing Diagram for Detention
Prepared by {enter your company name here}, Printed 11/21/2018
HydroCAD® 10.00-22 s/n 10688 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
17,639	98	Paved parking, HSG C (1S, 2S, 3S)
17,642	73	Woods, Fair, HSG C (4S)
35,281	**85**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
35,281	HSG C	1S, 2S, 3S, 4S
0	HSG D	
0	Other	
35,281		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchmen Numbers
0	0	17,639	0	0	17,639	Paved parking	1
0	0	17,642	0	0	17,642	Woods, Fair	4
0	**0**	**35,281**	**0**	**0**	**35,281**	**TOTAL AREA**	

Time span=0.10-24.00 hrs, dt=0.04 hrs, 599 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: Basin A Runoff Area=6,186 sf 100.00% Impervious Runoff Depth>3.26"
Tc=5.0 min CN=0/98 Runoff=0.12 cfs 1,682 cf

Subcatchment2S: Basin B Runoff Area=2,925 sf 100.00% Impervious Runoff Depth>3.26"
Tc=5.0 min CN=0/98 Runoff=0.06 cfs 795 cf

Subcatchment3S: Basin C Runoff Area=8,528 sf 100.00% Impervious Runoff Depth>3.26"
Tc=5.0 min CN=0/98 Runoff=0.16 cfs 2,318 cf

Subcatchment4S: Existing Runoff Area=0.405 ac 0.00% Impervious Runoff Depth>1.18"
Tc=5.0 min CN=73/0 Runoff=0.09 cfs 1,730 cf

Pond 1P: Chamber Peak Elev=2.09' Storage=0.026 af Inflow=0.33 cfs 4,795 cf
Outflow=0.09 cfs 4,663 cf

Total Runoff Area = 35,281 sf Runoff Volume = 6,525 cf Average Runoff Depth = 2.22"
50.00% Pervious = 17,642 sf 50.00% Impervious = 17,639 sf

Summary for Subcatchment 1S: Basin A

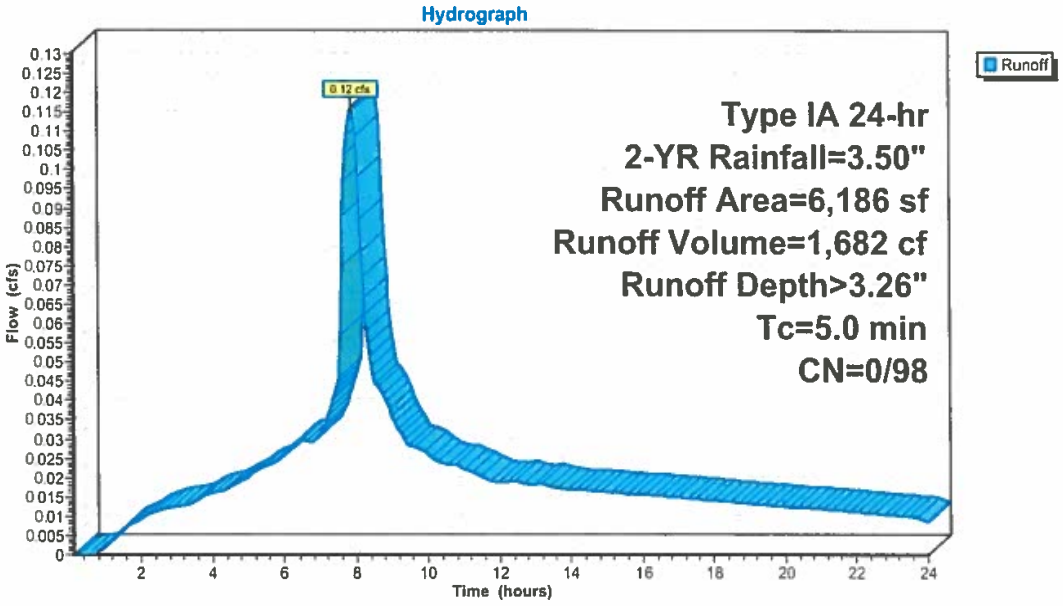
Runoff = 0.12 cfs @ 7.89 hrs, Volume= 1,682 cf, Depth> 3.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG C
6,186	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

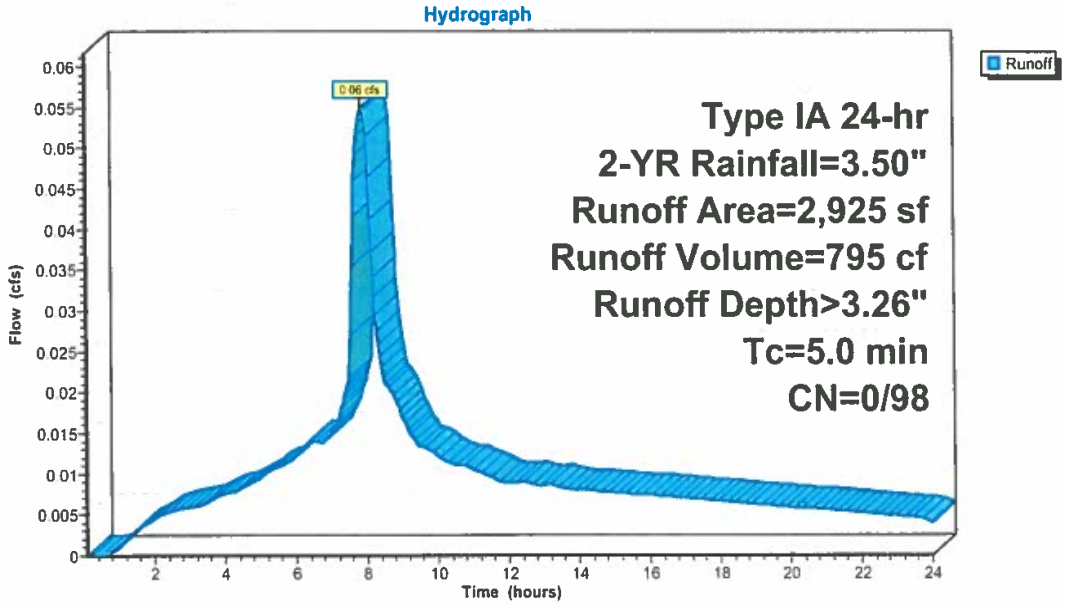
Runoff = 0.06 cfs @ 7.89 hrs, Volume= 795 cf, Depth> 3.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (sf)	CN	Description
2,925	98	Paved parking, HSG C
2,925	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

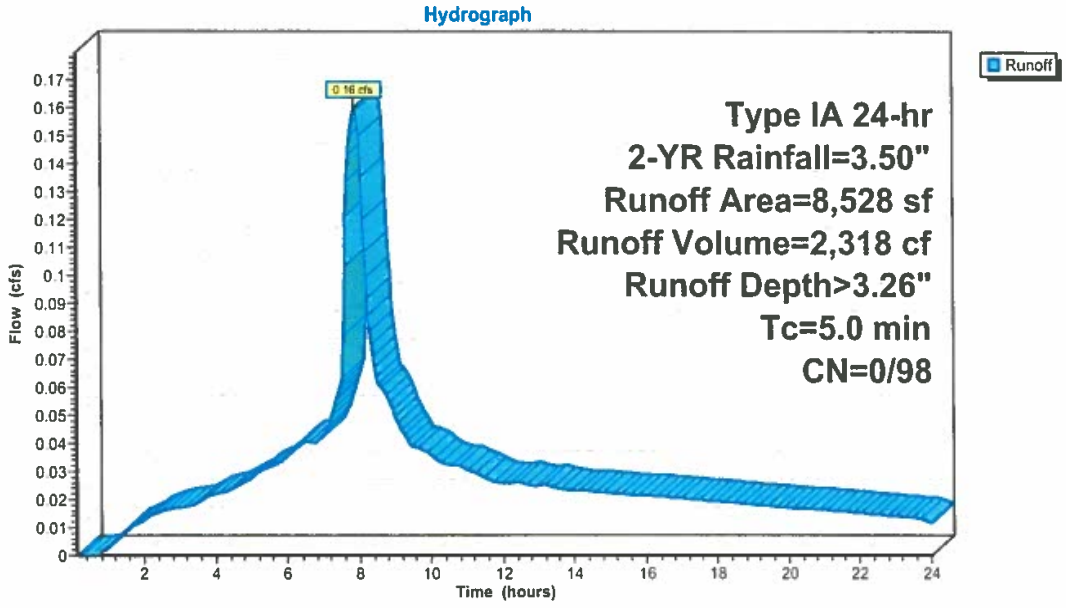
Runoff = 0.16 cfs @ 7.89 hrs, Volume= 2,318 cf, Depth> 3.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (sf)	CN	Description
8,528	98	Paved parking, HSG C
8,528	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

Predeveloped Site

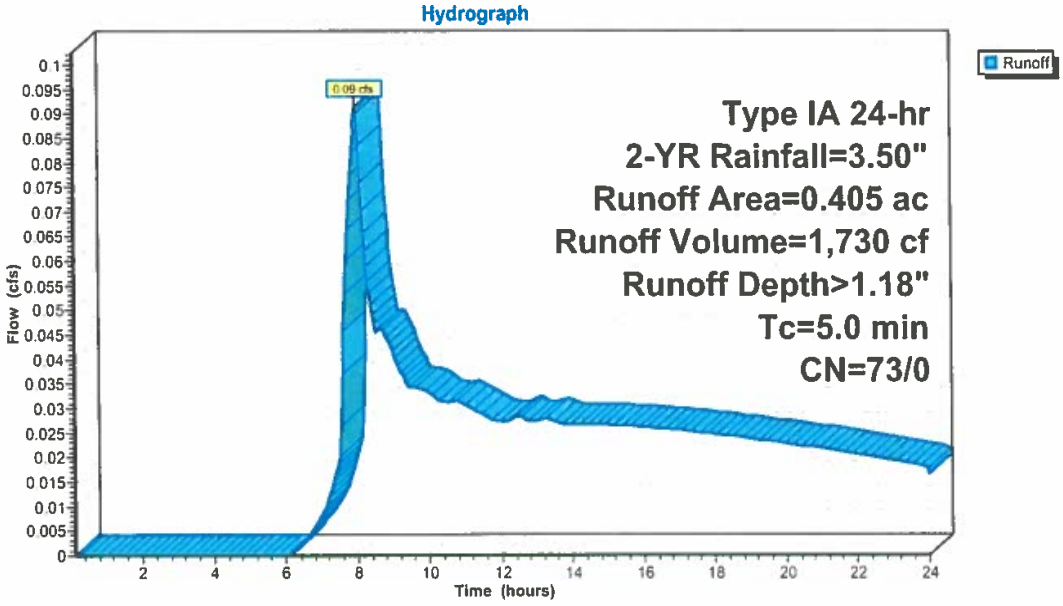
Runoff = 0.09 cfs @ 7.99 hrs, Volume= 1,730 cf, Depth> 1.18"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (ac)	CN	Description
0.405	73	Woods, Fair, HSG C
0.405	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 4S: Existing



Summary for Pond 1P: Chamber

Inflow Area = 17,639 sf,100.00% Impervious, Inflow Depth > 3.26" for 2-YR event
Inflow = 0.33 cfs @ 7.89 hrs, Volume= 4,795 cf
Outflow = 0.09 cfs @ 9.33 hrs, Volume= 4,663 cf, Atten= 74%, Lag= 86.0 min
Primary = 0.09 cfs @ 9.33 hrs, Volume= 4,663 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.09' @ 9.33 hrs Surf.Area= 0.018 ac Storage= 0.026 af

Plug-Flow detention time= 146.2 min calculated for 4,655 cf (97% of inflow)
Center-of-Mass det. time= 125.2 min (787.9 - 662.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.019 af	**20.50'W x 39.22'L x 3.67'H Field A** 0.068 af Overall - 0.021 af Embedded = 0.047 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 5 Chambers
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.10'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.55'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 9.33 hrs HW=2.09' (Free Discharge)
└**1=Culvert** (Passes 0.09 cfs of 0.41 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.09 cfs @ 6.96 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

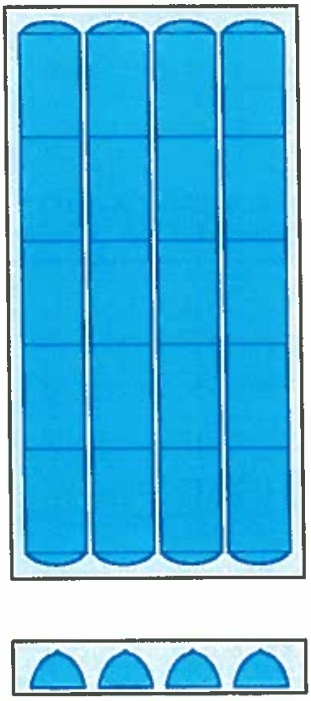
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +12.0" End Stone x 2 = 39.22' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 8.0" Cover = 3.67' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

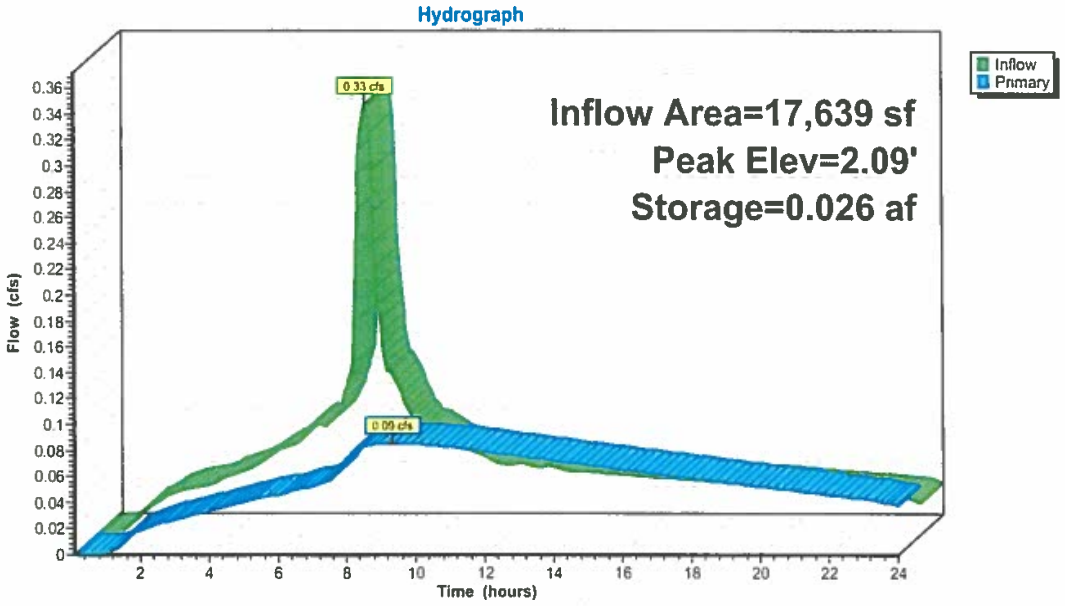
2,947.8 cf Field - 918.8 cf Chambers = 2,029.0 cf Stone x 40.0% Voids = 811.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,730.4 cf = 0.040 af
Overall Storage Efficiency = 58.7%
Overall System Size = 39.22' x 20.50' x 3.67'

20 Chambers
109.2 cy Field
75.1 cy Stone



Pond 1P: Chamber



Time span=0.10-24.00 hrs, dt=0.04 hrs, 599 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: Basin A Runoff Area=6,186 sf 100.00% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=0/98 Runoff=0.15 cfs 2,195 cf

Subcatchment2S: Basin B Runoff Area=2,925 sf 100.00% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=0/98 Runoff=0.07 cfs 1,038 cf

Subcatchment3S: Basin C Runoff Area=8,528 sf 100.00% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=0/98 Runoff=0.21 cfs 3,026 cf

Subcatchment4S: Existing Runoff Area=0.405 ac 0.00% Impervious Runoff Depth>1.89"
Tc=5.0 min CN=73/0 Runoff=0.17 cfs 2,781 cf

Pond 1P: Chamber Peak Elev=2.64' Storage=0.032 af Inflow=0.43 cfs 6,259 cf
Outflow=0.17 cfs 5,930 cf

Total Runoff Area = 35,281 sf Runoff Volume = 9,040 cf Average Runoff Depth = 3.07"
50.00% Pervious = 17,642 sf 50.00% Impervious = 17,639 sf

Summary for Subcatchment 1S: Basin A

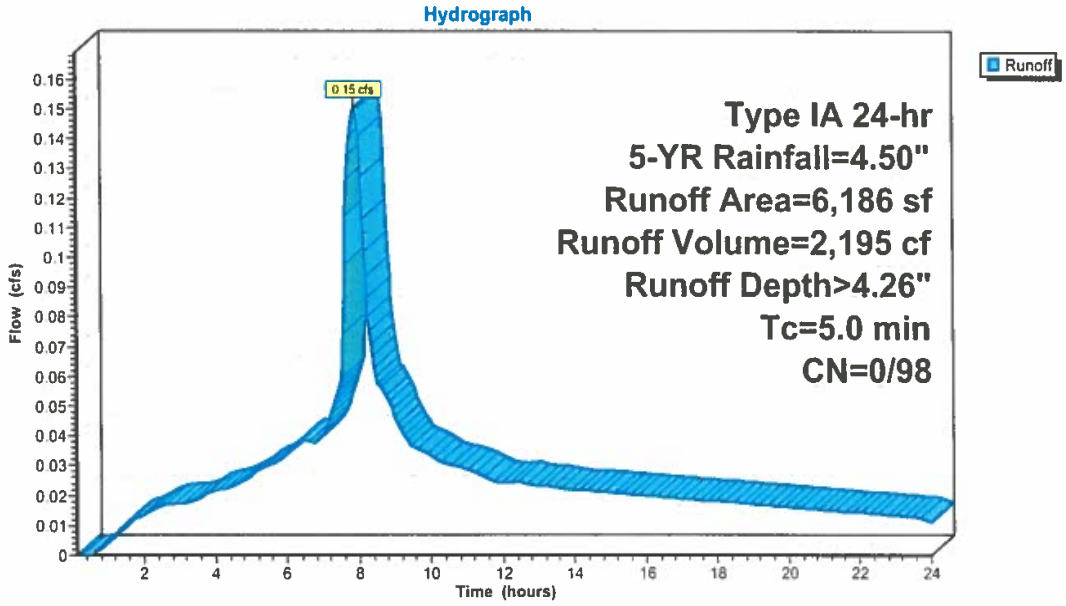
Runoff = 0.15 cfs @ 7.89 hrs, Volume= 2,195 cf, Depth> 4.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG C
6,186	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

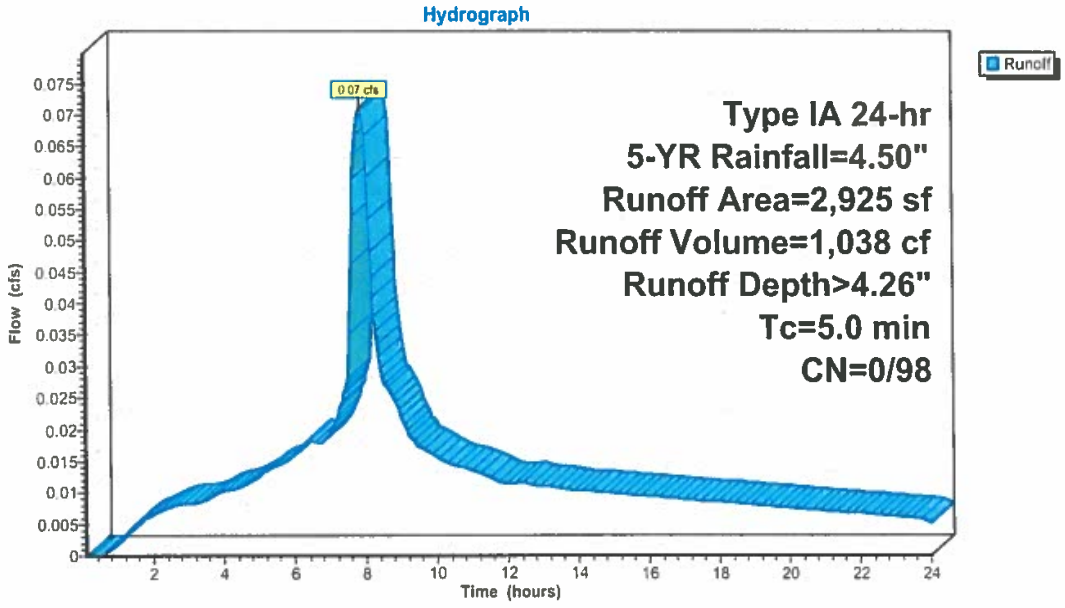
Runoff = 0.07 cfs @ 7.89 hrs, Volume= 1,038 cf, Depth> 4.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (sf)	CN	Description
2,925	98	Paved parking, HSG C
2,925	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

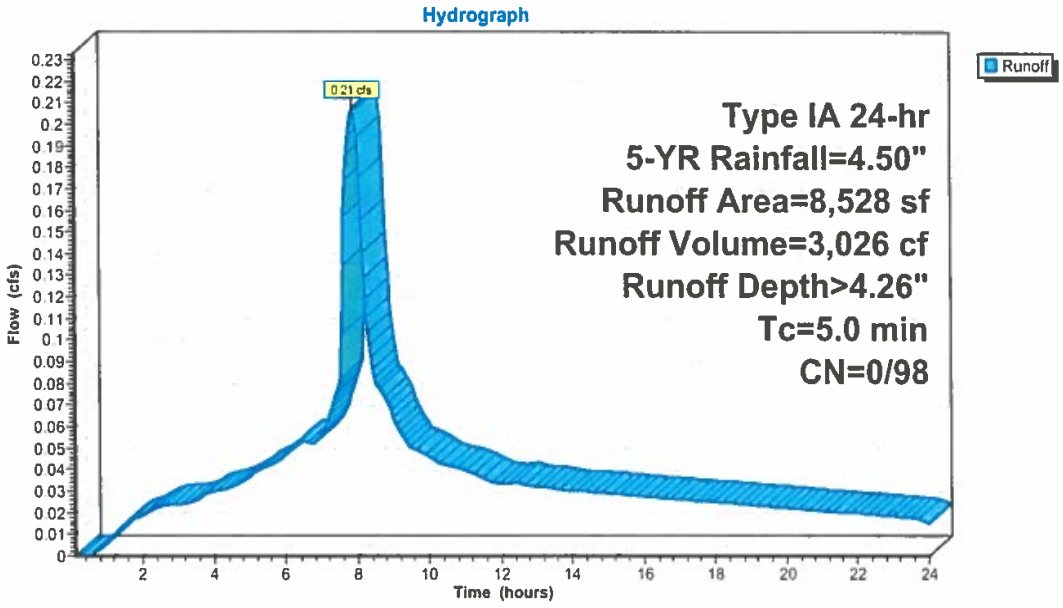
Runoff = 0.21 cfs @ 7.89 hrs, Volume= 3,026 cf, Depth> 4.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (sf)	CN	Description
8,528	98	Paved parking, HSG C
8,528	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

Predeveloped Site

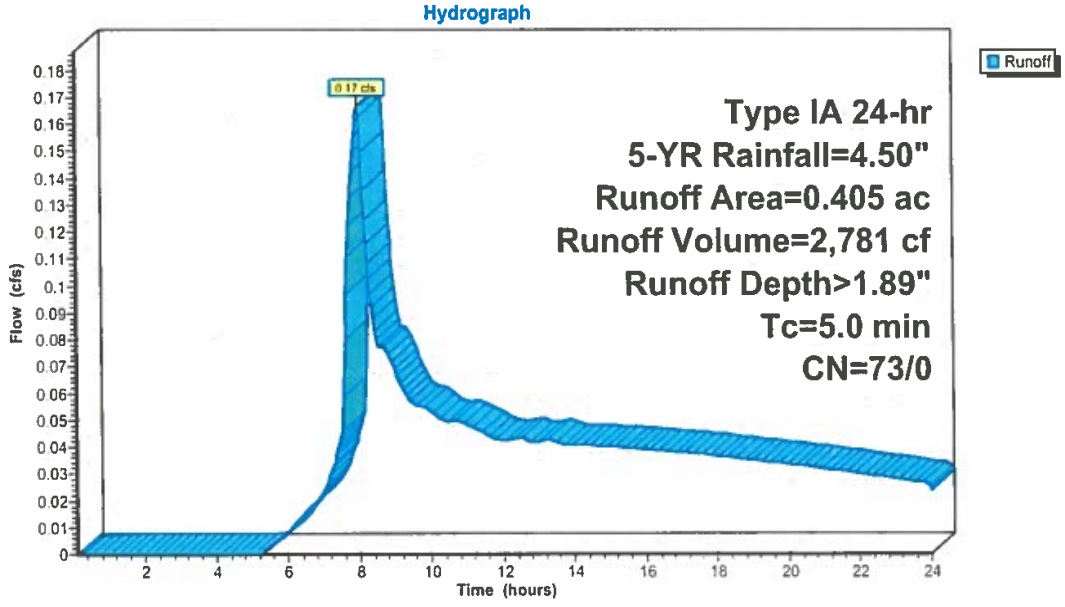
Runoff = 0.17 cfs @ 7.97 hrs, Volume= 2,781 cf, Depth> 1.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (ac)	CN	Description
0.405	73	Woods, Fair, HSG C
0.405	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 4S: Existing



Summary for Pond 1P: Chamber

Inflow Area = 17,639 sf,100.00% Impervious, Inflow Depth > 4.26" for 5-YR event
Inflow = 0.43 cfs @ 7.89 hrs, Volume= 6,259 cf
Outflow = 0.17 cfs @ 8.48 hrs, Volume= 5,930 cf, Atten= 61%, Lag= 35.6 min
Primary = 0.17 cfs @ 8.48 hrs, Volume= 5,930 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.64' @ 8.48 hrs Surf.Area= 0.018 ac Storage= 0.032 af

Plug-Flow detention time= 154.0 min calculated for 5,920 cf (95% of inflow)
Center-of-Mass det. time= 114.5 min (771.2 - 656.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.019 af	**20.50'W x 39.22'L x 3.67'H Field A** 0.068 af Overall - 0.021 af Embedded = 0.047 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 5 Chambers
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.10'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.55'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 8.48 hrs HW=2.64' (Free Discharge)
↑—**1=Culvert** (Passes 0.17 cfs of 0.45 cfs potential flow)
↑—**2=Lower Orifice** (Orifice Controls 0.10 cfs @ 7.82 fps)
—**3=Orifice/Grate** (Orifice Controls 0.07 cfs @ 3.24 fps)
—**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

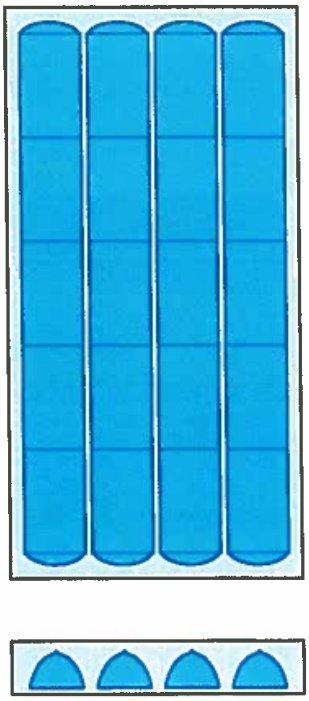
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +12.0" End Stone x 2 = 39.22' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 8.0" Cover = 3.67' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

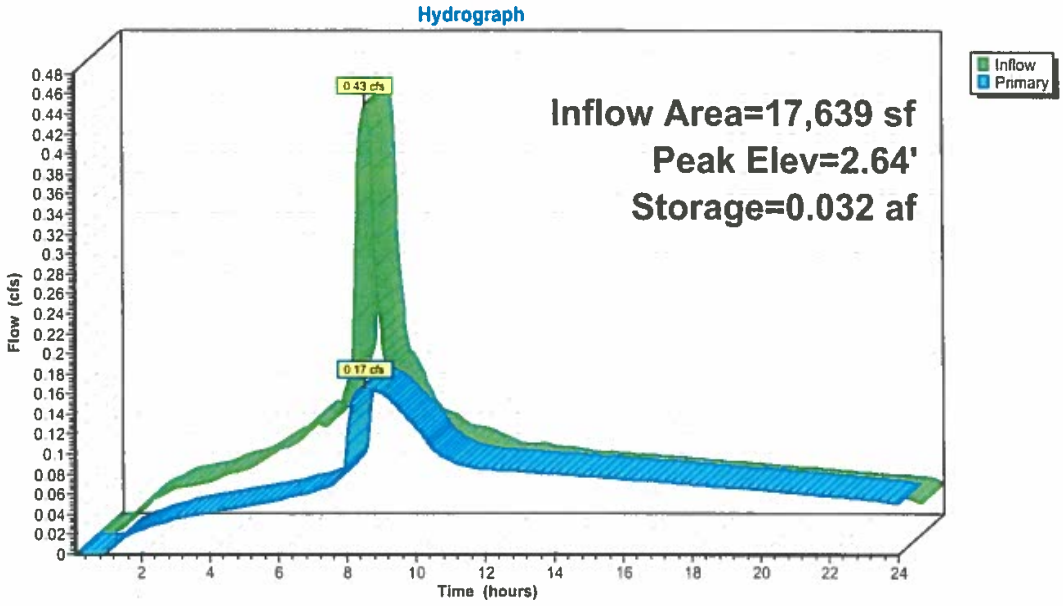
2,947.8 cf Field - 918.8 cf Chambers = 2,029.0 cf Stone x 40.0% Voids = 811.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,730.4 cf = 0.040 af
Overall Storage Efficiency = 58.7%
Overall System Size = 39.22' x 20.50' x 3.67'

20 Chambers
109.2 cy Field
75.1 cy Stone



Pond 1P: Chamber



Time span=0.10-24.00 hrs, dt=0.04 hrs, 599 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: Basin A Runoff Area=6,186 sf 100.00% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=0/98 Runoff=0.16 cfs 2,349 cf

Subcatchment2S: Basin B Runoff Area=2,925 sf 100.00% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=0/98 Runoff=0.08 cfs 1,111 cf

Subcatchment3S: Basin C Runoff Area=8,528 sf 100.00% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=0/98 Runoff=0.22 cfs 3,239 cf

Subcatchment4S: Existing Runoff Area=0.405 ac 0.00% Impervious Runoff Depth>2.12"
Tc=5.0 min CN=73/0 Runoff=0.19 cfs 3,117 cf

Pond 1P: Chamber Peak Elev=2.88' Storage=0.034 af Inflow=0.46 cfs 6,699 cf
Outflow=0.19 cfs 6,307 cf

Total Runoff Area = 35,281 sf Runoff Volume = 9,816 cf Average Runoff Depth = 3.34"
50.00% Pervious = 17,642 sf 50.00% Impervious = 17,639 sf

Summary for Subcatchment 1S: Basin A

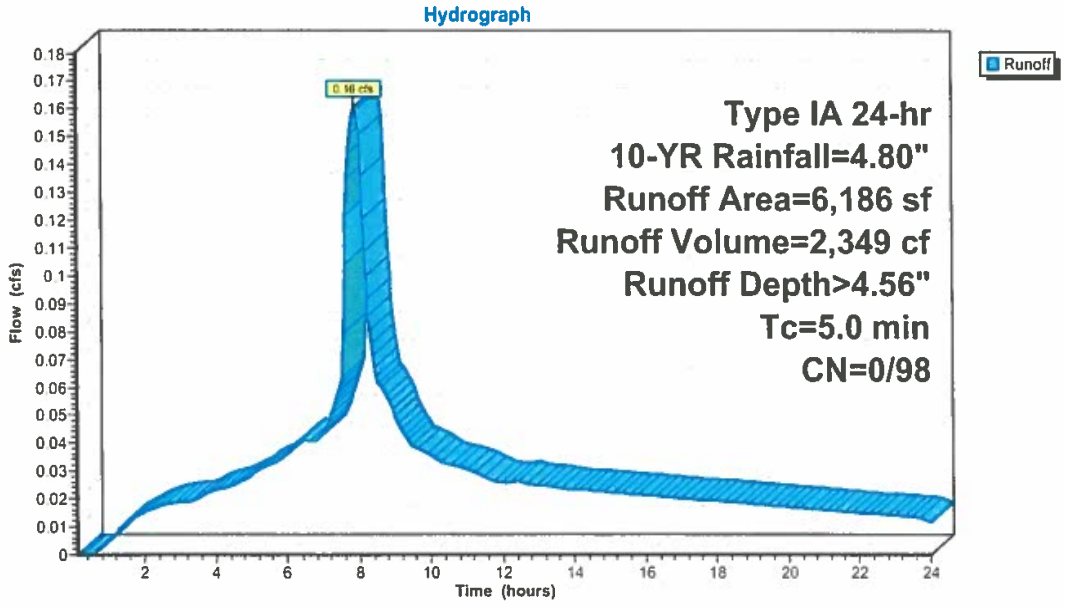
Runoff = 0.16 cfs @ 7.89 hrs, Volume= 2,349 cf, Depth> 4.56"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG C
6,186	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

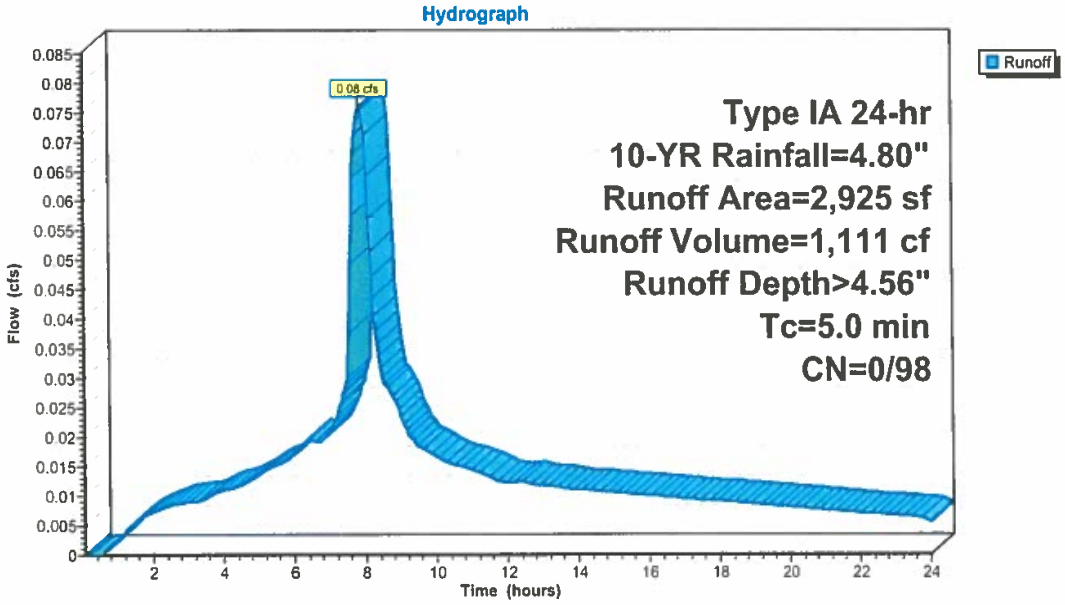
Runoff = 0.08 cfs @ 7.89 hrs, Volume= 1,111 cf, Depth> 4.56"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (sf)	CN	Description
2,925	98	Paved parking, HSG C
2,925	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

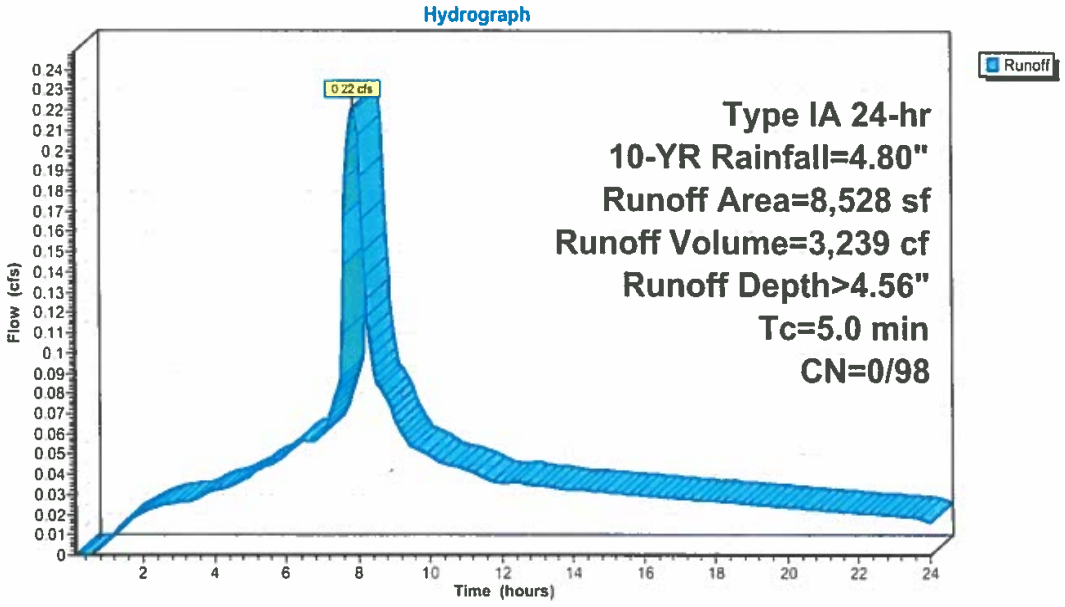
Runoff = 0.22 cfs @ 7.89 hrs, Volume= 3,239 cf, Depth> 4.56"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (sf)	CN	Description
8,528	98	Paved parking, HSG C
8,528	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

Predeveloped Site

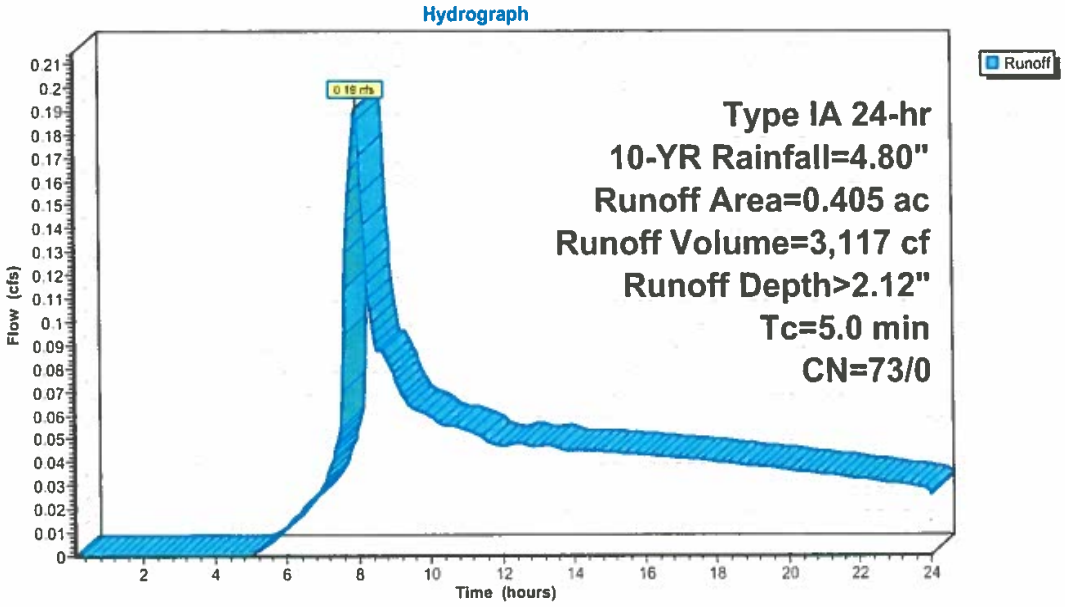
Runoff = 0.19 cfs @ 7.97 hrs, Volume= 3,117 cf, Depth> 2.12"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.405	73	Woods, Fair, HSG C
0.405	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 4S: Existing



Summary for Pond 1P: Chamber

Inflow Area = 17,639 sf,100.00% Impervious, Inflow Depth > 4.56" for 10-YR event
Inflow = 0.46 cfs @ 7.89 hrs, Volume= 6,699 cf
Outflow = 0.19 cfs @ 8.44 hrs, Volume= 6,307 cf, Atten= 59%, Lag= 32.9 min
Primary = 0.19 cfs @ 8.44 hrs, Volume= 6,307 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.88' @ 8.44 hrs Surf.Area= 0.018 ac Storage= 0.034 af

Plug-Flow detention time= 154.5 min calculated for 6,307 cf (94% of inflow)
Center-of-Mass det. time= 110.7 min (766.1 - 655.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.019 af	**20.50'W x 39.22'L x 3.67'H Field A** 0.068 af Overall - 0.021 af Embedded = 0.047 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 5 Chambers
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.10'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.55'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 8.44 hrs HW=2.88' (Free Discharge)
└**1=Culvert** (Passes 0.19 cfs of 0.47 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.10 cfs @ 8.17 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.09 cfs @ 4.01 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

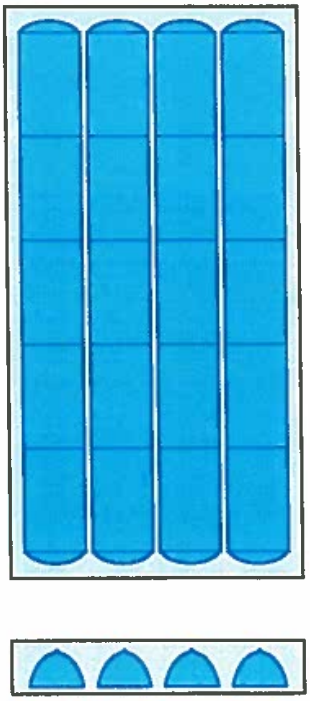
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +12.0" End Stone x 2 = 39.22' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 8.0" Cover = 3.67' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

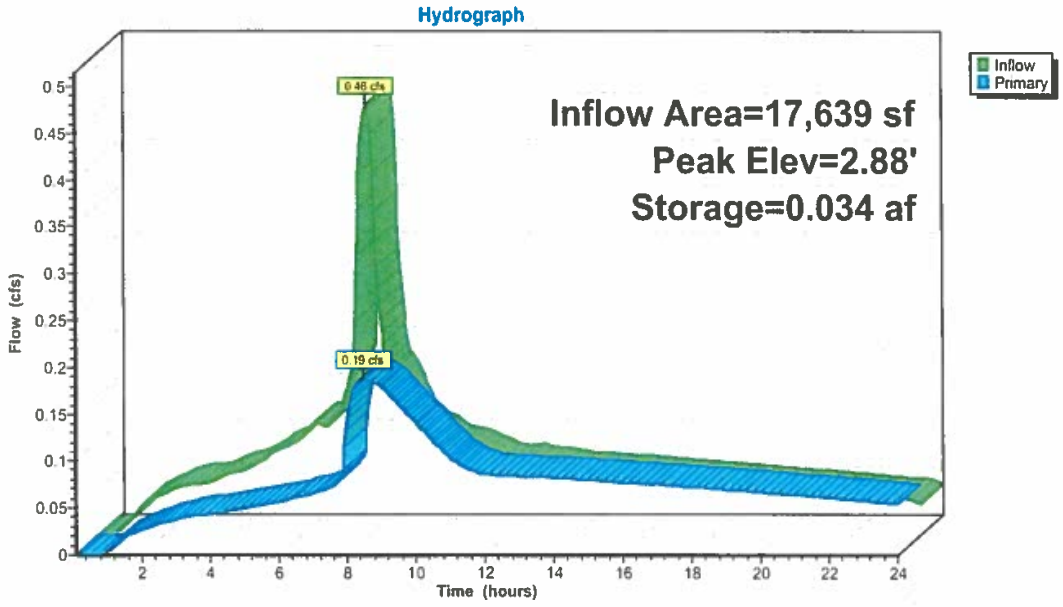
2,947.8 cf Field - 918.8 cf Chambers = 2,029.0 cf Stone x 40.0% Voids = 811.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,730.4 cf = 0.040 af
Overall Storage Efficiency = 58.7%
Overall System Size = 39.22' x 20.50' x 3.67'

20 Chambers
109.2 cy Field
75.1 cy Stone



Pond 1P: Chamber



Time span=0.10-24.00 hrs, dt=0.04 hrs, 599 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: Basin A Runoff Area=6,186 sf 100.00% Impervious Runoff Depth>5.26"
Tc=5.0 min CN=0/98 Runoff=0.18 cfs 2,709 cf

Subcatchment2S: Basin B Runoff Area=2,925 sf 100.00% Impervious Runoff Depth>5.26"
Tc=5.0 min CN=0/98 Runoff=0.09 cfs 1,281 cf

Subcatchment3S: Basin C Runoff Area=8,528 sf 100.00% Impervious Runoff Depth>5.26"
Tc=5.0 min CN=0/98 Runoff=0.25 cfs 3,735 cf

Subcatchment4S: Existing Runoff Area=0.405 ac 0.00% Impervious Runoff Depth>2.67"
Tc=5.0 min CN=73/0 Runoff=0.25 cfs 3,930 cf

Pond 1P: Chamber Peak Elev=3.55' Storage=0.039 af Inflow=0.53 cfs 7,725 cf
Outflow=0.24 cfs 7,187 cf

Total Runoff Area = 35,281 sf Runoff Volume = 11,655 cf Average Runoff Depth = 3.96"
50.00% Pervious = 17,642 sf 50.00% Impervious = 17,639 sf

Summary for Subcatchment 1S: Basin A

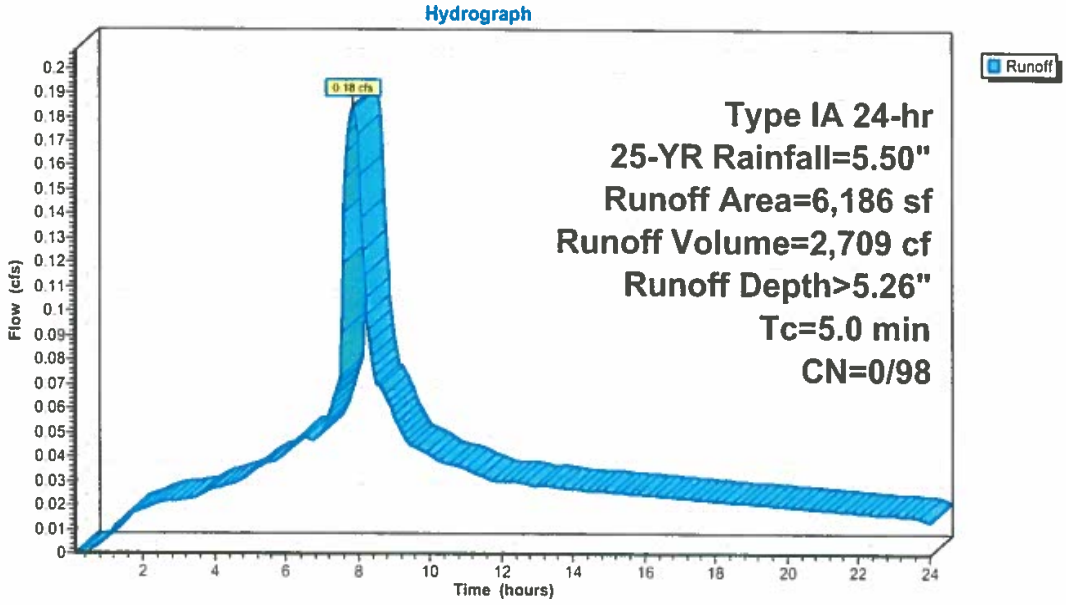
Runoff = 0.18 cfs @ 7.89 hrs, Volume= 2,709 cf, Depth> 5.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG C
6,186	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

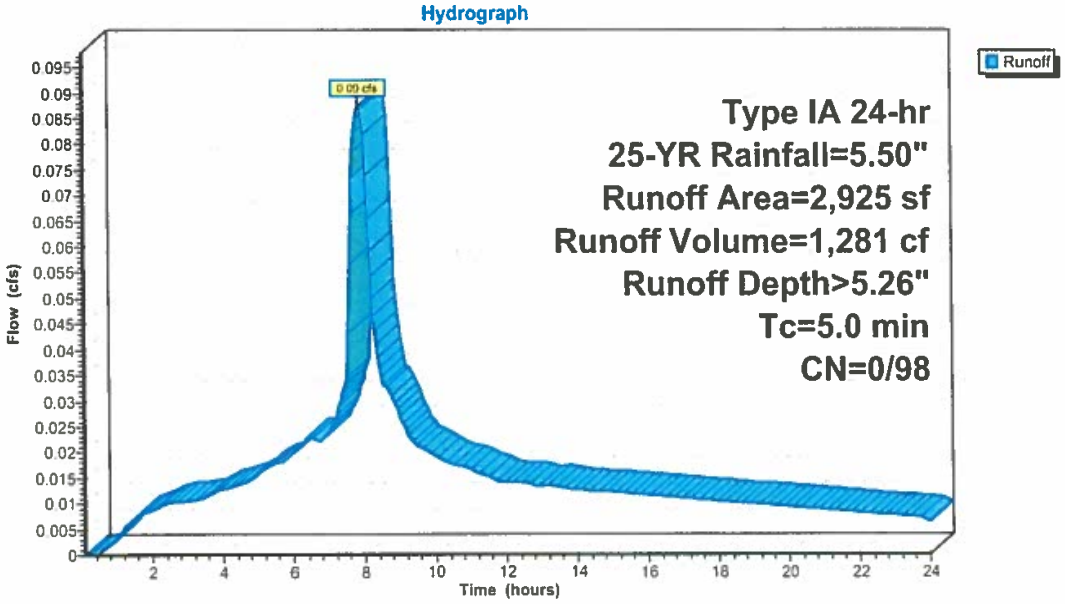
Runoff = 0.09 cfs @ 7.89 hrs, Volume= 1,281 cf, Depth> 5.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
2,925	98	Paved parking, HSG C
2,925	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

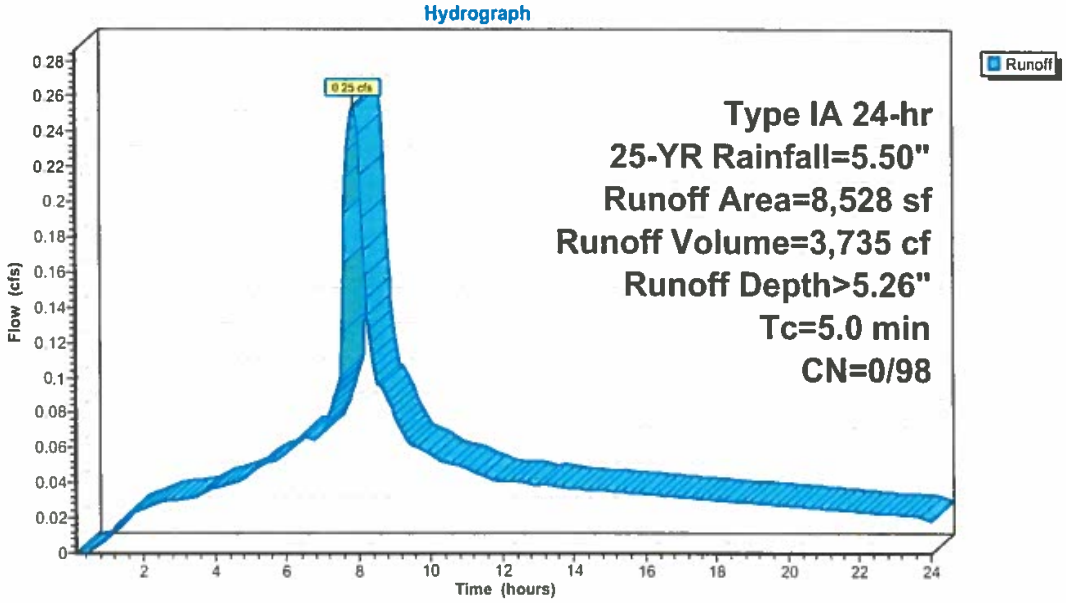
Runoff = 0.25 cfs @ 7.89 hrs, Volume= 3,735 cf, Depth> 5.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
8,528	98	Paved parking, HSG C
8,528	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

Predeveloped Site

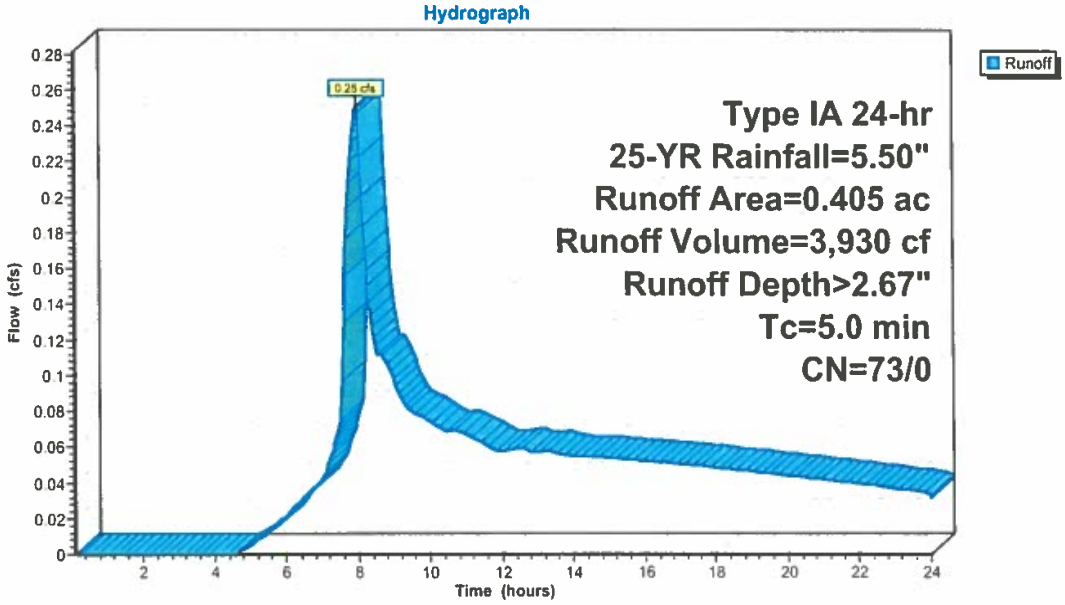
Runoff = 0.25 cfs @ 7.97 hrs, Volume= 3,930 cf, Depth> 2.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (ac)	CN	Description
0.405	73	Woods, Fair, HSG C
0.405	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 4S: Existing



Summary for Pond 1P: Chamber

Inflow Area = 17,639 sf,100.00% Impervious, Inflow Depth > 5.26" for 25-YR event
Inflow = 0.53 cfs @ 7.89 hrs, Volume= 7,725 cf
Outflow = 0.24 cfs @ 8.37 hrs, Volume= 7,187 cf, Atten= 55%, Lag= 28.7 min
Primary = 0.24 cfs @ 8.37 hrs, Volume= 7,187 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 3.55' @ 8.37 hrs Surf.Area= 0.018 ac Storage= 0.039 af

Plug-Flow detention time= 154.3 min calculated for 7,187 cf (93% of inflow)
Center-of-Mass det. time= 102.6 min (755.3 - 652.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.019 af	**20.50'W x 39.22'L x 3.67'H Field A** 0.068 af Overall - 0.021 af Embedded = 0.047 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 5 Chambers
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.10'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.55'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 8.37 hrs HW=3.55' (Free Discharge)
↑—**1=Culvert** (Passes 0.24 cfs of 0.51 cfs potential flow)
↑—**2=Lower Orifice** (Orifice Controls 0.11 cfs @ 9.08 fps)
—**3=Orifice/Grate** (Orifice Controls 0.12 cfs @ 5.64 fps)
—**4=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.21 fps)

Pond 1P: Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

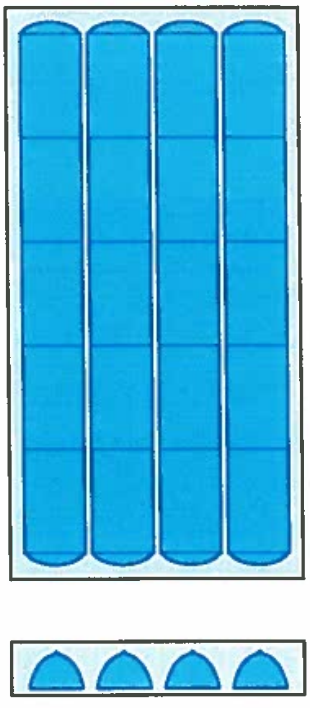
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +12.0" End Stone x 2 = 39.22' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 8.0" Cover = 3.67' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

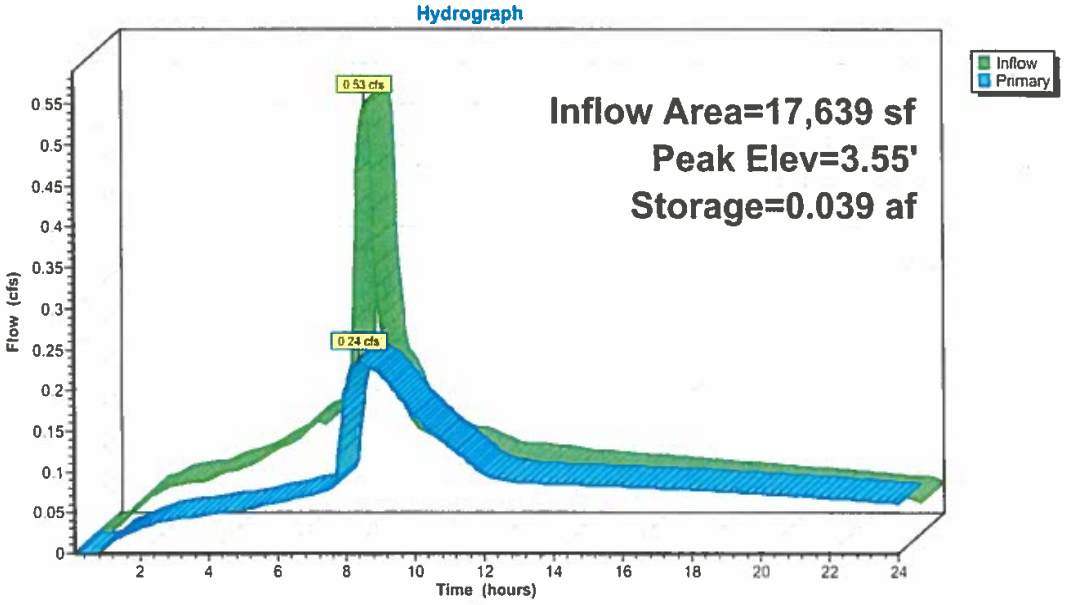
2,947.8 cf Field - 918.8 cf Chambers = 2,029.0 cf Stone x 40.0% Voids = 811.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,730.4 cf = 0.040 af
Overall Storage Efficiency = 58.7%
Overall System Size = 39.22' x 20.50' x 3.67'

20 Chambers
109.2 cy Field
75.1 cy Stone



Pond 1P: Chamber



Froelich Engineers **CONVEYANCE** *EME 16:20 27-Nov-18*

Project 18-C023
Dutch Bros

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe - 1%

diameter = 6.0"
slope = 1.00%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.57'
area = 0.20 s.f.
hydraulic radius = 0.13'
velocity = 2.86 fps
flow = 0.56 cfs

0.56CFS IS GREATER THAN 25-YR EVENT OF 0.53CFS

MEMORANDUM

RhinoOne GEOTECHNICAL

EXHIBIT H

December 03, 2018

Cole Valley Partners
Attn: Mr. Nate Dick
3519 NE 15th Avenue, Suite 251
Portland, Oregon 97212

Submitted Via Email: nate.dick@cvpre.com

Re: Draft Report of Geotechnical Engineering Services
New Coffee Shop and Related Improvements
Proctor Boulevard and SE Ten Eyck Road, Sandy, Oregon
RhinoOne Project No. CVP-2018-001

Dear Mr. Dick:

This technical memorandum presents Rhino One Geotechnical's (ROG) geotechnical engineering study for the proposed Coffee Shop located north of Proctor Boulevard and west of SE Ten Eyck Road in Sandy, Oregon (Figure 1 – Site Location Map). The project site is approximately ¾ acres. The proposed plans are for an approximately 824 square foot Coffee Shop with associated drive-through and parking areas (Figure 2 – Site Exploration Map). This work is being completed in accordance with our proposal dated October 26, 2018.

This technical memorandum summarizes our review of previous study, field exploration program, field and laboratory testing, engineering analysis, geotechnical design criteria and construction recommendations.

FIELD EXPLORATION AND SUBSURFACE CONDITIONS

Geologic Mapping

Site geology at the project site was evaluated based on a review of geologic reports, site reconnaissance, and subsurface explorations. Appendix A, Figure 2 (Site Exploration Map) shows the approximate locations of the borings drilled for this project.

The site is located in Sandy, Oregon west of the Sandy River drainage and the foothills of the Cascade Mountains. The project is located on Ancient River Rock deposits between Boring Lava basalt flows to the west and the foothills of the Cascade Mountain Range to the east. The area is part of the larger Puget Sound-Willamette Valley physiographic province, a tectonically active lowland situated between the Coast Range to the west and the Cascade Mountains to the east[1].

Published mapping indicates the site is underlain by Ancient River Rock consisting of sandstones, siltstones, and conglomerates created from sediment deposits from ancient rivers which flowed through the region[2]. Fine-grained sediment deposits of clay were observed in our field explorations. A review of well logs in the vicinity of the site suggest the clay layer extend to about 25 feet below ground surface (BGS) and are underlain by sandy and gravels with clay[3]. The well logs suggest bedrock is approximately 50 feet BGS. Basement rock in the vicinity of the site are similar to those exposed in the Boring Lavas and foothills of the Cascade Mountains, which primarily consist of the Miocene Epoch (20 million to 10

[1] Orr, E.L. and Orr, W.N. (1999). *Geology of Oregon*. Kendall/Hunt Publishing, Iowa. Page 254.
[2] Ma, L., Madin, I.P., Duplantis, S., and Williams, K.J. (2012). *Lidar-Based Surficial Geologic Map and Database of the Greater Portland Area, Clackamas, Columbia, Marion, Multnomah, Washington, and Yamhill Counties, Oregon and Clark County, Washington*. Oregon Department of Geology and Mineral Industries. Open-File Report O-12-02.
[3] Oregon Water Resources Department. Well Log Query Report. Website Address: https://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx. Accessed November 29, 2018.

million years before present) Columbia River Basalt Group (CRBG). The CRBG consists of thick flows of basalt which have been folded and faulted from the compressional tectonics of the region.

Field Explorations

The subsurface exploration program for this project consisted of drilling five (5) borings using a trailer-mounted drill rig operated by Dan J. Fischer Excavating, Inc. of Forest Grove, Oregon on November 21, 2018. The borings were drilled at the approximate locations shown on the Site Exploration Map (Figure 2). The borings were advanced using continuous-flight auger drilling techniques. The borings were drilled to a depth of 11.5 to 21.5 feet below ground surface (BGS). Standard Penetration Test (SPT) soil samples were obtained at regular 2.5-foot intervals using a 140-pound Manual Hammer to a depth of 10 feet and at 5-foot intervals thereafter. Uncorrected blow counts from the SPT sampling are reported on the boring logs. Corrected blow counts [$(N_1)_{60}$] were used for our analysis unless otherwise noted.

The subsurface materials encountered were logged and field classified in general accordance with the Manual-Visual Classification Method (ASTM D 2488). The SPT samples were collected at desired depths and packaged in moisture-tight bags. The soil samples were reviewed in the laboratory in order to supplement field classifications. Interpreted borings logs are attached.

Natural moisture content laboratory testing of selected samples obtained from the borings were completed in general accordance with guidelines presented in ASTM D 2216. The results of these tests are attached and presented on the attached interpreted boring logs.

Subsurface Conditions

Five borings were completed across the site. The approximate boring locations are shown on Figure 2 of Appendix A. Boring logs are attached in Appendix B. The borings were drilled to depths ranging from 11.5 feet to 21.5 feet BGS. Borings B-1 through B-4 were completed within the proposed development area. Boring B-5 was completed for potential future development of the northern portion of the property. One of the borings (B-4) was terminated before the planned depth of 21.5 feet due to the possibility of contamination.

The site is generally level with an elevation of 1016 feet above mean sea level (AMSL) (± 2 feet). The property is bound by Mt. Hood Highway on the south, commercial properties to the east and west, and the undeveloped grass lot of the northern portion of the lot. The site is covered with asphalt concrete, gravel, and several concrete pads. The gravel/asphalt is underlain by fill consisting of loose to medium dense, sand, silty sand with gravel, to sandy gravel with silt to depths ranging from 1 foot to 10 feet BGS. The fill is underlain by fine-grained sediment consisting of very soft to very stiff, medium to high plasticity clay in borings B-1 through B4 to the termination depths between 11.5 to 21.5 feet BGS. Boring B-5 consisted of stiff to very stiff, medium to high plasticity clay below the grass root zone to the termination depth of 21.5 feet BGS (no fill was encountered in boring B-5).

The moisture contents of the samples within the fill were between 10% to 19%. The moisture contents of the samples within the native sediment were between 23% to 58%.

Groundwater

Perched groundwater was observed in borings B-2 and B-4 during our investigation. The perched groundwater was encountered within the fill between 7 feet and 10 feet BGS. Based on the information provided by the US Geological Survey (USGS) *Estimated Depth to Groundwater Study of the Portland Metro Area*[4] the estimated depth to groundwater at the project location is on the order of 160 feet BGS or greater.

[4] US Geological Survey (USGS). *Estimated Depth to Ground Water in the Portland, Oregon Area*. Accessed from website http://or.water.usgs.gov/projs_dir/puz/ on November 29, 2018.

SEISMIC DESIGN CRITERIA

This section discusses the seismic ground motion criteria for the design of this buildings in accordance with 2015 International Building Code (2015 IBC) and 2014 Oregon Structural Specialty Code (2014 OSSC). The U.S. Geological Survey (USGS) Earthquake Hazard Maps Data set[5], as required by 2015 IBC and 2014 OSSC, was used to estimate the short period (0.2 seconds) and long period (1 second) spectral acceleration values for site class B for the various building sites. Based on the soil types encountered, a Site Class of D can be used for the design of this building.

Table 1 IBC 2015 (OSSC 2014) Seismic Design Parameters

	Short Period	1 Second
Maximum Credible Earthquake Spectral Acceleration	S_s = 0.766 g	S_1 = 0.334 g
Site Class	D	
Site Coefficient	F_a = 1.193	F_v = 1.731
Adjusted Spectral Acceleration	S_{MS} = 0.915 g	S_{M1} = 0.579 g
Design Spectral Response Acceleration Parameters	S_{DS} = 0.610 g	S_{D1} = 0.386 g
Design Spectral Peak Ground Acceleration	0.244 g	
Additional Parameters for Liquefaction Analysis per ASCE 7-10, Section 11.8.3		
Mapped MCE_G Peak Ground Acceleration	PGA = 0.324 g	
Site Coefficient	F_{PGA} = 1.176	
MCE_G Peak Ground Acceleration Adjusted for Site Class	PGA_M = 0.381 g	

The soils at the project site consist of stiff to hard, low to medium plasticity clay to the depth explored of 21.5 feet. Groundwater is interpreted at depths on the order of 160 feet or greater BGS. Based on analysis using 1998 NCEER suggested methods, the on-site soils are not susceptible to liquefaction or earthquake-induced settlement and are not discussed any further.

FOUNDATION DESIGN RECOMMENDATIONS

The native soils or the fill prepared in accordance with our recommendations are suitable for support of spread footings. Continuous wall and isolated spread footings should be at least 18 and 24 inches wide, respectively. The bottom of exterior footings should be at least 18 inches below the lowest adjacent exterior grade. The bottom of interior footings should be established at least 12 inches below the base of the floor slab.

Footings bearing on firm native soils should be sized for an allowable bearing capacity of 2,000 psf. This is a net bearing pressure. The weight of the footing and overlying backfill can be disregarded in calculating footing sizes. The recommended allowable bearing pressure applies to the total of dead plus long-term-live loads and this bearing pressure may be doubled for short-term loads such as those resulting from wind or seismic forces.

Based on our analysis, total post-construction settlements were calculated to be less than 1-inch, with post-construction differential settlement of less than 0.5-inch over a 50-foot span for maximum column and perimeter footing loads of less than 100 kips and 4 kips per linear foot.

Lateral loads on footings can be resisted by passive earth pressure on the sides of the structures and by friction at the base of the footings. An allowable passive earth pressure of 225 pounds per cubic foot (pcf) may be used for footings confined by native soils. Adjacent floor slabs, pavements, or the upper 24-inch depth of adjacent, unpaved areas should not be considered when calculating passive resistance. For

[5] US Geological Survey (USGS). *Seismic Hazard Maps*. Accessed from website https://earthquake.usgs.gov/hazards/hazmaps/ on November 26, 2018.

footings in contact with native material, use a coefficient of friction equal to 0.35 when calculating resistance to sliding. Both of these numbers include a factor of safety of 1.5.

The footings should be founded below an imaginary line projecting at a 1-horizontal to 1-vertical (1H: 1V) slope from the base of any adjacent, parallel utility trenches. The footings must be embedded so there is a minimum of 10 feet of horizontal distance between the base of the footings and any adjacent slope. In wet-weather a 2- to 4-inch layer of granular material may be required at the footing base to provide a firm surface for the construction of the new footings.

A geotechnical engineer or their representative from ROG should confirm suitable bearing conditions and evaluate footing subgrades. Observations should also confirm loose or soft material, organics, unsuitable fill, and old topsoil zones were removed. Localized deepening of excavations may be required to penetrate deleterious or unsuitable fill materials. The resulting excavations should be backfilled with granular material.

RETAINING WALL DESIGN RECOMMENDATIONS

Minor on site retaining walls less than 5 feet may be needed at the site. We have provided design recommendations based on the following assumptions: (1) the walls consist of conventional, cantilevered retaining walls; (2) the walls are less than 5 feet in height; (3) the backfill is drained; and (4) the backfill has a slope flatter than 4H:1V. Re-evaluation of our recommendations will be required if the retaining wall design criteria for the project varies from these assumptions.

Unrestrained site walls that retain native soils or new fills should be designed to resist active fluid unit weight of 35 pounds per cubic foot (pcf) where supporting slopes are flatter than 4H:1V. If other surcharges (e.g., slopes steeper than 4H:1V, foundations, vehicles, etc.) are located within a horizontal distance from the back of a wall equal to twice the height of the wall, then additional pressures will need to be accounted for in the wall design. Contact our office for the appropriate wall surcharges based upon the actual magnitude and configuration of the applied loads. The wall footings should be designed in accordance with the guidelines provided in the "Foundation Design Recommendation" section of this report.

The design parameters provided assume that back-of-wall drains will be installed to prevent buildup of hydrostatic pressures behind all walls. A minimum 12-inch wide zone of drain rock, extending from the base of the wall to within 6 inches of finished grade, should be placed against the back of all retaining walls. Perforated collector pipes should be embedded at the base of the drain rock. The perforated collector pipes should discharge at an appropriate location away from the base of the wall. The backfill material placed behind the walls and extending a horizontal distance equal to at least the height of the retaining wall should consist of granular retaining wall backfill material meeting specifications provided in ODOT-SS 510.12. We recommend the select granular wall backfill be separated from general fill, native soil and/or topsoil using a geotextile fabric that meets the requirements provided in ODOT-SS 2320.10 for drainage geotextiles. The wall backfill should be compacted to a minimum of 92 percent of the maximum dry density, as determined by ASTM D 1557. Backfill placed within 3 feet of the wall should be compacted in lifts less than 6 inches thick using hand-operated tamping equipment (e.g., jumping jack or vibratory plate compactors).

Settlements of up to 1% of the wall height commonly occur immediately adjacent to the wall as the wall rotates and develops active lateral earth pressures. Consequently, we recommend that construction of flat work adjacent to retaining walls be postponed at least four (4) weeks after backfilling of the wall, unless survey data indicates that settlement is complete prior to that time.

PAVEMENT DESIGN RECOMMENDATIONS

Our pavement recommendations are based on the following assumptions:

- A resilient modulus of 4,500 psi for the native site soils.
- A resilient modulus of 20,000 psi estimated for the base rock.
- Initial and terminal serviceability index of 4.2 and 2.5, respectively.
- Reliability and standard deviation of 85% and 0.45, respectively.
- Structural coefficient of 0.42 and 0.10 for the asphalt and base rock, respectively.
- We assumed several Equivalent Single Axle Loads (ESALs) for pavement design. The actual ESALs should be selected based on traffic levels anticipated as the project moves forward.

If any of these assumptions are incorrect, contact our office with the appropriate information so we may revise the pavement designs. Pavement designs were based on the 1993 AASHTO pavement design equations. The development of pavement designs for the project pavements are in general accordance with the design guidelines and procedures of the American Association of State Highway and Transportation Officials (AASHTO) and the Oregon Department of Transportation (ODOT) Pavement Design Manual. Summary of our pavement design recommendations are in the table below.

Table 2 Minimum Pavement Sections

Traffic Loading (ESALs)	Asphalt Cement Concrete (inch)	Aggregate Base Rock (inch)
10,000 (Parking Lots)	3	8
50,000 (Driveways)	4	10

The thicknesses shown in Table 2 are intended to be minimum acceptable values.

The asphalt cement (AC) binder should be PG 64-22 Performance Grade Asphalt Cement according to ODOT-SS 00744.11 – Asphalt Cement and Additives. The AC should consist of dense graded Level 3, ½-inch hot mix asphalt. The minimum lift thicknesses should be 2.0 inches. The AC should conform to ODOT-SS 00744.13 and be compacted to 91% of Rice Density of the mix, as determined in accordance with ASTM D 2041.

The pavement subgrade should be prepared in accordance with the "Site Preparation" and "Structural Fill" sections of this report.

Construction traffic should be limited to non-building, unpaved portions of the project site or haul roads. Construction traffic should be prohibited on new pavements. If construction traffic is allowable on newly constructed road sections, an allowance for this additional traffic is necessary in the design pavement section.

If moist soil conditions make it difficult to properly moisture condition and compact the roadway subgrade, the use of cement amendment should be considered as alternative to moisture conditioning and compaction. The use of cement amendment will allow for construction of the pavement sections without disturbing the sensitive soil subgrade. If this method is chosen, contact ROG for additional recommendations and alternative pavement sections.

CONSTRUCTION RECOMMENDATIONS

Specifications referenced in this report refer to the 2018 version of Oregon State Standard Specifications for Construction (ODOT-SS, 2018) and the latest ODOT Special Provision (SP). We assume these specifications will serve, in part, as the project specifications for items contained within and for those not included in this report.

The existing near-surface root zone and gravels should be stripped and removed from the project site in all proposed building, fill, and pavement areas and for a 5-foot margin around such areas. We anticipate an average stripping depth of 4 to 6 inches with some localized deeper areas. The actual stripping depth should be based on field observations at the time of construction. Stripped material should be transported off site for disposal or stockpiled for use in landscaped areas.

Trees and shrubs should be removed from all pavement and improvement areas. In addition, root balls should be grubbed out to the depth of the roots, which could exceed 3 feet BGS. Depending on the methods used to remove the root balls, considerable disturbance and loosening of the subgrade could occur during site grubbing. We recommend soil disturbed during grubbing operations be removed to expose firm undisturbed subgrade. The resulting excavations should be backfilled with structural fill. The on-site soils are suitable for use as general fill, provided they are properly moisture conditioned and meet the requirements of ODOT-SS 00330.12 – Borrow Material and ODOT-SS 00330.13 – Selected General Backfill. Laboratory testing indicates the moisture content of the near-surface silts is greater than the soil's optimum moisture content required for satisfactory compaction. In order to adequately compact the soil, it may be necessary to moisture condition the soil to within 2 to 3 percentage points of the optimum moisture content. The native soils should be placed in lifts with a maximum uncompacted thickness of 6 to 8 inches and compacted to at least 92 percent of the maximum dry density, as determined by ASTM D 1557.

Imported granular material should be pit or quarry run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in ODOT-SS 00330.14 – Selected Granular Backfill and 00330.15 – Selected Stone Backfill. The imported granular material should be fairly well graded between coarse and fine material and have less than 5 percent by weight passing the U.S. Standard No. 200 Sieve. Imported granular material should be placed in lifts with a maximum uncompacted thickness of 8 to 12 inches and be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D 1557. During the wet season or when wet subgrade conditions exist, the initial lift should be approximately 18 inches in uncompacted thickness and should be compacted with a smooth-drum roller without using vibratory action. Where imported granular material is placed over wet or soft soil subgrades, we recommend a geotextile be placed as a barrier between the subgrade and imported granular material. The geotextile should meet ODOT-SS 2320.10 for soil separation and/or stabilization. The geotextile should be installed in conformance with ODOT-SS 00350.40 – Geosynthetic Construction.

Track-mounted excavating equipment may be required during wet weather. Care should be taken by providing adequate haul roads and staging areas. A 12 to 18 inch-thick mat of stabilization material (4 to 6 inch minus clean rock) is sufficient for light staging areas. The stabilization material for haul roads and areas with repeated heavy construction traffic typically needs to be increased to between 18 to 24 inches. The actual thickness of haul roads and staging areas should be based on the Contractor's approach to site development and the amount and type of construction traffic. The stabilization material should be placed in one lift over the prepared, undisturbed subgrade, and compacted using a smooth-drum, non-vibratory roller. Additionally, a geotextile fabric should be placed as a barrier between the subgrade and stabilization material in areas of repeated construction traffic.

Cuts should stand vertical to a depth of approximately 4 feet, provided no groundwater seepage is encountered in the cut walls. Open excavation may be used to excavate trenches with depths of between 4 and 8 feet, provided the walls of the excavation are cut at a slope of 1H:1V, groundwater seepage is not present, and with the understanding that some sloughing may occur. The walls should be flattened to 1.5H: 1V if excessive sloughing occurs or seepage is present.

Use of approved temporary shoring is recommended for cuts which extend below groundwater seepage or for vertical wall cuts deeper than 4 feet. We recommend the type and design of the shoring system be the responsibility of the Contractor, who is in the best position to choose a system which fits the overall

plan of operation. All excavations should be made in accordance with applicable OSHA and State regulations.

CONSTRUCTION OBSERVATIONS

Satisfactory earthwork performance depends on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining if the work is completed in accordance with the construction drawings and specifications. We recommend a geotechnical engineer from ROG be retained to observe geotechnical related construction efforts.

Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations discussed above. Recognition of changed conditions requires experience. Therefore, qualified personnel should visit the site with sufficient frequency in order to detect whether subsurface conditions have changed significantly from those anticipated.

LIMITATIONS

This technical memorandum has been prepared exclusively for the Project design team for the above-mentioned project, in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The geotechnical strength parameters described herein are based on subsurface conditions available from field explorations as documented in this report. Simplifying assumptions are made for data interpretation. These data indicate subsurface conditions only at specific locations and times, and only to the depths penetrated. The data do not necessarily reflect variations which may exist between such locations. If variations in subsurface condition from those described are noted during supplemental exploration or construction, the recommendations in this technical memorandum must be reevaluated.

Rhino One hopes this submittal meets your requirements at this time. Please call us if you need further information.

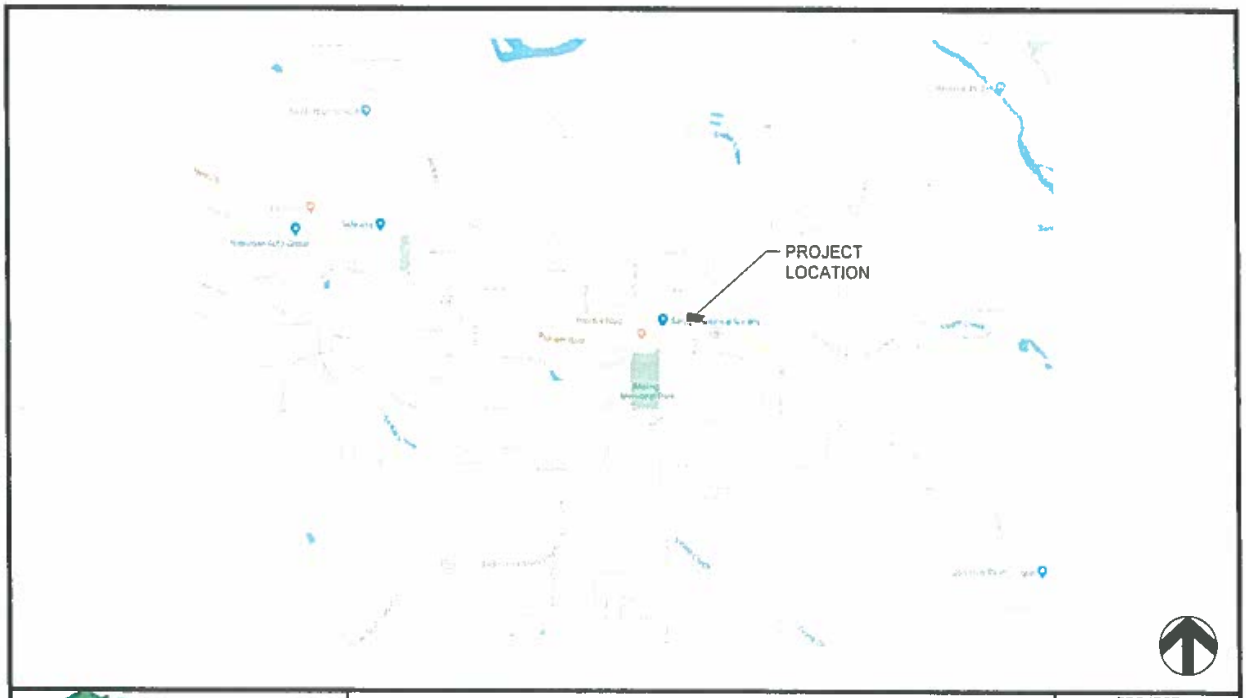
Sincerely,
RhinoOne Geotechnical

Christina Hemberry, PE
Staff Geotechnical Engineer

Rajiv Ali, PE GE (OR)
Principal Geotechnical Engineer

Attachments

Figure 1: Site Location Map
Figure 2: Site Exploration Map
Boring Logs: B-1 to B-5
Laboratory Test Data (2 sheets)



RhinoOne
GEOTECHNICAL
4610 NE 77th Avenue, Suite 126
Vancouver, Washington 98662
360-258-1738

NEW COFFEE SHOP AND RELATED IMPROVEMENTS
PROCTOR BOULEVARD AND SE TEN EYCK ROAD, SANDY, OREGON 97055

PROJECT
CVP-2018-001

FIGURE 1 - SITE LOCATION MAP

DATE
DEC 2018

LEGEND

● B-#

BORING NUMBER AND APPROXIMATE LOCATION

RhinoOne GEOTECHNICAL
4610 NE 77th Avenue, Suite 126
Vancouver, Washington 98662
360-258-1738

NEW COFFEE SHOP AND RELATED IMPROVEMENTS
PROCTOR BOULEVARD AND SE TEN EYCK ROAD, SANDY, OREGON 97055

PROJECT
CVP-2018-001

FIGURE 2 - SITE EXPLORATION MAP

DATE
DEC 2018

RhinoOne GEOTECHNICAL

BORING NUMBER B-1

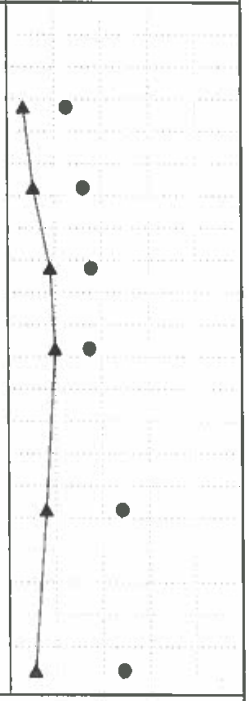
CLIENT Cole Valley Partners
PROJECT NUMBER CVP-2018-001
DATE STARTED 11/21/18 COMPLETED 11/21/18
DRILLING CONTRACTOR Dan Fischer Excavating
DRILLING METHOD Solid Stem Auger with Manual Hammer
LOGGED BY PH CHECKED BY CH
NOTES

PROJECT NAME New Coffee Shop and Related Improvements
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
GROUND ELEVATION 1016 ft HOLE SIZE 4.5 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- Not Encountered
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), damp (Fill)					
		CLAY with trace sand (CH), red-brown, high plasticity, damp to moist, medium stiff, sand is mostly coarse-grained	SPT 1	11	3-3-4 (7)		
5		becomes stiff	SPT 2	100	3-4-7 (11)		
		becomes very stiff	SPT 3	100	5-7-11 (18)		
10		becomes with light tan mottling	SPT 4	100	8-8-12 (20)		
15		becomes with heavy grey mottling 2-inch layer of silty SAND (SM), brown	SPT 5	100	5-7-9 (16)		
20		becomes stiff	SPT 6	100	3-5-6 (11)		

Bottom of borehole at 21.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-2

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 COMPLETED 11/21/18
GROUND ELEVATION 1017 ft HOLE SIZE 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ AT TIME OF DRILLING 7.00 ft / Elev 1010.00 ft
LOGGED BY PH CHECKED BY CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Sandy GRAVEL with silt (GP), grey, damp, loose to medium dense, subangular to angular (Fill)						
		2-inch layer of CLAY (CH), red	SPT 1	56	5-5-5 (10)			
5			SPT 2	67	5-5-5 (10)			
		▽ becomes wet becomes loose, with odor	SPT 3	33	6-4-4 (8)			
10		CLAY with trace sand (CH), red-brown, medium to high plasticity, moist, very stiff, moderate distinct grey mottling	SPT 4	100	5-8-13 (21)			
			SPT 5	100	4-8-12 (20)			
15			SPT 6	100	5-6-12 (18)			
20		becomes stiff	SPT 7	100	3-6-6 (12)			

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-3

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 COMPLETED 11/21/18
GROUND ELEVATION 1016 ft HOLE SIZE 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH CHECKED BY CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Silty SAND with gravel (SM), dark brown, moist, loose (Fill)					
			SPT 1	100	2-1-2 (3)		
		CLAY with sand (CH), brown, medium plasticity, moist, soft					
5		becomes red-brown, medium stiff	SPT 2	78	2-3-4 (7)		
		becomes brown					
		becomes stiff with odor	SPT 3	100	4-5-6 (11)		
10		becomes red-brown, high plasticity, very stiff, with moderate grey mottling	SPT 4	89	5-9-13 (22)		
15		becomes stiff	SPT 5	100	4-4-8 (12)		
20			SPT 6	100	4-4-8 (12)		

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-4

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 COMPLETED 11/21/18
GROUND ELEVATION 1016 ft HOLE SIZE 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ AT TIME OF DRILLING 7.50 ft / Elev 1008.50 ft
LOGGED BY PH CHECKED BY CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Sandy GRAVEL with silt (GP), grey, moist, loose (Fill)						
			SPT 1	83	4-4-4 (8)			
5			SPT 2	33	2-2-3 (5)			
		SAND (SP), grey, wet, loose, strong odor	SPT 3	33	2-2-4 (6)			
10		CLAY with sand (CL), brown, medium plasticity, moist, very soft	SPT 4	44	2-0-1 (1)			

Bottom of borehole at 11.5 feet.

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RhinoOne GEOTECHNICAL

BORING NUMBER B-5

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 COMPLETED 11/21/18
GROUND ELEVATION 1012 ft HOLE SIZE 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH CHECKED BY CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Grass root zone (4-inches)						
		CLAY with sand (CH), brown, medium to high plasticity, damp, stiff	SPT 1	100	4-4-7 (11)			
5		becomes stiff to very stiff	SPT 2	100	6-7-8 (15)			
		becomes red-brown, high plasticity, stiff	SPT 3	100	3-5-9 (14)			
10		becomes very stiff, moderate grey mottling	SPT 4	100	4-6-11 (17)			
15		becomes stiff	SPT 5	100	6-5-7 (12)			
20			SPT 6	100	6-5-7 (12)			

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

Laboratory Results
Oven Dry Moisture Content (ASTM D 2216)

Project Name:	New Coffee Shop	Date:	21-Nov-18
Project Number:	CVP-2018-001	Tested By:	RA
Location:	39625 Proctor Boulevard, Sandy, Oreogn	Laboratory Number:	2018-00067

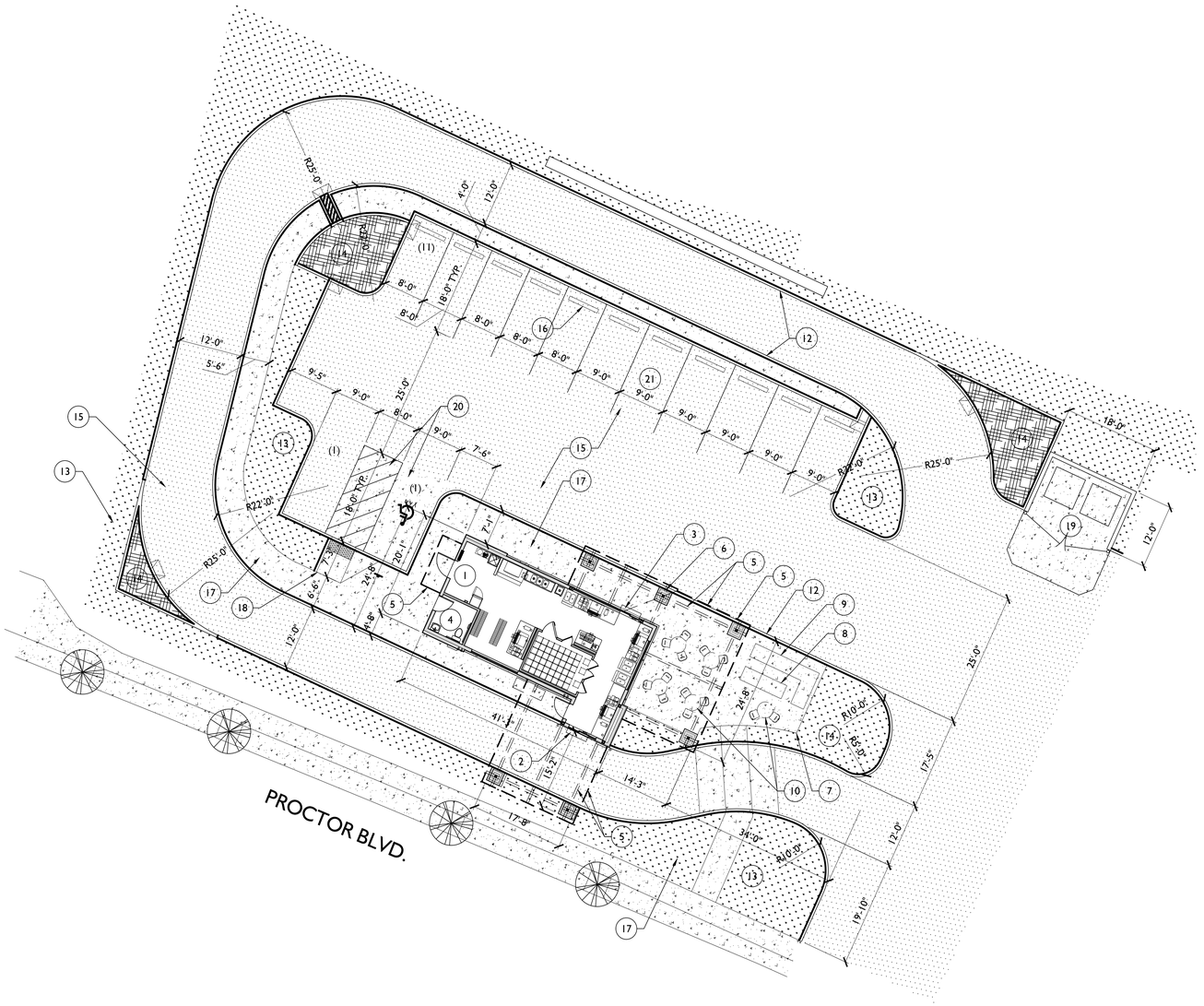
Boring Number	Depth	Tare Number	Weight of Tare	Weight of Tare + Wet Soil	Weight of Tare + Dry Soil	Weight of Dry Soil	Weight of Water	Water Content by Weight
B-1	2.5 - 4	001	51.25	139.08	121.51	70.26	17.57	25.0%
B-1	5 - 6.5	002	51.58	167.63	139.51	87.93	28.12	32.0%
B-1	7.5 - 9	013	50.26	158.35	130.14	79.88	28.21	35.3%
B-1	10 - 11.5	015	51.55	157.43	130.28	78.73	27.15	34.5%
B-1	15 - 16.5	016	51.66	160.53	125.1	73.44	35.43	48.2%
B-1	20 - 21.5	007	51.72	155.95	121.8	70.08	34.15	48.7%
B-2	2.5 - 4	026	51.42	168.49	157.68	106.26	10.81	10.2%
B-2	5 - 6.5	018	51.58	161.13	150.01	98.43	11.12	11.3%
B-2	7.5 - 9	006	51.12	168.15	149.64	98.52	18.51	18.8%
B-2	10 - 11.5	025	51.55	166.16	134.8	83.25	31.36	37.7%
B-2	12.5 - 14	004	51.36	156.25	124.62	73.26	31.63	43.2%
B-2	15 - 16.5	008	51.82	172.83	131.03	79.21	41.8	52.8%
B-2	20 - 21.5	019	51.37	159.83	120.48	69.11	39.35	56.9%
B-3	2.5 - 4	020	51.76	174.41	143.52	91.76	30.89	33.7%
B-3	5 - 6.5	021	51.01	161.01	132.76	81.75	28.25	34.6%
B-3	7.5 - 9	022	51.79	153.01	126.14	74.35	26.87	36.1%
B-3	10 - 11.5	023	51.7	176.04	143.39	91.69	32.65	35.6%
B-3	15 - 16.5	027	51.54	162.79	125.38	73.84	37.41	50.7%
B-3	20 - 21.5	009	51.49	159.35	122.4	70.91	36.95	52.1%
B-4	2.5 - 4	011	51.61	175.06	161.44	109.83	13.62	12.4%
B-4	5 - 6.5	003	51.25	180.09	161.44	110.19	18.65	16.9%
B-4	10 - 11.5	024	51.66	104.36	90.45	38.79	13.91	35.9%
B-5	2.5 - 4	028	51.48	170.17	148.17	96.69	22	22.8%
B-5	5 - 6.5	029	51.55	173.86	145.68	94.13	28.18	29.9%

RhinoOne GEOTECHNICAL

Laboratory Results
Oven Dry Moisture Content (ASTM D 2216)

Project Name:	New Coffee Shop	Date:	21-Nov-18
Project Number:	CVP-2018-001	Tested By:	RA
Location:	39625 Proctor Boulevard, Sandy, Oreogn	Laboratory Number:	2018-00067

Boring Number	Depth	Tare Number	Weight of Tare	Weight of Tare + Wet Soil	Weight of Tare + Dry Soil	Weight of Dry Soil	Weight of Water	Water Content by Weight
B-5	7.5 - 9	030	51.68	172.36	140.56	88.88	31.8	35.8%
B-5	10 - 11.5	012	51.54	179.93	145.38	93.84	34.55	36.8%
B-5	15 - 16.5	032	51.45	160.84	126.03	74.58	34.81	46.7%
B-5	20 - 21.5	031	51.68	157.8	118.89	67.21	38.91	57.9%



REFERENCE ONLY SITE PLAN

SCALE: 3/32" = 1'-0"

NORTH

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

Site Plan Keynotes

1. PRIMARY BUILDING ENTRANCE (EMPLOYEE).
2. DRIVE-THRU SERVICE WINDOW AND COUNTER.
3. WALK-UP SERVICE WINDOW AND COUNTER.
4. ACCESSIBLE RESTROOM PER FLOOR PLAN.
5. DASHED LINE INDICATES BUILDING / PORCH OVERHANG AND FRAMING ABOVE. SEE ROOF PLAN FOR ADDITIONAL INFORMATION.
6. PORCH COLUMN AND PEDESTAL PER STRUCTURAL PLAN, TYP.
7. CONCRETE PATIO PER FLOOR PLAN.
8. BUILT-IN FIRE PIT.
9. BUILT-IN SEATING AT FIRE PIT AREA.
10. OUTDOOR TABLE AND SEATING PER OWNER, TYP.
11. ~~TRAFFIC STRIPING PER DEVELOPMENT PLANS.~~
12. CONCRETE CURB. CONNECT TO EXISTING CURB WHERE OCCURS PER DEVELOPMENT PLAN DETAILS.
13. LANDSCAPE AREA PER LANDSCAPE PLAN.
14. RAINWATER RETENTION AREA PER DEVELOPMENT PLAN.
15. ASPHALT PAVEMENT PER DEVELOPMENT PLAN.
16. PARKING BUMPER PER DEVELOPMENT PLAN, TYP.
17. CONCRETE SIDEWALK PER DEVELOPMENT PLAN.
18. CONCRETE CURB ACCESS RAMP PER DEVELOPMENT PLAN.
19. TRASH ENCLOSURE LOCATION PER DEVELOPMENT PLAN. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION.
20. HANDICAP ACCESSIBLE PARKING SPOT AND AISLE PER DEVELOPMENT PLAN.
21. PARKING SPACE PER DEVELOPMENT PLAN, TYP.
22. ~~SHORT TERM BICYCLE RACK PER DEVELOPMENT PLAN.~~
23. ~~LONG TERM BICYCLE RACK PER DEVELOPMENT PLAN.~~
24. ~~SIDEWALK SCUPPER PER DEVELOPMENT PLAN.~~
25. ~~LOCATION DRIVE-THRU SIGN PER SEPARATE PERMIT. SHOWN FOR REFERENCE ONLY. COORDINATE REQUIREMENTS.~~
26. ~~LOCATION MONUMENT SIGN PER SEPARATE PERMIT. SHOWN FOR REFERENCE ONLY. COORDINATE REQUIREMENTS.~~
27. ~~PROPERTY LINE PER DEVELOPMENT PLAN. VERIFY LOCATION / DIMENSIONS.~~
28. ~~SIGHT VISIBILITY TRIANGLES PER DEVELOPMENT PLAN.~~
29. ~~GREASE INTERCEPTOR PER PLUMBING PLAN.~~
30. ~~WATER METER AND BACK FLOW PREVENTER PER PLUMBING PLAN.~~
31. ~~ELECTRICAL SERVICE ENTRANCE AND METER PER ELECTRICAL PLAN.~~
32. ~~GAS SERVICE ENTRANCE AND METER PER PLUMBING PLAN.~~

Parking Calculations

BUILDING SQUARE FOOTAGES

BUILDING CORE	834 SF
CANOPY / COVERED PATIO	906 SF
GROSS FLOOR AREA (GFA)	1740 SF

NUMBER OF PARKING SPACES REQUIRED
17.98.20.8 EATING OR DRINKING ESTABLISHMENTS = 1/250 GFA + 1 PER 2 EMPLOYEES

1740 SF / 250 = 6.96 (7)	7 SPACES
10 EMPLOYEES / 2 = 5	5 SPACES
TOTAL	12 SPACES REQUIRED

MAXIMUM PARKING ALLOWED (17.98.10.Q) = +30% REQUIRED

12 SPACES X 1.3 = 15.6 (16)	16 SPACES MAXIMUM
PARKING PROVIDED	13 SPACES / OK

pricing only not for construction

Expires 09.30.19

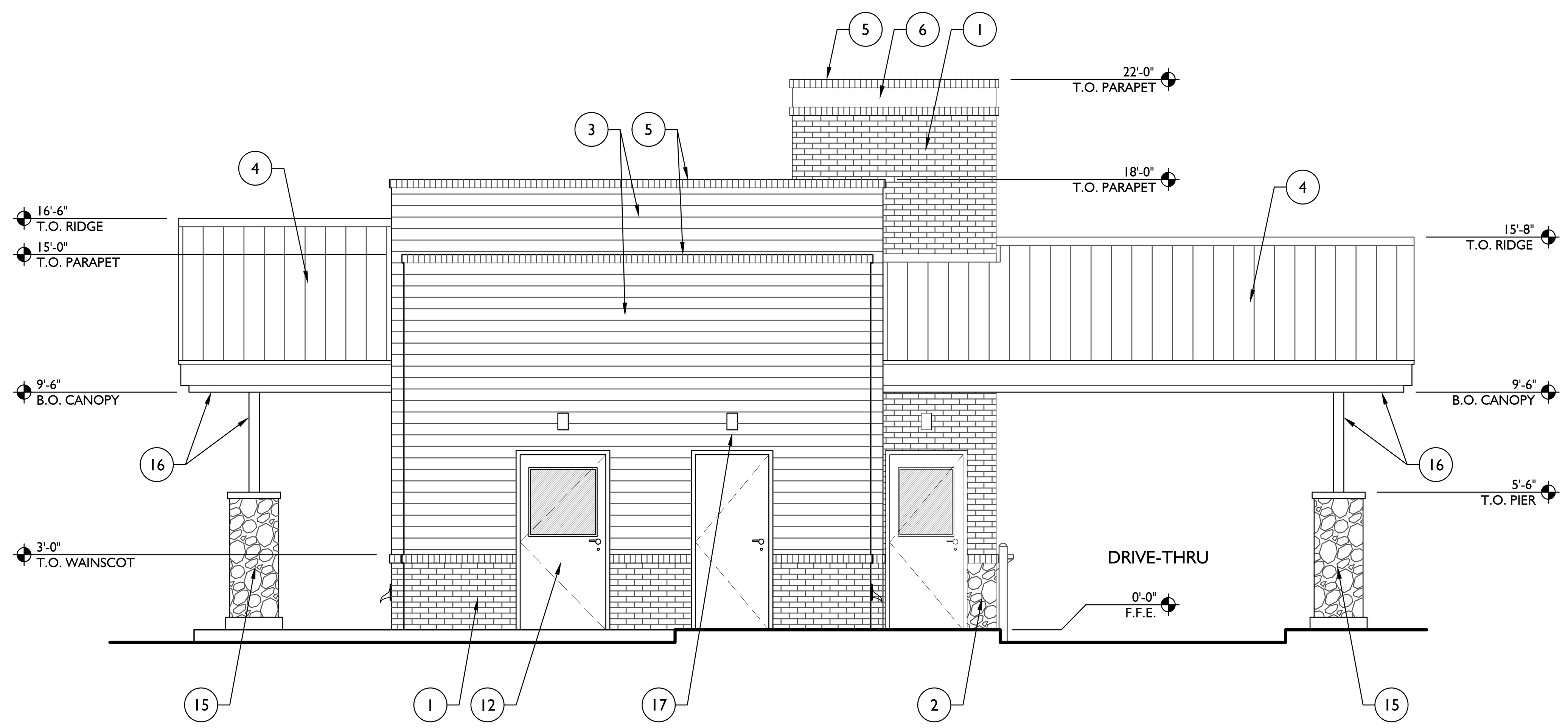
Revisions

REFERENCE ONLY
SITE PLAN

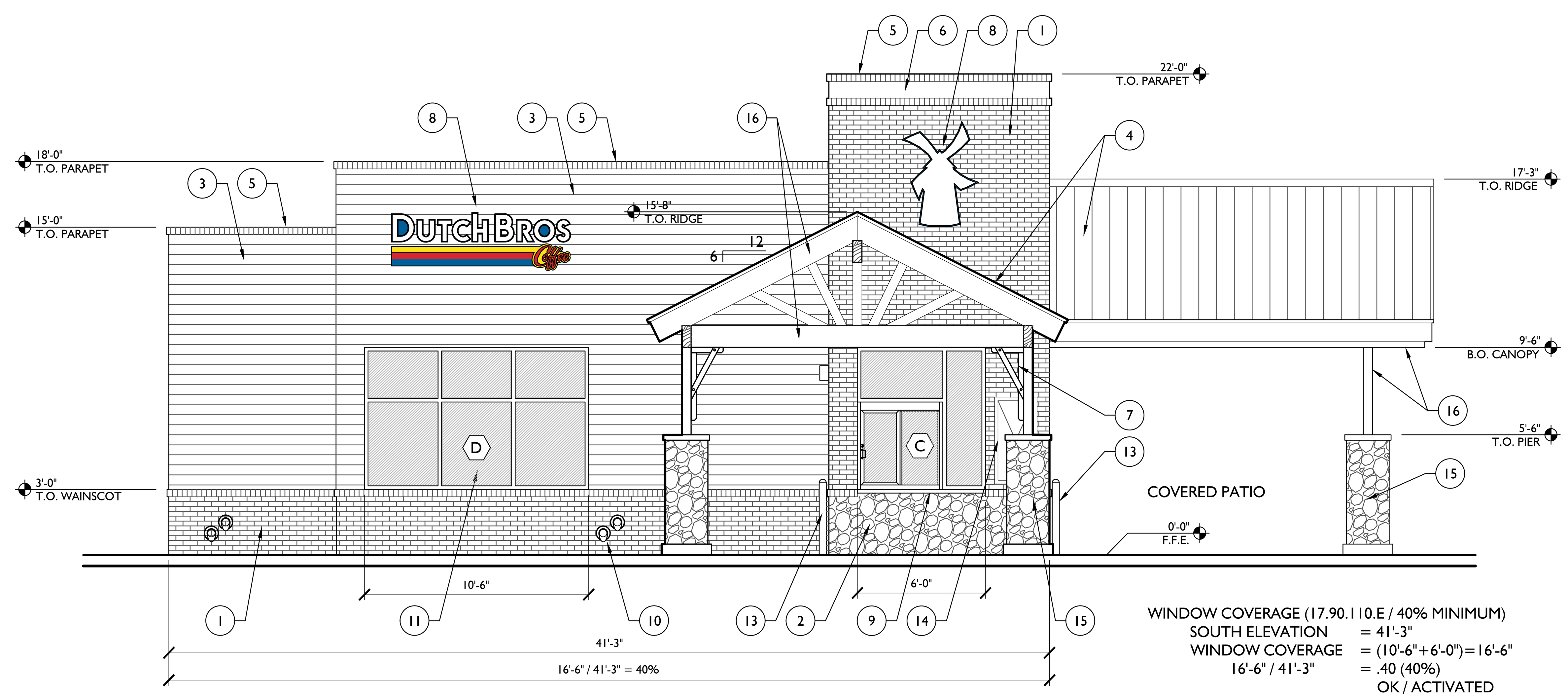
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.545.0161 phone
www.a23studios.com
a.23 studios

Project	18069
Date	01.23.19
Scale	As Noted
Sheet	A1.1



1 WEST ELEVATION
Scale: 1/4" = 1'-0"



WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
SOUTH ELEVATION = 41'-3"
WINDOW COVERAGE = (10'-6"+6'-0")=16'-6"
16'-6" / 41'-3" = .40 (40%)
OK / ACTIVATED

2 SOUTH ELEVATION
Scale: 1/4" = 1'-0"

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

ELEVATION KEYNOTES:

1. THIN BRICK VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
2. MANUFACTURED STONE VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
3. MANUFACTURED COMPOSITE SIDING W/ HORIZONTAL ORIENTATION.
4. PRE-FINISHED STANDING SEAM METAL ROOF PER ROOF PLAN.
5. BRICK PARAPET CAP PER DETAILS.
6. BRICK CORNICE PER DETAILS.
7. NATURAL COLOR WOOD KNEE BRACE / BRACKET PER DETAILS.
8. LIGHTED SIGN, INSTALLED BY SIGN CONTRACTOR, COORDINATE ELECTRICAL J-BOX AND BLOCKING REQUIREMENTS.
9. STAINLESS STEEL SERVICE TRAY, OWNER FURNISHED, CONTRACTOR INSTALLED.
10. ROOF DRAIN MAIN AND OVERFLOW ROOF DRAIN OUTLET, COLOR: AS SELECTED BY OWNER.
11. WINDOW SYSTEM PER WINDOW ELEVATIONS.
12. EXTERIOR DOOR, PAINTED, FINISH DUTCH BROS GREY.
13. 6" STEEL PIPE BOLLARD WITH PLASTIC SLEEVE, COLOR: DUTCH BROS BLUE, SEE: STRUCTURAL. SLEEVE PROVIDED BY OWNER.
14. BACKLIT MENU BOARD, OWNER FURNISHED CONTRACTOR INSTALLED. APPROX. SIZE 30"Wx42"H.
15. PIER W/ MANUFACTURED STONE VENEER FINISH AND SOLID CAP PER DETAILS, STRUCTURAL PLANS.
16. WOOD FRAMED CANOPY: GABLE ROOF AS SHOWN, NATURAL COLOR HEAVY TIMBER POSTS AND BEAMS W/ EXPOSED HEAVY STEEL BRACKETS. SEE DETAIL SHEETS, STRUCTURAL AND ROOF PLANS FOR ADDITIONAL INFORMATION.
17. LIGHT FIXTURE PER RCP, ELECTRIC PLAN. B.O. FIXTURE TO BE AT 8' - 0" A.F.F., U.N.O.

pricing only not for construction
Expires 09.30.19

Revisions

BUILDING ELEVATIONS

DUTCH BROS
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www.a23studios.com

a.23 studios

Project	18069
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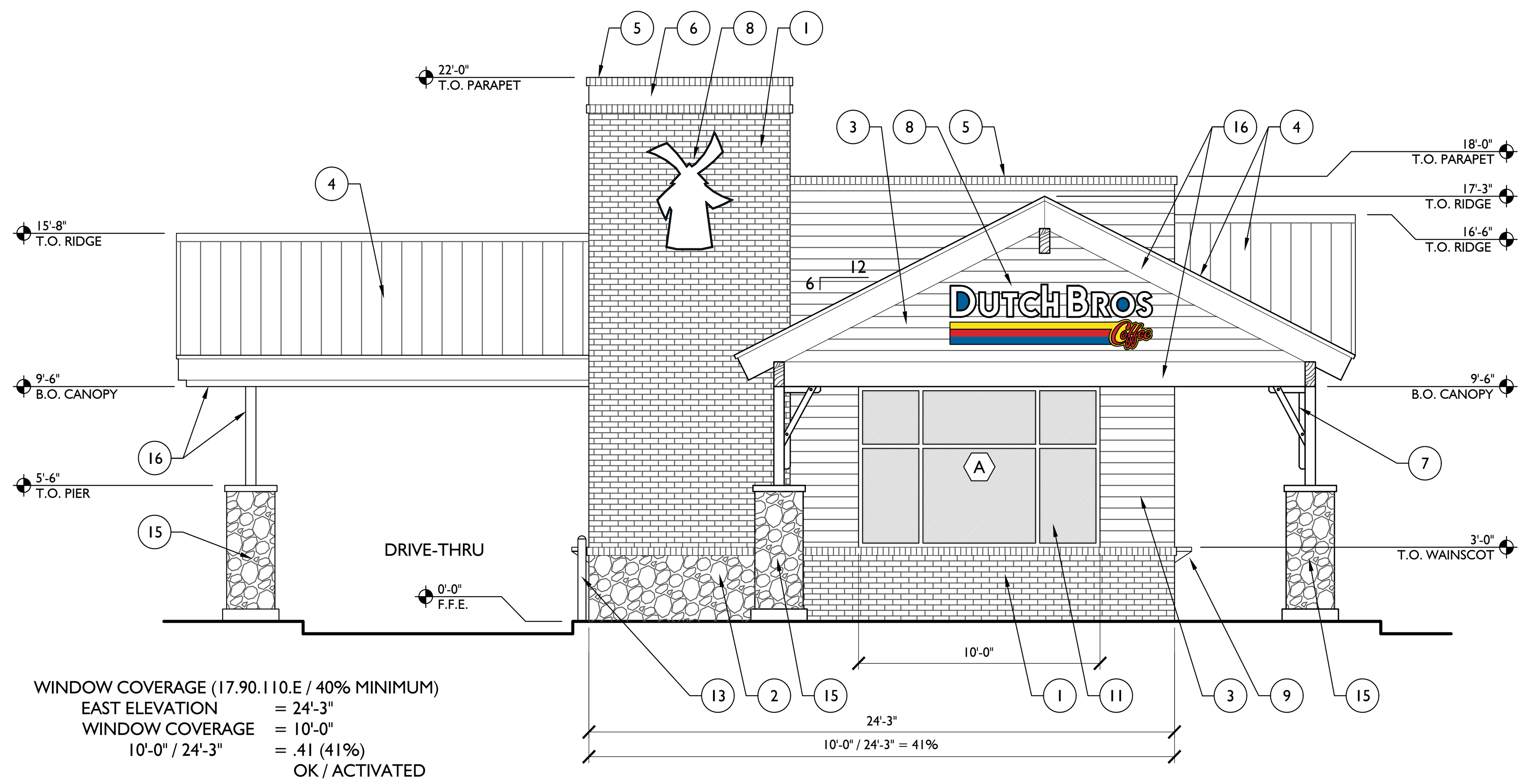
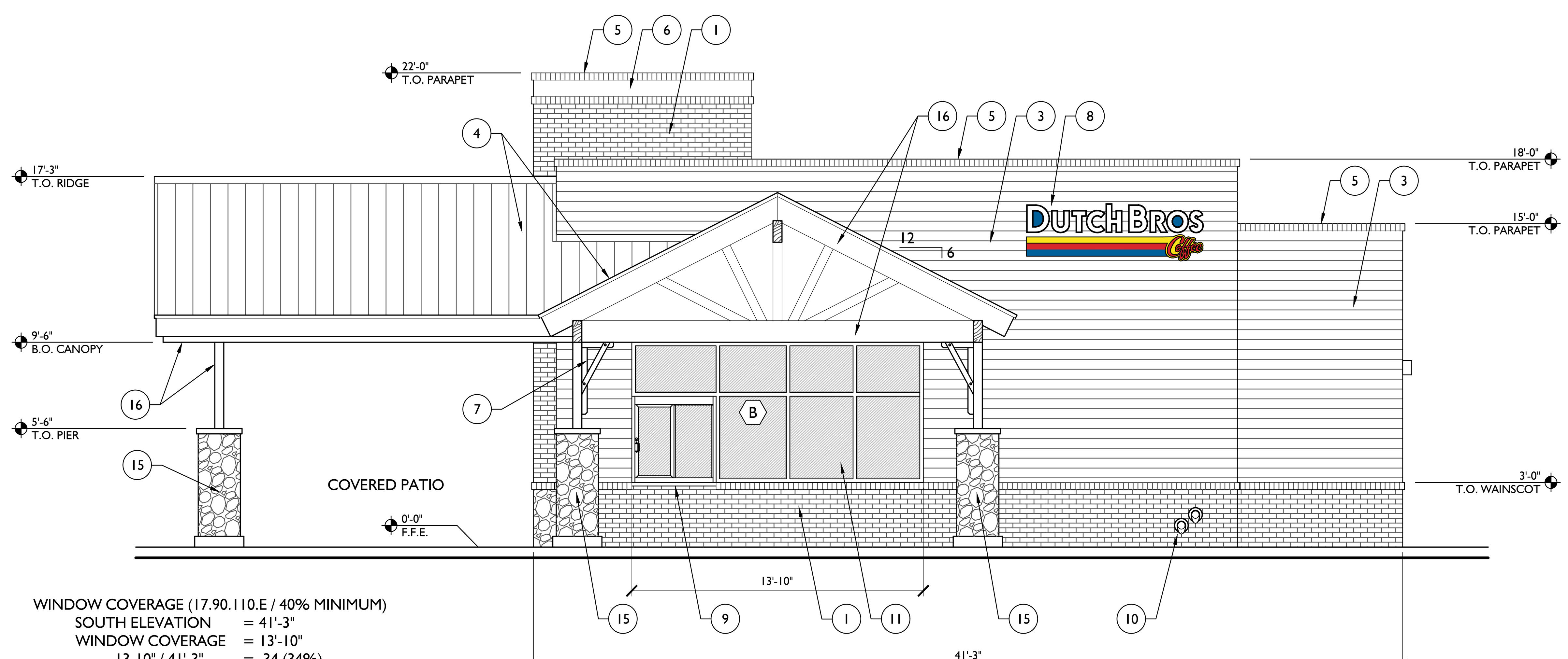


WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
EAST ELEVATION = 24'-3"
WINDOW COVERAGE = 10'-0"
10'-0" / 24'-3" = .41 (41%)
OK / ACTIVATED

3 EAST ELEVATION
Scale: 1/4" = 1'-0"



WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
SOUTH ELEVATION = 41'-3"
WINDOW COVERAGE = 13'-10"
13-10" / 41'-3" = .34 (34%)
NOT ACTIVATED

4 NORTH ELEVATION
Scale: 1/4" = 1'-0"

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

ELEVATION KEYNOTES:

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2. MANUFACTURED STONE VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
3. MANUFACTURED COMPOSITE SIDING W/ HORIZONTAL ORIENTATION.
4. PRE-FINISHED STANDING SEAM METAL ROOF PER ROOF PLAN.
5. BRICK PARAPET CAP PER DETAILS.
6. BRICK CORNICE PER DETAILS.
7. NATURAL COLOR WOOD KNEE BRACE / BRACKET PER DETAILS.
8. LIGHTED SIGN, INSTALLED BY SIGN CONTRACTOR, COORDINATE ELECTRICAL J-BOX AND BLOCKING REQUIREMENTS.
9. STAINLESS STEEL SERVICE TRAY, OWNER FURNISHED, CONTRACTOR INSTALLED.
10. ROOF DRAIN MAIN AND OVERFLOW ROOF DRAIN OUTLET, COLOR: AS SELECTED BY OWNER.
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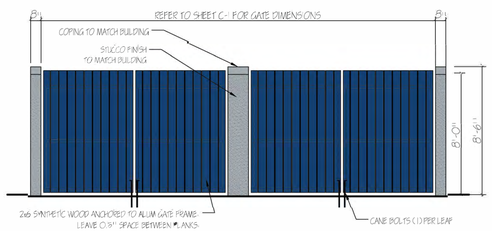
1 SOUTHEAST VIEW

2 NORTHEAST VIEW



ELEV. DUMPSTER ENCLOSURE

DUTCH BROS

Proposed Dutch Bros Restaurant
39625 Proctor Blvd.
Sandy, OR

LIGHTING FIXTURE SCHEDULE

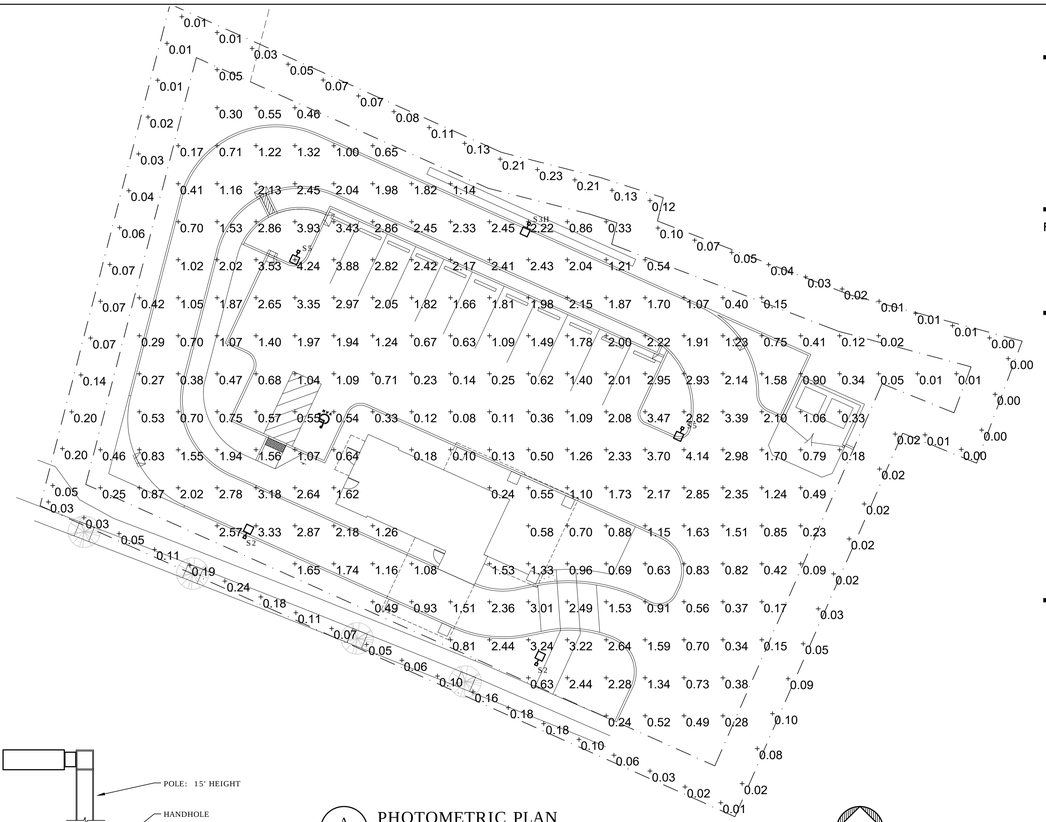
FIXTURE SCHEDULE GENERAL NOTES:

1. FIXTURES SHALL HAVE APPROPRIATE U.L. LABEL (i.e., DAMP OR WET) AS REQUIRED BY CODES AND ORDINANCES.
2. FIXTURES SHALL INCLUDE ALL ACCESSORIES NECESSARY FOR INSTALLATION ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND AS REQUIRED BY CODES AND LOCAL ORDINANCES.
3. PRIOR TO ORDERING ANY LIGHTING EQUIPMENT, THE CONTRACTOR SHALL COORDINATE ALL FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND CEILING CAVITY DEPTHS.
4. ALL LAMPS SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE ATTACHED FIXTURE SCHEDULE AND SPECIFICATIONS. ENSURE COMPATIBILITY BETWEEN FIXTURE, LAMP(S) AND BALLAST(S). (OSRAM SYLVANIA SERIES)
5. CONTRACTOR SHALL VERIFY FIXTURE VOLTAGES AND CEILING TRIM COMPATIBILITY PRIOR TO ORDERING FIXTURE.
6. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTING FIXTURES LOCATED IN FIRE-RATED CEILINGS.
7. LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY. PROVIDE ALL NECESSARY HARDWARE AS REQUIRED BY THE SPECIFICATIONS, DRAWINGS, AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION.
8. ENSURE COMPATIBILITY OF ALL LIGHTING SYSTEM COMPONENTS, ESPECIALLY DIMMED SYSTEMS. FIXTURES, LED DRIVERS LAMPS, BALLAST(S), AND DIMMING SYSTEMS/INDIVIDUAL CONTROLS SHALL BE FACTORY CERTIFIED COMPATIBLE FOR FULL RANGE OF DIMMING COMPATIBILITY.
9. PROVIDE CLEARANCES FROM COMBUSTIBLES: A MINIMUM OF \" (OTHER THAN AT POINTS OF SUPPORT) AND 3" FROM INSULATION FOR RECESSED LIGHTING FIXTURES WHICH ARE NON-IC RATED.
10. FOR FIXTURES RECESSED IN SUSPENDED T-BAR CEILING, PROVIDE A MINIMUM OF TWO (2) #12 SUPPORT WIRES ATTACHED TO BUILDING FRAME IN ADDITION TO T-BAR CLIPS.
11. FIXTURES WITH EMERGENCY BATTERY BACKUP SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING IN COMPLIANCE WITH NEC ARTICLE 700.
12. EMERGENCY LIGHTING UNITS SHALL BE EQUIPPED WITH FACTORY-INSTALLED INTEGRAL TEST SWITCHES.
13. FOR ALL FIXTURES LOCATED IN FOOD SERVICE AREAS, PROVIDE DOOR-TO-FRAME AND LENS-TO-DOOR GASKETING, INVERTED LENS, AND FOOD SERVICE RATING.
14. LED FIXTURES SHALL EQUAL OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:
    - L8/50: 80% OF LUMEN OUTPUT AT 50,000 HOURS
    - CRI GREATER THAN OR EQUAL TO 80.
    - LUMENS PER WATT: DOWNLIGHTS = GREATER THAN 60, OTHERWISE GREATER THAN 90.
    - UNIFORMITY: (3) MCADAMS ELLIPSES.
    - FUNCTIONAL LIFE: GREATER THAN 60,000 HOURS
    - INTERIOR AMBIENT: GREATER THAN 40°C, 104°F
    - EXTERIOR AMBIENT: GREATER THAN 50°C, 122°F
    - SEAL AGAINST DUST AND INSECT ENTRY.
    - POWER FACTOR: 0.9 OR BETTER.
    - MANUFACTURERS GUARANTEE: 5 YEARS.
15. FOR LED RETROFIT LAMPS, PROVIDE SELF-BALLASTED LED LAMPS WITH THESE CHARACTERISTICS:
    - CRI GREATER THAN OR EQUAL TO 80.
    - COLOR = 2700K OR 3000K
    - LIFE = GREATER THAN OR EQUAL 25,000 HOURS
    - MANUFACTURERS GUARANTEE = 5 YEARS.
    - DIMMABLE AS NOTED.
    - LUMENS AS NOTED.
16. WHERE FIXTURE AND/OR LAMP IS SPECIFIED BY MANUFACTURER AND CATALOG NUMBER, PERFORMANCE OF PROPOSED SUBSTITUTE SHALL EQUAL OR EXCEED PUBLISHED DATA OF THE SPECIFIED FIXTURE.

TYPE	DESCRIPTION AND MANUFACTURER	NOTES
52 / 70	LED AREA LUMINAIRE - TYPE 2 DISTRIBUTION VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: LITHONIA #DSX1LED-P2-30K-T2M-MVOLT-HS SERIES	
S3H / 70	LED AREA LUMINAIRE - TYPE 3 DISTRIBUTION WITH HOUSE SIDE SHIELD. VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: LITHONIA #DSX1LED-P2-30K-T3M-MVOLT-HS SERIES	
55 / 70	LED AREA LUMINAIRE - TYPE 5 DISTRIBUTION VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: LITHONIA #DSX1LED-P2-30K-T5M-MVOLT SERIES	

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

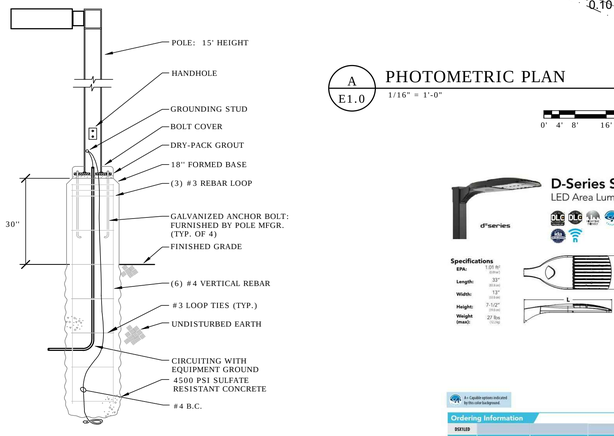
PLOTTED BY: JUSTIN DAGERMAN ON Thursday, January 24, 2019 AT 6:08 PM FROM C:\Users\jdagerman\Desktop\Temp\A18079-E10 - Standard\A18079-E10.dwg



A E1.0 PHOTOMETRIC PLAN
1/16" = 1'-0"

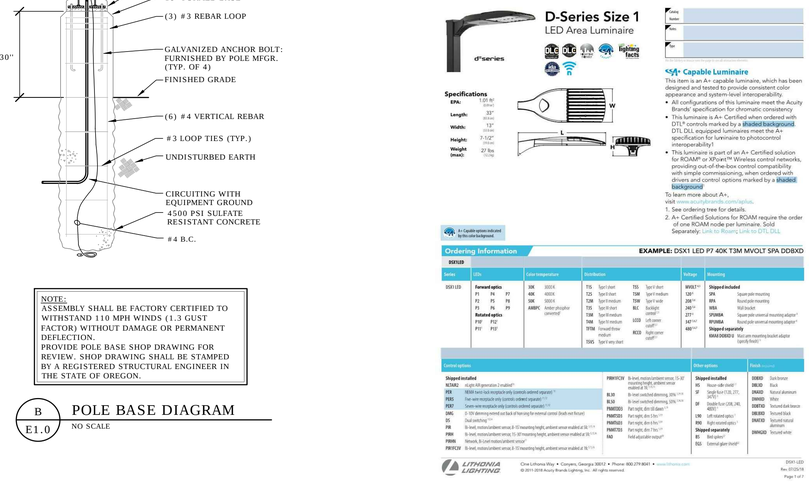
0' 4' 8' 16' 32'

NORTH



NOTE:
ASSEMBLY SHALL BE FACTORY CERTIFIED TO WITHSTAND 110 MPH WINDS (1.3 GUST FACTOR) WITHOUT DAMAGE OR PERMANENT DEFLECTION.
PROVIDE POLE BASE SHOP DRAWING FOR REVIEW. SHOP DRAWING SHALL BE STAMPED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF OREGON.

B E1.0 POLE BASE DIAGRAM
NO SCALE



Revisions

PHOTOMETRIC PLAN

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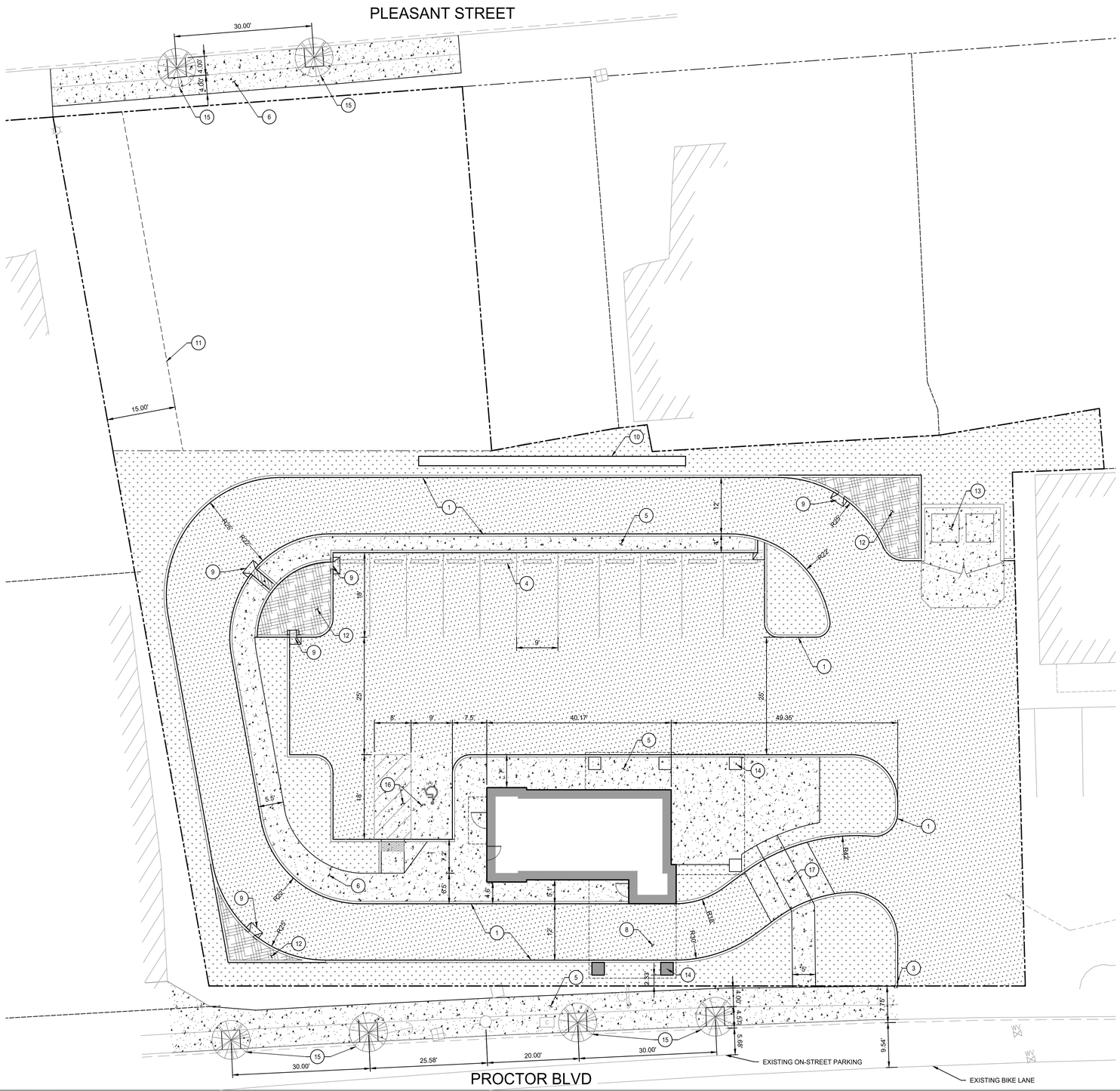

SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. ALL SIDEWALK PAVEMENT JOINTS SHALL BE CONSTRUCTED PER DETAIL X/C5.X.

(X) KEY NOTES

1	SAWCUT LINE
2	STANDARD CURB
3	CURB ENDING
4	WHEEL STOP
5	CONCRETE SIDEWALK - PER PLEASANT STREET MAST PLAN DETAIL
6	CONCRETE SIDEWALK - PER MID-BLOCK SURFACING DETAIL
7	CURB RAMP
8	OVERHEAD CANOPY
9	CURB SPILLWAY
10	ULTRA BLOCK RETAINING WALL
11	15' UTILITY EASEMENT
12	FLOW-THROUGH-PLANTER
13	TRASH ENCLOSURE
14	CANOPY COLUMN
15	FRONTAGE TREE WITH GRATE
16	ADA PARKING STALLS
17	PEDESTRIAN CROSSING

SHEET LEGEND

- PROPERTY LINE
- CONCRETE SIDEWALK
- STANDARD ASPHALT PAVEMENT
- STORMWATER FLOW-THROUGH-PLANTER
- LANDSCAPING, SEE LANDSCAPE PLANS

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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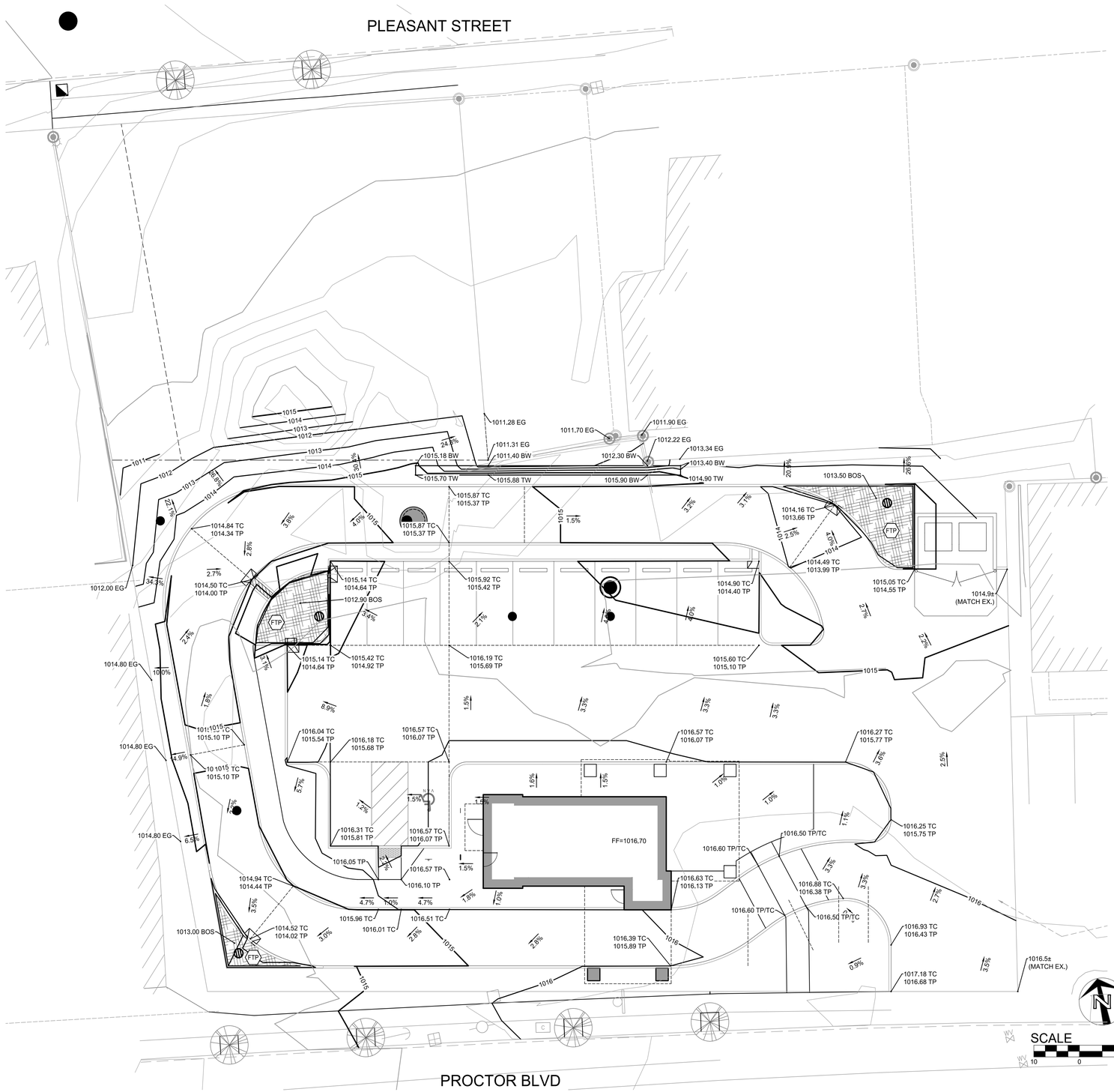
SITE PLAN

Plotted: 1/28/19 at 9:45am By: FCE-CIV-1
Xrefs: File: P-20181818-C023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-C023_C2.0_SITE.dwg T4B-C2.0



SHEET NOTES

1. SLOPES PROVIDED ON SLOPE ARROW ARE FOR REFERENCE ONLY.
2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
4. ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
5. BLDG PORCH/PATIO CONCRETE PAD. TYP. GRADING IS: TOP OF CONCRETE OUTSIDE DOOR = FF ELEV. MINUS 0.02' SLOPE PORCH/PATIO 2.0% AWAY FROM BLDG (SEE ARCH. PLANS).

(X) KEY NOTES

GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X% →	GRADING SLOPE AND DIRECTION (DOWNHILL)

SPOT ELEVATION
DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
XX.XX XX

BOS	BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RIM	RIM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL

SHEET LEGEND

- FTP — FLOW-THROUGH PLANTER
- DRAINAGE FLOW DIRECTION
- GRADE BREAK
- 49 — EX. CONTOUR MINOR
- 50 — EX. CONTOUR MAJOR
- 49 — CONTOUR MINOR (FG)
- 50 — CONTOUR MAJOR (FG)

Revisions

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GRADING PLAN

Plotted: 1/28/19 at 9:45am By: FCE-CIV-1
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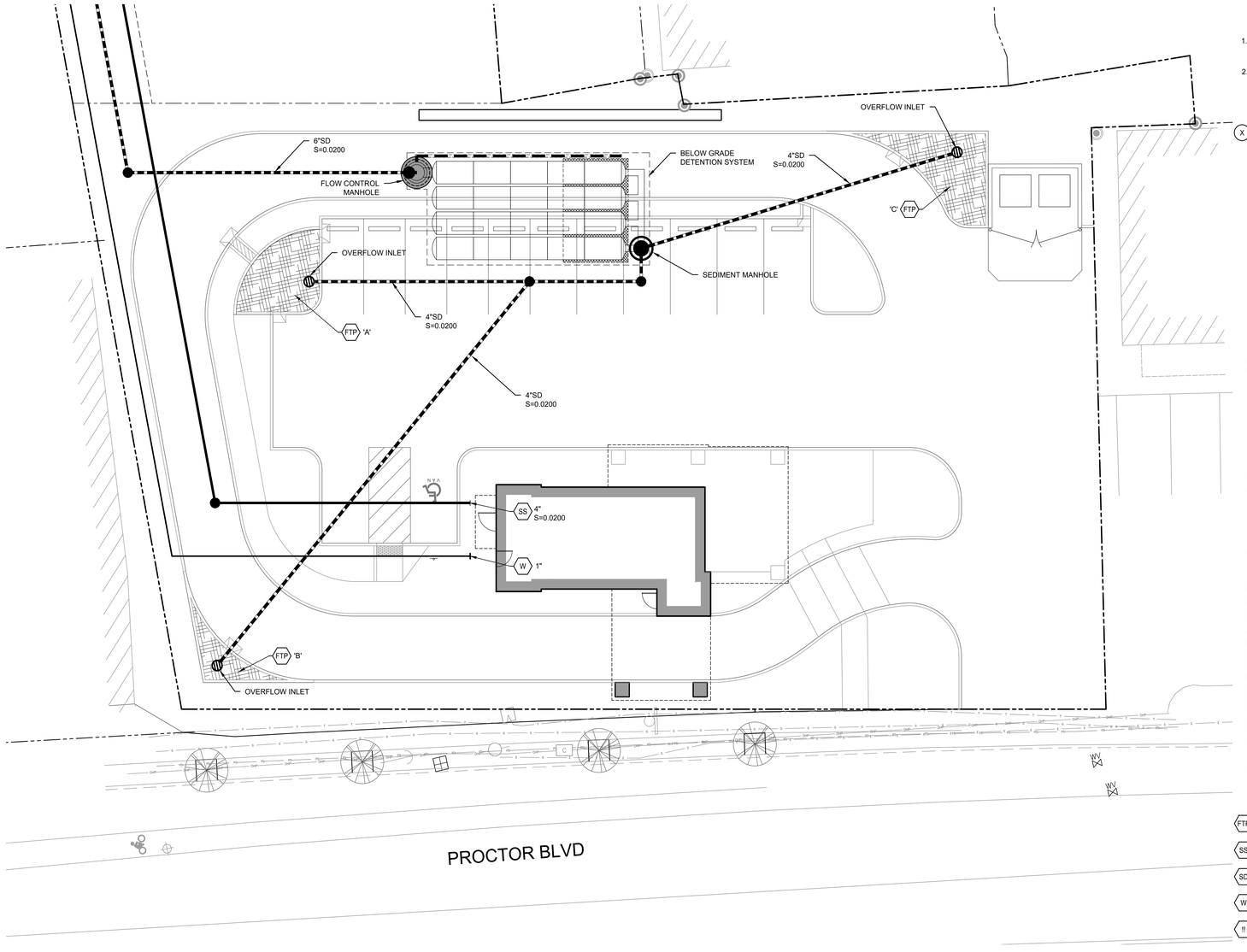

SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE, SS=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX XX-XX
X+XX.X RT X.X' ← LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X ← STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX

S=X.XX% ← SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

SHEET LEGEND

- FTP — STORMWATER FLOW-THROUGH PLANTER. ID AS SHOWN.
- SS — CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- SD — CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.
- W — CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- !! — UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O.

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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UTILITY PLAN - SOUTH

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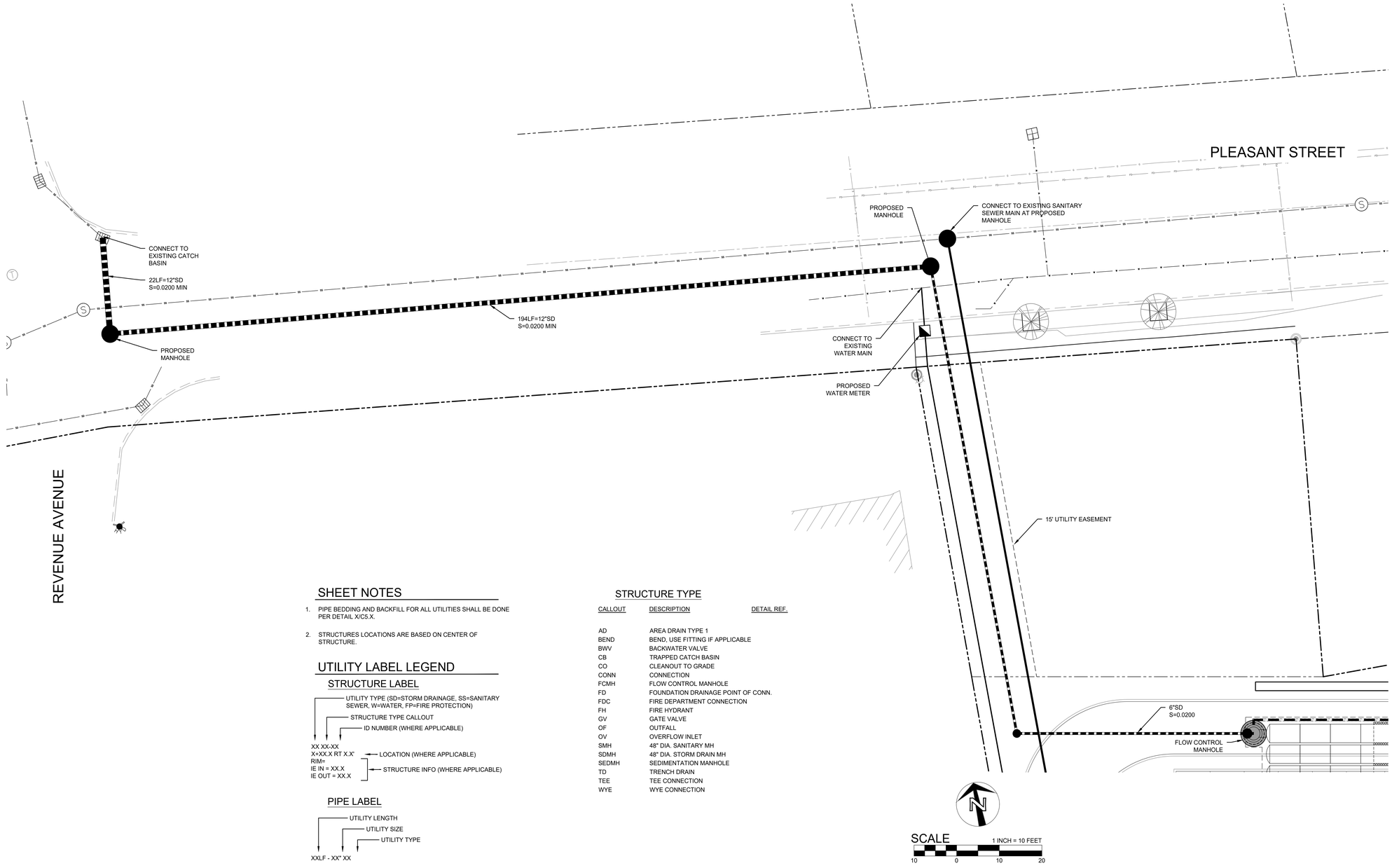


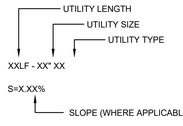
SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

UTILITY LABEL LEGEND

STRUCTURE LABEL

PIPE LABEL



STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

Revisions

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C4.1

UTILITY PLAN - NORTH

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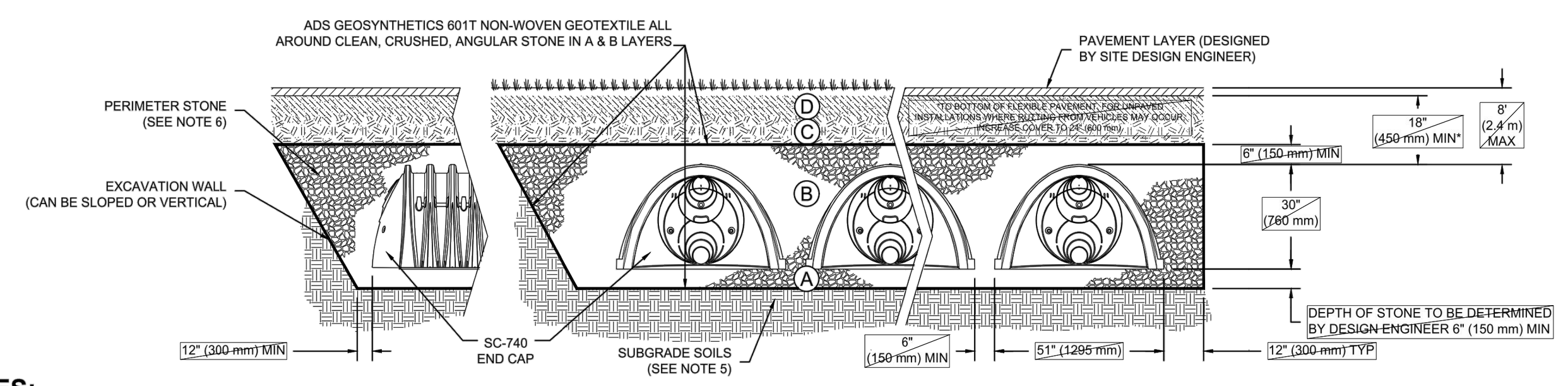
Plotted: 1/28/19 at 9:45am By: FCE-CIV-1

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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SHEET 3 OF 5

ADVANCED DRAINAGE SYSTEMS, INC.

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STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

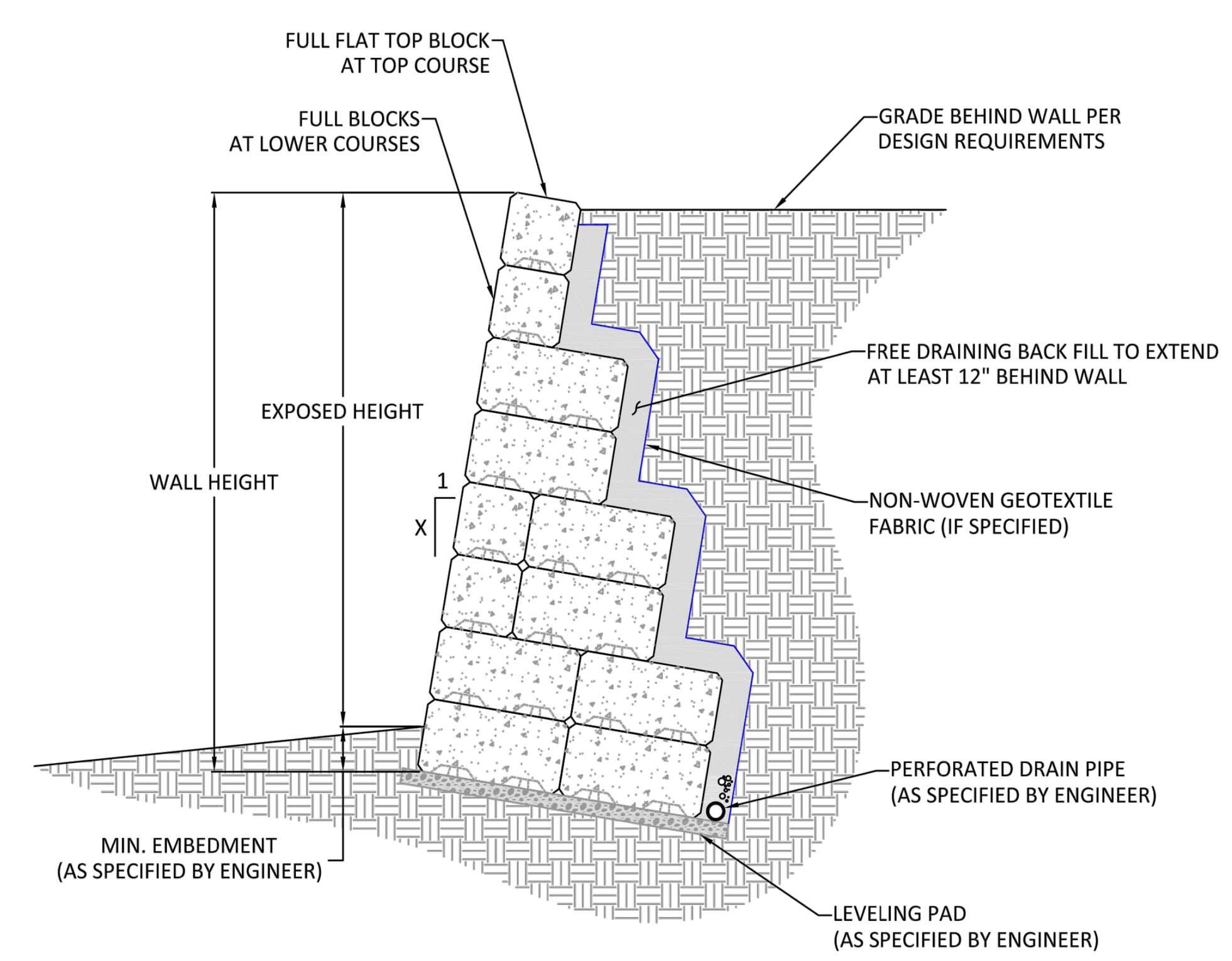
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



** PRELIMINARY -BLOCK LAYOUTS TO BE APPROVED BY ENGINEER**

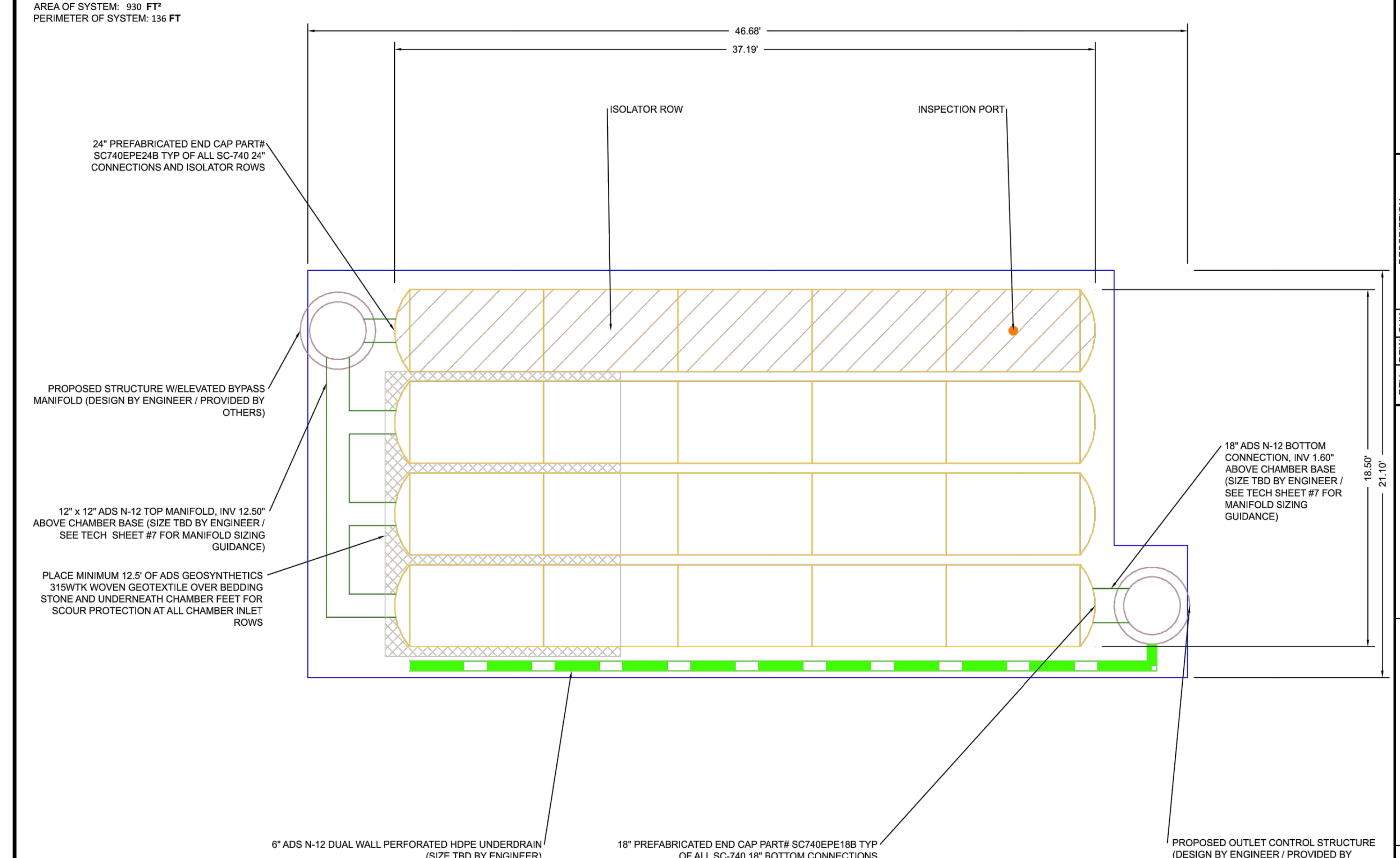
ULTRABLOCK, INC.
815 N.E. 172nd Ave.
VANCOUVER, WA 98684
800-377-3877 PH
360-694-0281 FAX

TITLE: Ultrablock - Gravity Wall — SHEET # UB-01

CONCEPTUAL LAYOUT

COMPUTER GENERATED CONCEPTUAL LAYOUT - NOT FOR CONSTRUCTION

(20) STORMTECH SC-740 CHAMBERS
(8) STORMTECH SC-740 END CAPS
INSTALLED WITH 8 " COVER STONE, 6 " BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 1915 CF
AREA OF SYSTEM: 930 FT²
PERIMETER OF SYSTEM: 136 FT



Dutch Bros - Sandy
Sandy
NOT TO SCALE
SHEET 2 OF 5

Revisions

FROELICH ENGINEERS
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

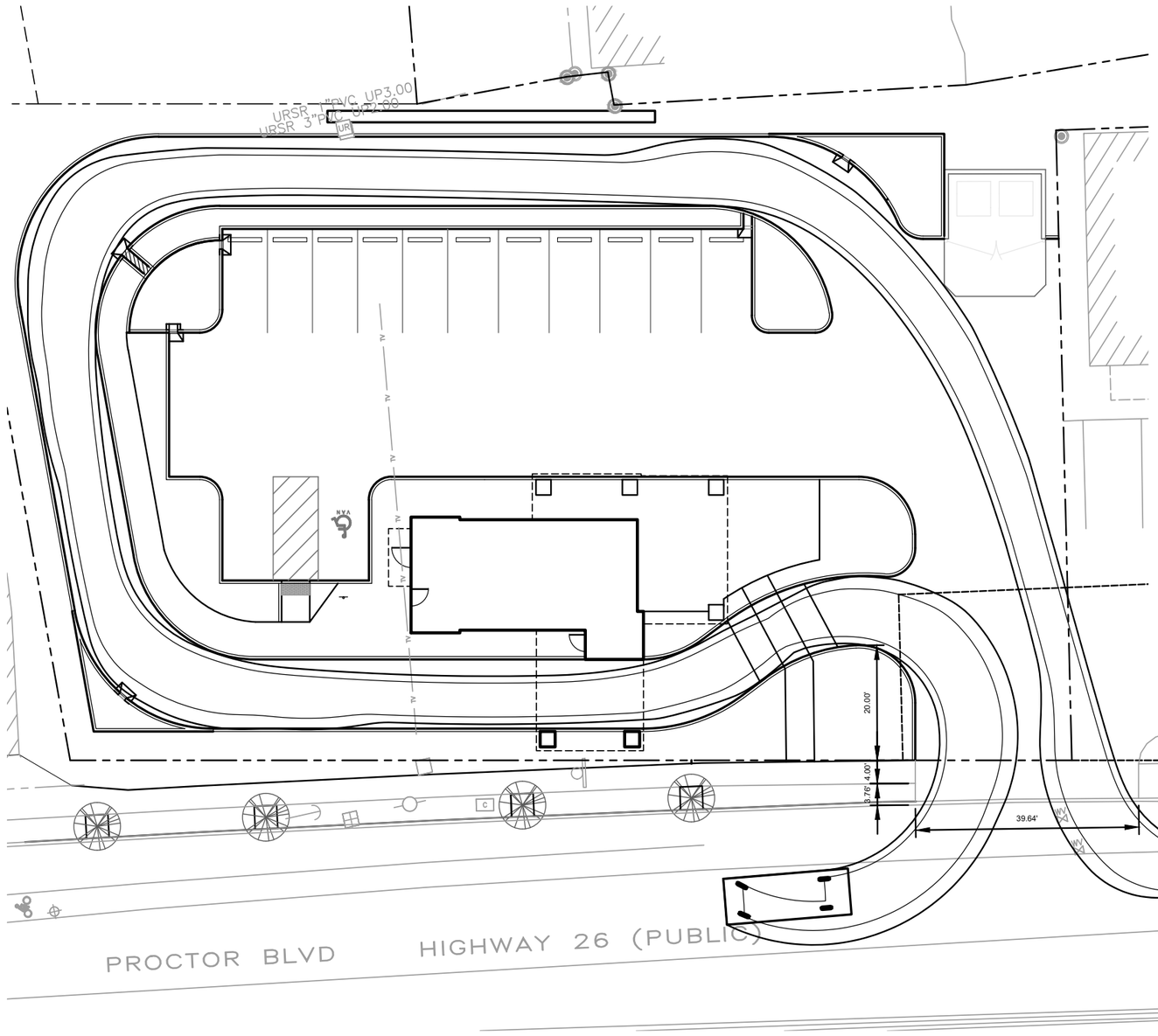
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

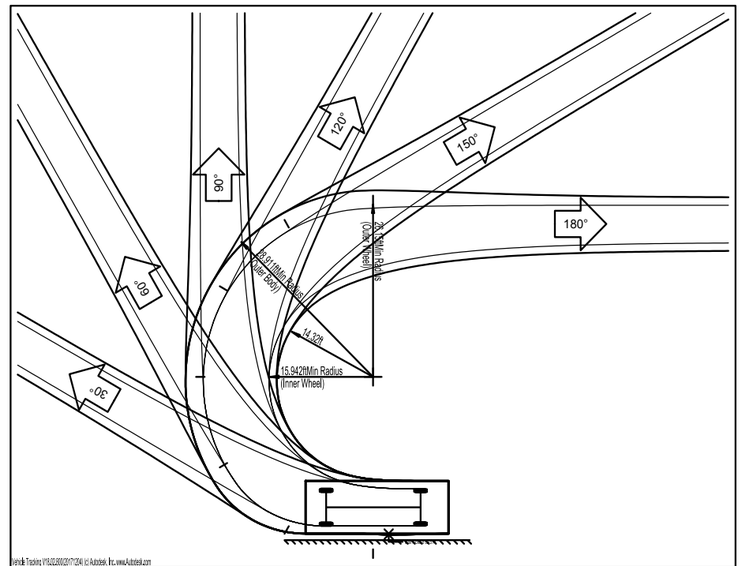
a.23 studios
340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com

Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.0

DETAILS

Plotted: 1/28/19 at 9:46am By: FCE-CIV-1

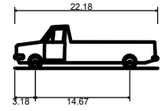




Vehicle Tracking V19.02.0000.0017.1264 (c) Autodesk, Inc. www.Autodesk.com

Note:
Turn(s) based upon a design speed of 5.00mph.

F-350 CrewCab 4x2/4x4 LWB

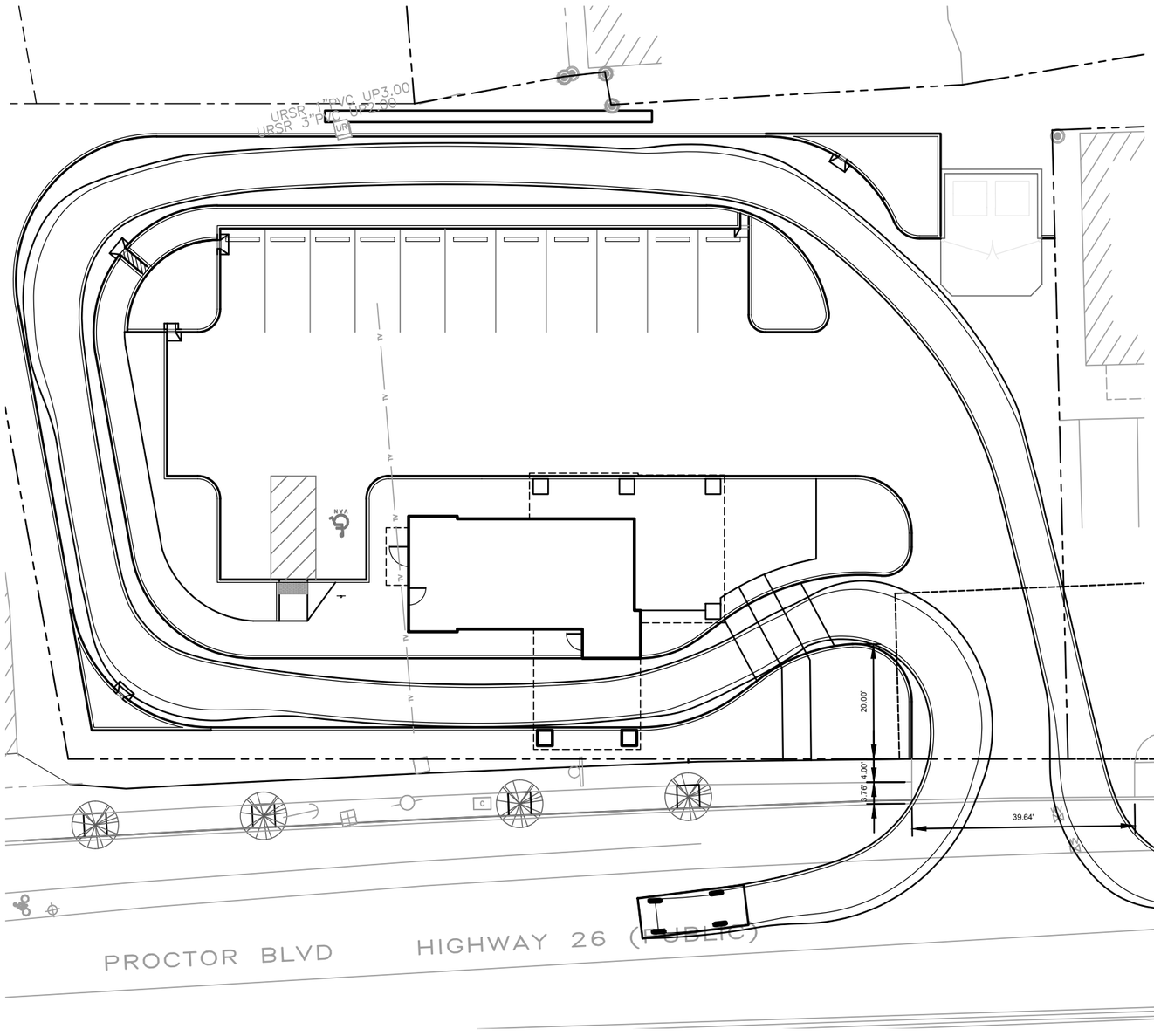


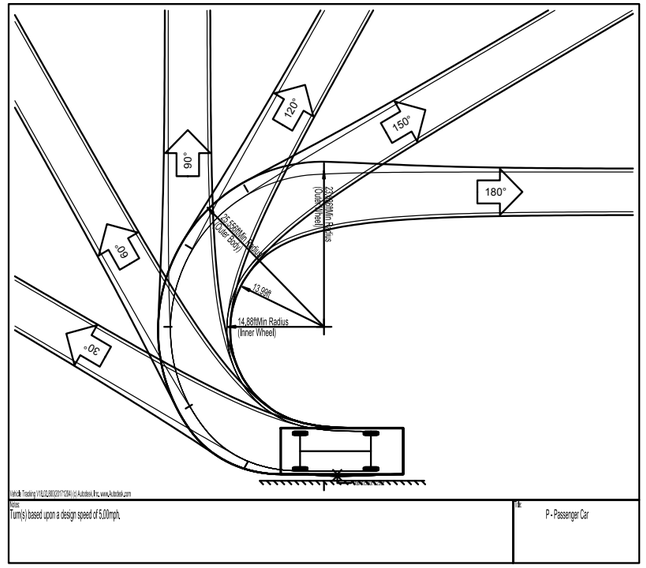
F-350 CrewCa□ 4□2/4□4 LWB	
Overall Length	22.180ft
Overall Width	8.000ft
Overall Body Height	6.384ft
Min Body Ground Clearance	0.825ft
Ma□ Trac□ Width	5.690ft
Loc□-to-loc□ time	4.00s
Cur□ to Cur□ Turning Radius	26.150ft

F-350 CrewCa□

SCALE:1"=20'

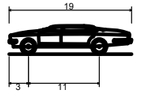
0 20' 40'





Note:
Turn(s) based upon a design speed of 5.00mph.

P - Passenger Car

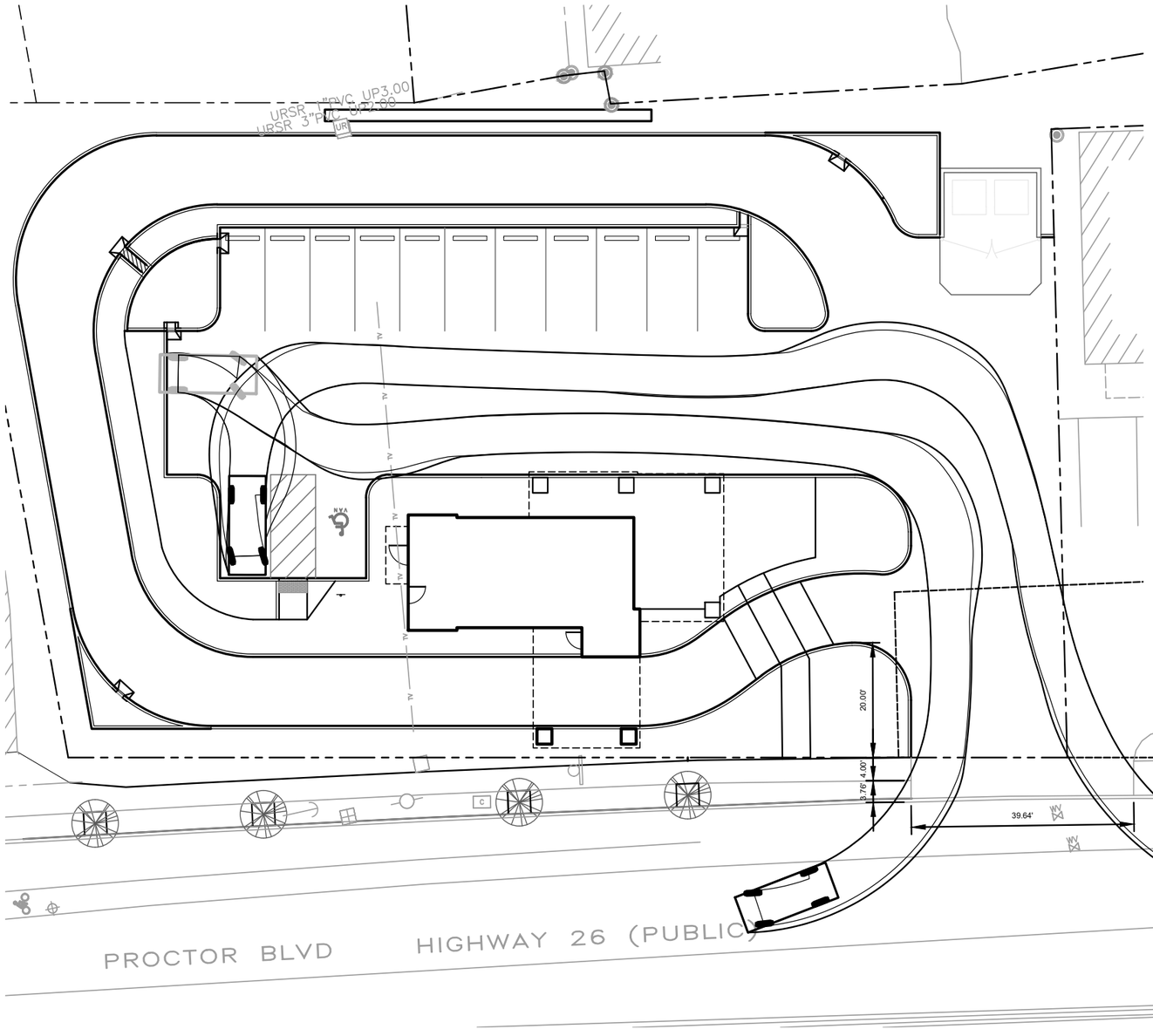


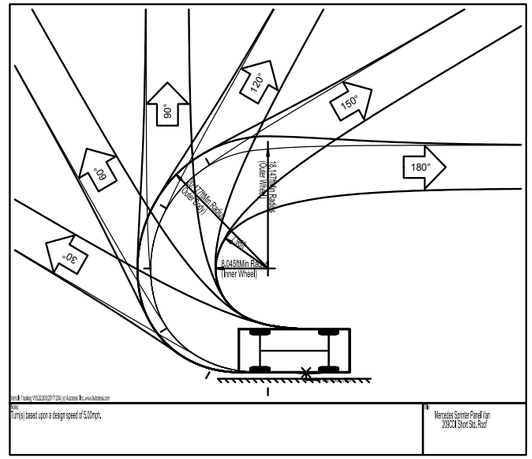
P - Passenger Car	
Overall Length	19.000ft
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Trac□ Width	6.000ft
Loc□-to-loc□ time	4.00s
Ma□ Steering Angle (Virtual)	31.60°

Passenger

SCALE:1"=20'

0 20' 40'





Mercedes Sprinter Panel Van 209CDI Short Std. Roof	
Overall Length	17.208ft
Overall Width	6.539ft
Overall Body Height	7.990ft
Min Body Ground Clearance	1.312ft
Trac□ Width	6.539ft
Loc□-to-loc□ time	5.00s
Wall to Wall Turning Radius	20.177ft

Loading - Van

SCALE:1"=20'

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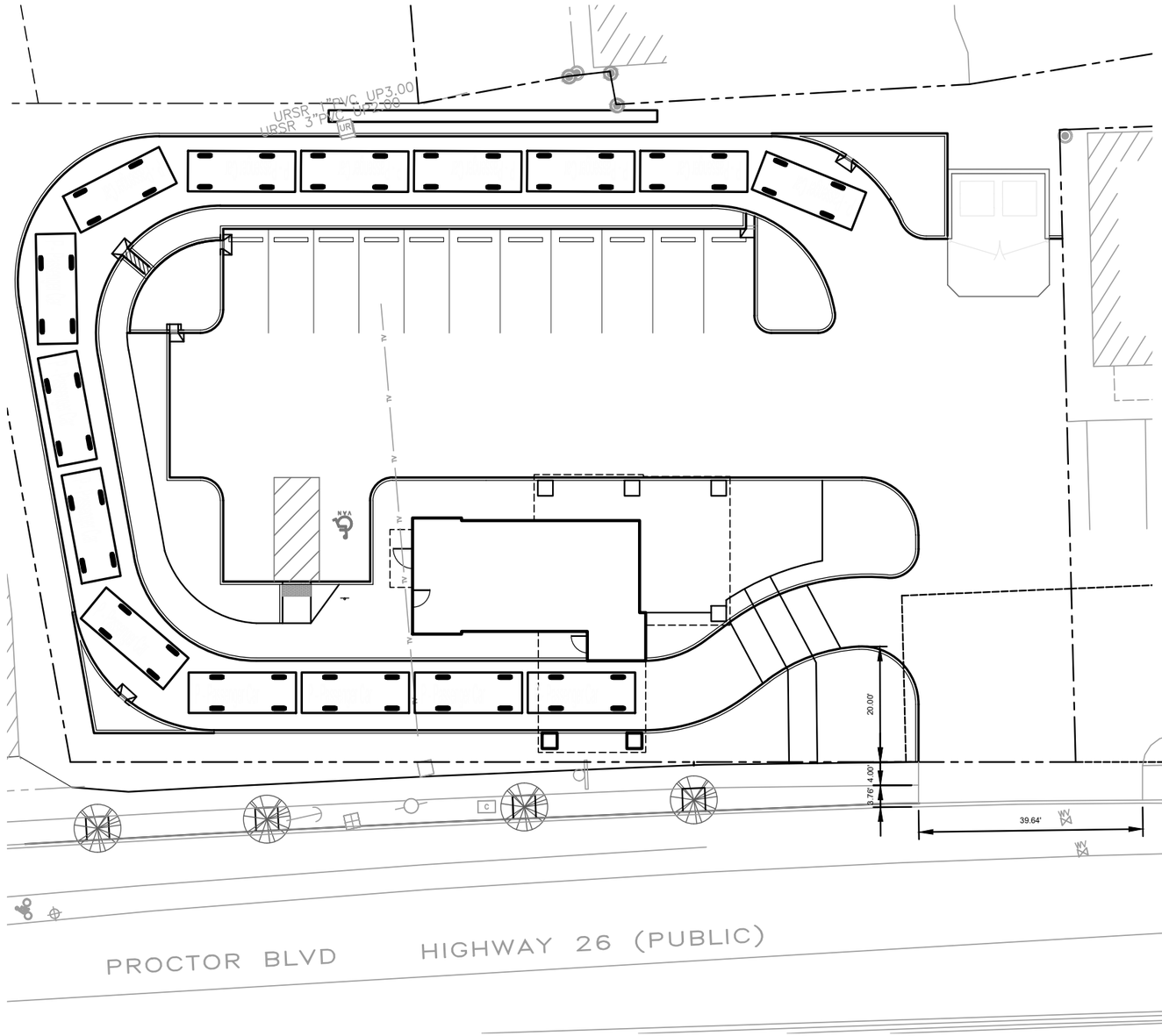

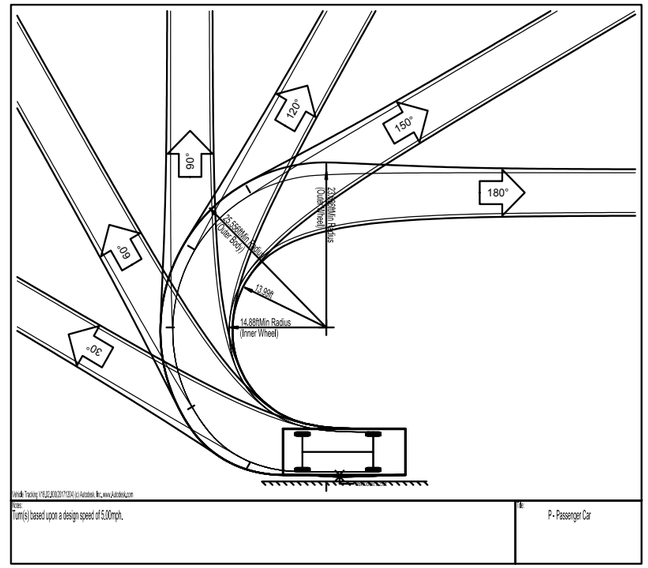

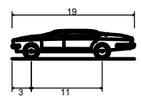

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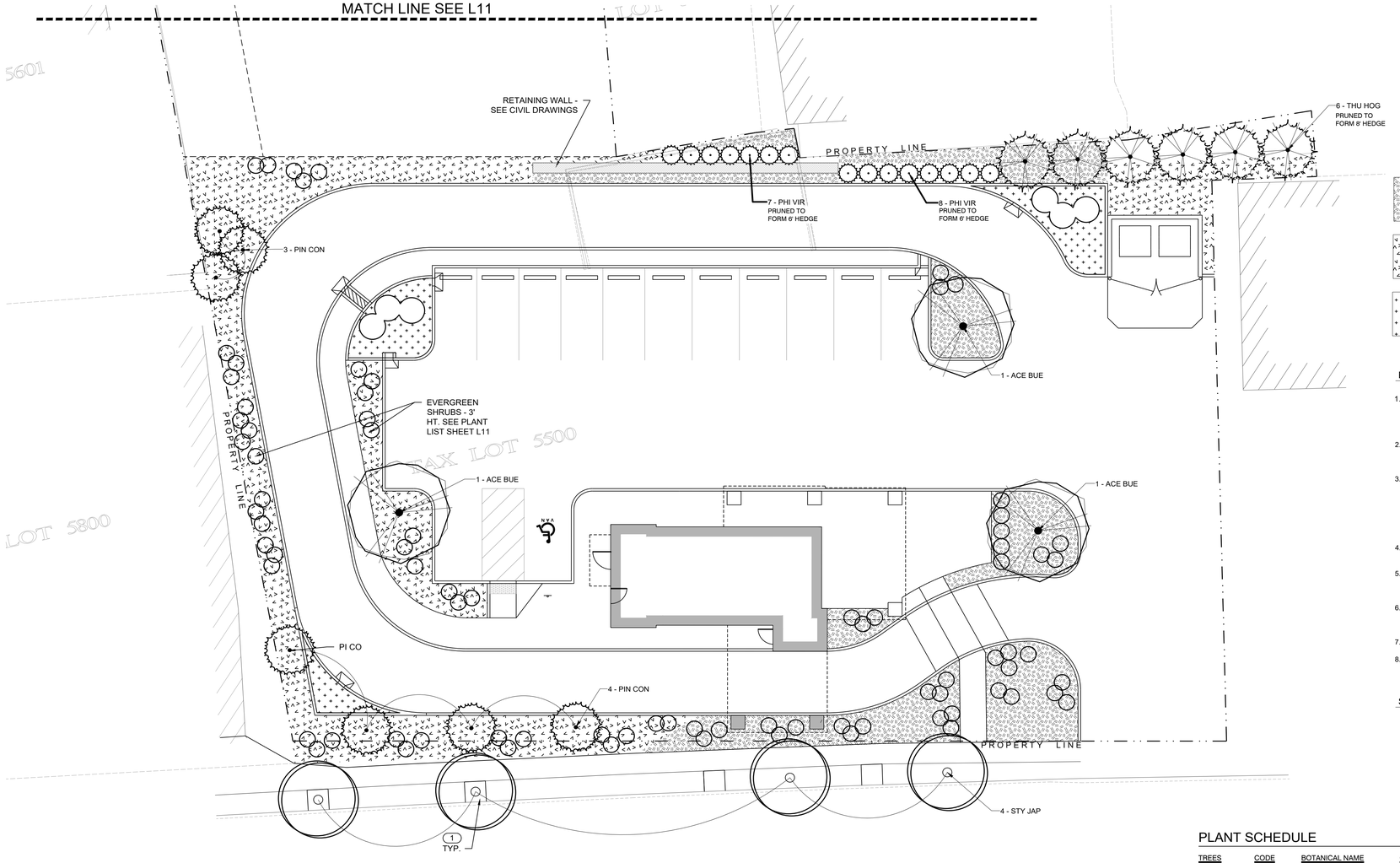
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Trac□Width	6.000ft
Loc□-to-loc□time	4.00s
Ma□Steering Angle (Virtual)	31.60°

Passenger Queue

SCALE:1"=20'

0 20' 40'



TOTAL SITE AREA	= 21,787 SF
REQUIRED LANDSCAPE AREA (10%)	= 2,178 SF
STORMWATER PLANTERS	= 472 SF
LANDSCAPE AREA	= 4,072 SF
ONSITE PLANTING AREA TOTAL	**= 4,544 SF**

NORTHWEST ORNAMENTAL PLANTING MIX

SEE PLANT LIST - SHEET L11

STANDARD SHRUB AND GROUNDCOVER MIX

SEE PLANT LIST - SHEET L11

STORMWATER PLANTINGS

SEE PLANT LIST - SHEET L11

PLANTING NOTES

1. VERIFY LOCATION OF ANY EXISTING PLANTS TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL INDICATED TO REMAIN IN PLACE UNLESS POTTING AND STORAGE IS REQUIRED TO PERFORM WORK.
2. VERIFY AND COORDINATE WORK AROUND ALL UNDERGROUND UTILITIES BEFORE EXCAVATION. NOTIFY ALL UTILITY PROVIDERS AT LEAST TWO (2) WORKING DAYS PRIOR TO BEGINNING WORK.
3. VERIFY THAT THE CONDITIONS ARE SUITABLE TO PROMOTE HEALTHY PLANT GROWTH. DO NOT PROCEED IF CONDITIONS DETRIMENTAL TO HEALTHY GROWING ENVIRONMENT ARE PRESENT, INCLUDING OVER-COMPACTED SOILS, ADVERSE DRAINAGE CONDITIONS, DEBRIS, INVASIVE PLANTS, OR OTHER HARMFUL CIRCUMSTANCES. PROCEEDING WITHOUT NOTIFICATION DENOTES ACCEPTANCE.
4. ALL PLANTING AREAS SHALL BE EQUIPPED WITH AN AUTOMATIC DRIP IRRIGATION SYSTEM. ALL TREES ON PROPERTY SHALL BE EQUIPPED WITH DRIP LOOPS ON SEPARATE ZONE.
5. ALL PLANT MIXES SHALL BE DISTRIBUTED AS PLANT SPACINGS INDICATED TO PROVIDE FULL GROUND AND SCREENING COVERAGE WITHIN 2 YEARS.
6. VERIFY PLANT QUANTITIES SHOWN ON THE PLANS BASED ON GRAPHIC REPRESENTATION. QUANTITIES SHOWN ARE FOR CONTRACTOR CONVENIENCE ONLY.
7. PROVIDE POSITIVE DRAINAGE FOR ALL PLANTING AREAS.
8. UNLESS OTHERWISE INDICATED, ALL PLANTINGS SHALL BE TRIANGULARLY SPACED.

SITE PLANTING AREA MATERIALS

(1) ORGANIC MULCH AT PLANTING BELOW TREE GRATES

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY	REMARKS
	ACE BUE	Acer buergerianum	Trident Maple	1" Cal.	3	
	PIN CON	Pinus contorta ``Contorta``	Shore Pine	5` Ht.	7	
	STY JAP	Styrax japonicus	Japanese Snowbell	2" Cal.	6	
	THU HOG	Thuja plicata ``Hogan``	Hogan Cedar	5` Ht.	6	

SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
	PHI VIR	Philadelphus x virginalis	Mock Orange	3` Ht.	48" o.c.	15	

N 0 5 10 20

1 LANDSCAPE PLAN

SCALE: 1" = 10' - 0"

Revisions

medium
LANDSCAPE ARCHITECTURE
+ design
4321 se windsor ct portland oregon
503.780.1791 mediumla.com

Ownership:
CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212
503-741-8401

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com
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Project 18069
Date 11.28.18
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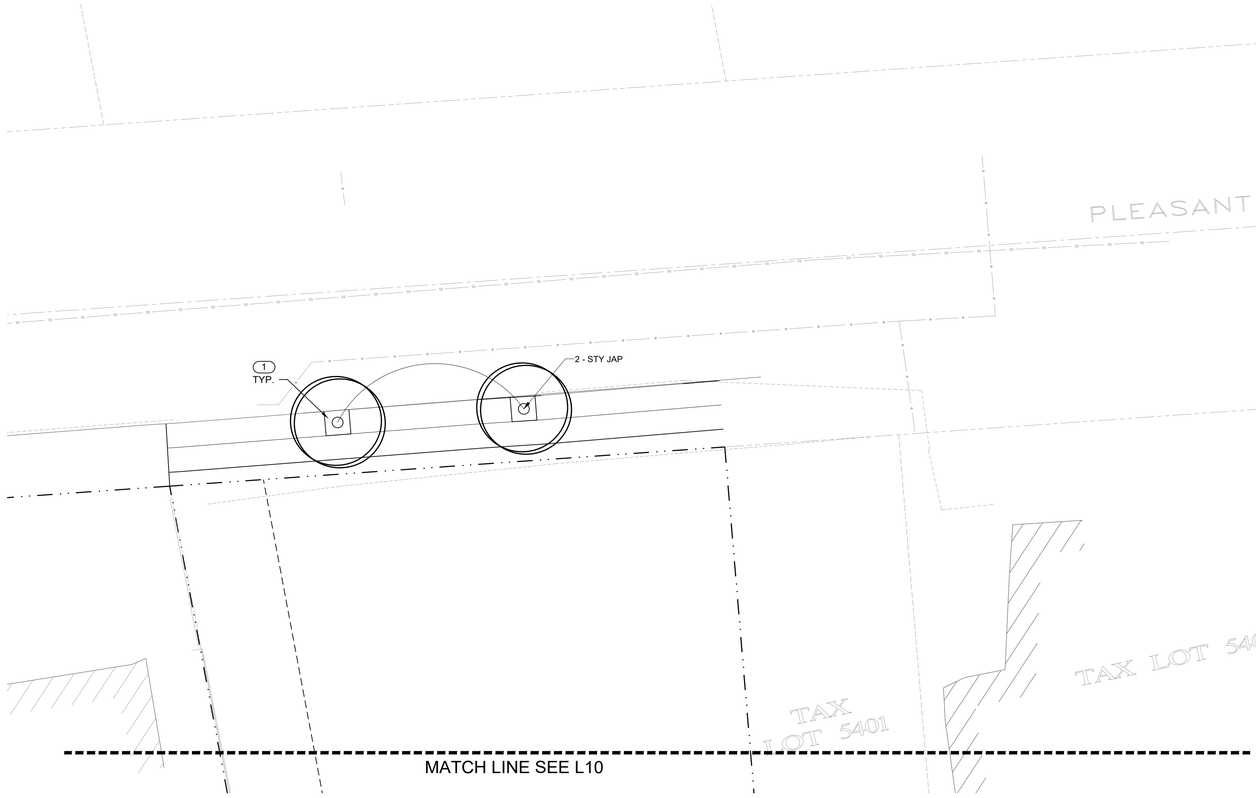
Sheet L10



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NORTHWEST ORNAMENTAL PLANTING MIX

SEE PLANT LIST - SHEET L11

STANDARD SHRUB AND GROUNDCOVER MIX

SEE PLANT LIST - SHEET L11

STORMWATER PLANTINGS

SEE PLANT LIST - SHEET L11

PLANTING NOTES

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6. VERIFY PLANT QUANTITIES SHOWN ON THE PLANS BASED ON GRAPHIC REPRESENTATION. QUANTITIES SHOWN ARE FOR CONTRACTOR CONVENIENCE ONLY.
7. PROVIDE POSITIVE DRAINAGE FOR ALL PLANTING AREAS.
8. UNLESS OTHERWISE INDICATED, ALL PLANTINGS SHALL BE TRIANGULARLY SPACED.

SITE PLANTING AREA MATERIALS

(1) ORGANIC MULCH AT PLANTING BELOW TREE GRATES

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE		QTY	REMARKS
	ACE BUE	Acer buergerianum	Trident Maple	1" Cal.		3	
	PIN CON	Pinus contorta `Contorta`	Shore Pine	5` Ht.		7	
	STY JAP	Styrax japonicus	Japanese Snowbell	2" Cal.		6	
	THU HOG	Thuja plicata `Hogan`	Hogan Cedar	5` Ht.		6	
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**	**QTY**	**REMARKS**
	PHI VIR	Philadelphus x virginalis	Mock Orange	3` Ht.	48" o.c.	15	

1 LANDSCAPE PLAN

SCALE: 1" = 10' - 0"

N 0 5 10 20

Revisions

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LANDSCAPE ARCHITECTURE
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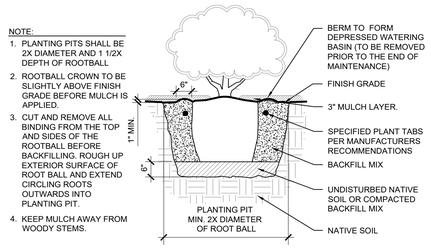
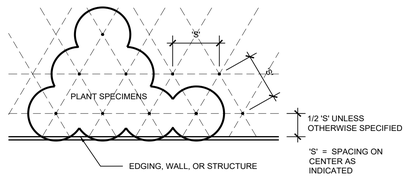


3 SHRUB PLANTING

Not to Scale



4 PLANT SPACING

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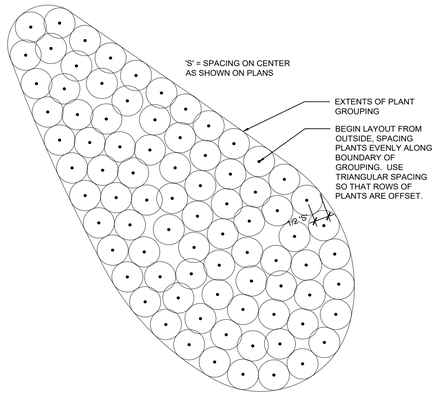
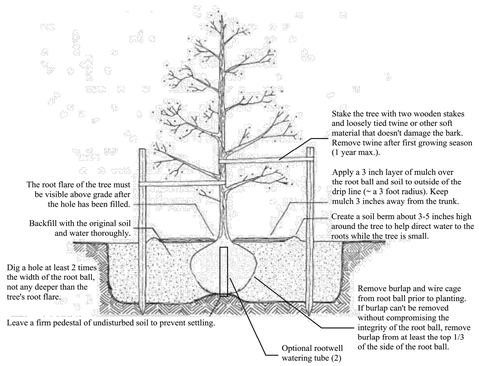


4 PLANT SPACING

Not to Scale

STREET TREE STANDARD PLANTING DETAIL

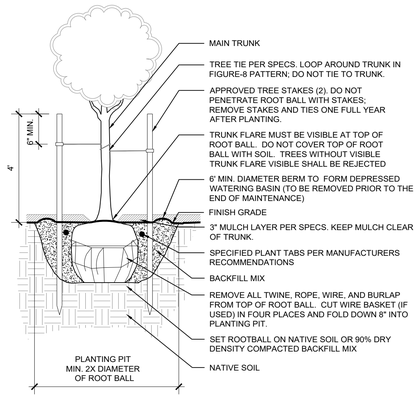
Profile of a newly planted street tree. Diagram not to scale.



- Please water your trees regularly for the first 2 to 3 years. During the summer dry season (roughly May to October), deep-root watering is recommended. Begin with 15 gallons of water per tree per week, and adjust as needed. During the remaining months of the year, monitor the root zone for dryness and water as needed. Good watering practices will promote vigorous growth, ensure well-formed root development, and help produce a beautiful tree for years to come.
- Make sure stakes are placed at the edge of the mulch pile and are pounded securely into the ground so they cannot be easily pulled out. Loosely tie the tree to the stakes with twine or another flexible material. The ties should be located no higher than 2/3 the height of the tree. The tree should be able to sway in the wind, which helps establish strong support roots and trunk. Check the twine periodically to make sure there is room for the tree to grow and the twine is not damaging the trunk. Remove the twine immediately if there are signs of damage on the trunk. Do not leave trees staked for more than one year or the tree may not develop its own proper support structure.
- Reapply mulch as necessary to maintain a 3 inch depth. Keep weeds and grass from growing in the mulch area to reduce competition for water and nutrients.
- Remove any twine, tape, or tags from the tree's trunk and branches prior to planting.

1 STREET TREE PLANTING

Not to Scale



2 TREE PLANTING

Not to Scale

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE	SPACING	#	NOTES
NORTHWEST ORNAMENTAL PLANTING MIX						
SE AU	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS	2 GAL.	24" O.C.	X	
MA RE	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL.	18" O.C.	X	
PO MU	POLYSTICHUM MUNITUM	SWORD FERN	2 GAL.	24" O.C.	X	
PE AT	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	2 GAL.	30" O.C.	X	
AR UV	ARCTOSTAPHYLOS UVA-URSI 'Massachusetts'	KINNIKKINIK MASSACHUSETTS	4" POTS	12" O.C.	X	
PI MU	PINUS MUGO VAR. PUMILLO	DWARF MUGO PINE	1 GAL.	24" O.C.	X	
PE SE	PENNESETUM ALOPECURIODES 'HAMELN'	DWARF FOUNTAIN GRASS	1 GAL.	24" O.C.	X	
RU FU	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	1 GAL.	24" O.C.	X	
TA MO	TAXUS CUSPIDATA 'MONLOO'	JAPANESE YEW	2 GAL.	30" O.C.	X	
FR CH	FRAGARIA CHILOENSIS	BEACH STRAWBERRY	1 GAL.	18" O.C.	X	
EU PU	EUPATORIUM PURPUREUM 'BABY JOE'	JOE PYE WEED	1 GAL.	18" O.C.	X	
STANDARD SHRUB AND GROUNDCOVER MIX						
AT FI	ATHYRIUM FELIX-FEMINA	LADY FERN	2 GAL.	18" O.C.	x	
PO NE	POLYSTICHUM NEOLOBATUM	ASIAN SABER FERN	2 GAL.	18" O.C.	x	
PH LE	PHILADELPHUS LEWISII 'BLIZZARD'	MOCK ORANGE	2 GAL.	36" O.C.	x	
CI PU	CISTUS X PULVERULENTUS 'SUNSET'	ROCK ROSE	2 GAL.	36" O.C.	x	
SY AL	SYMPHORICARPOS ALBUS	SNOWBERRY	2 GAL.	36" O.C.	x	
MA RE	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL.	18" O.C.	X	
MA RE	RIBES SANGUINEUM 'KING EDWARD VII'	FLOWERING CURRANT	2 GAL.	36" O.C.	X	
STORMWATER FACILITY PLANTINGS						
IR SI	IRIS SIBERICA	SIBERIAN IRIS	1 GAL.	-	x	
JU PA	JUNCUS ENSIFOLIUS	STARHEAD RUSH	1 GAL.	12" O.C.	x	
CO AL	CORNUS ALBA 'Elegantissima'	REDTWIG DOGWOOD	5 GAL.	4' O.C.	x	

Revisions

medium
LANDSCAPE ARCHITECTURE + design
4321 se windsor ct. portland oregon
503.780.1791 mediumla.com

Ownership:
CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212
503-741-8401

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com
a.23studios

Project 18069
Date 11.28.18
Scale As Noted
Sheet
L20

PLEASANT STREET

S81° 50' 00.81"E
89.396

TAX LOT 5601
0.20 ACRES

TAX LOT 5500
PROPOSED PARCEL 2
0.15 ACRES

CVP - SANDY, OREGON, LLC
3519 NE 15TH AVE, SUITE 251
PORTLAND, OR 97212

TAX LOT 5401
0.05 ACRES

TAX LOT 5400
0.13 ACRES

TAX LOT 5300
0.15 ACRES

N1° 55' 49.19"E
72.189

77.720
S7° 35' 49.19"W

PROPOSED PARTITION LINE

S84° 07' 10.81"E
7.360

S1° 18' 49.19"W
5.800

S87° 42' 10.81"E
26.960

S80° 52' 10.81"E
62.600

S86° 57' 10.81"E
35.370

12.870
S7° 41' 49.19"W

S77° 41' 30.81"E
82.508

20.000
N79° 48' 10.81"W

65.02'

109.360
S10° 49' 49.19"W

TAX LOT 5500
PROPOSED PARCEL 1
0.50 ACRES

CVP - SANDY, OREGON, LLC
3519 NE 15TH AVE, SUITE 251
PORTLAND, OR 97212

TAX LOT 5800
0.21 ACRES

N1° 55' 49.19"E
116.616

44.01'

TAX LOT 5900
0.30 ACRES

PROPOSED
STRUCTURE

81.13'

2.33'

177.830
N77° 41' 30.81"W

PROCTOR BLVD

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

FROELICH
ENGINEERS
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.624.2400 phone
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a.23 studios

Project 18069
Date 11.28.18
Scale As Noted
Sheet EXH-1

PARTITION EXHIBIT

Plotted: 1/24/19 at 4:53pm By: FCE-CIV-2
File: P:\2018\18-0323 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-0323_PARTITION.dwg TAB:EXH-1

SUMMARY DRAWING

SHOP DRAWING #:
28181

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

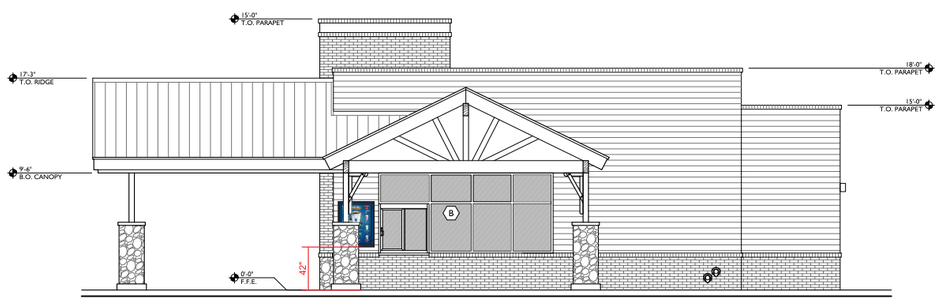
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

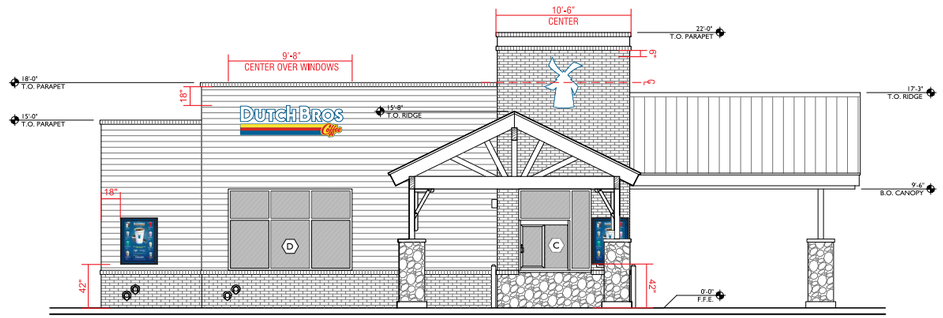
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

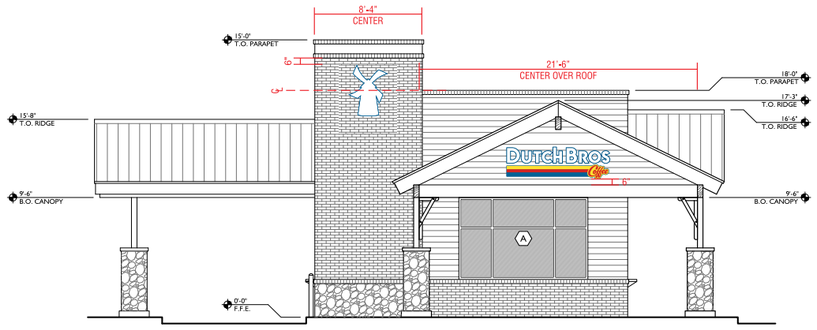
SUMMARY - BUILDING SIGNS & WALL-MOUNTED MENU SIGNS



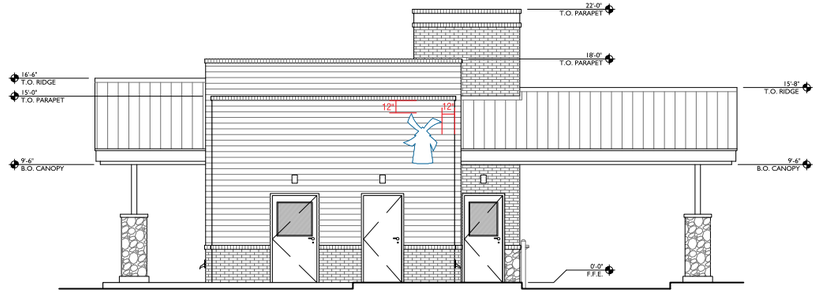
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

SUMMARY DRAWING

SHOP DRAWING #:
28181

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

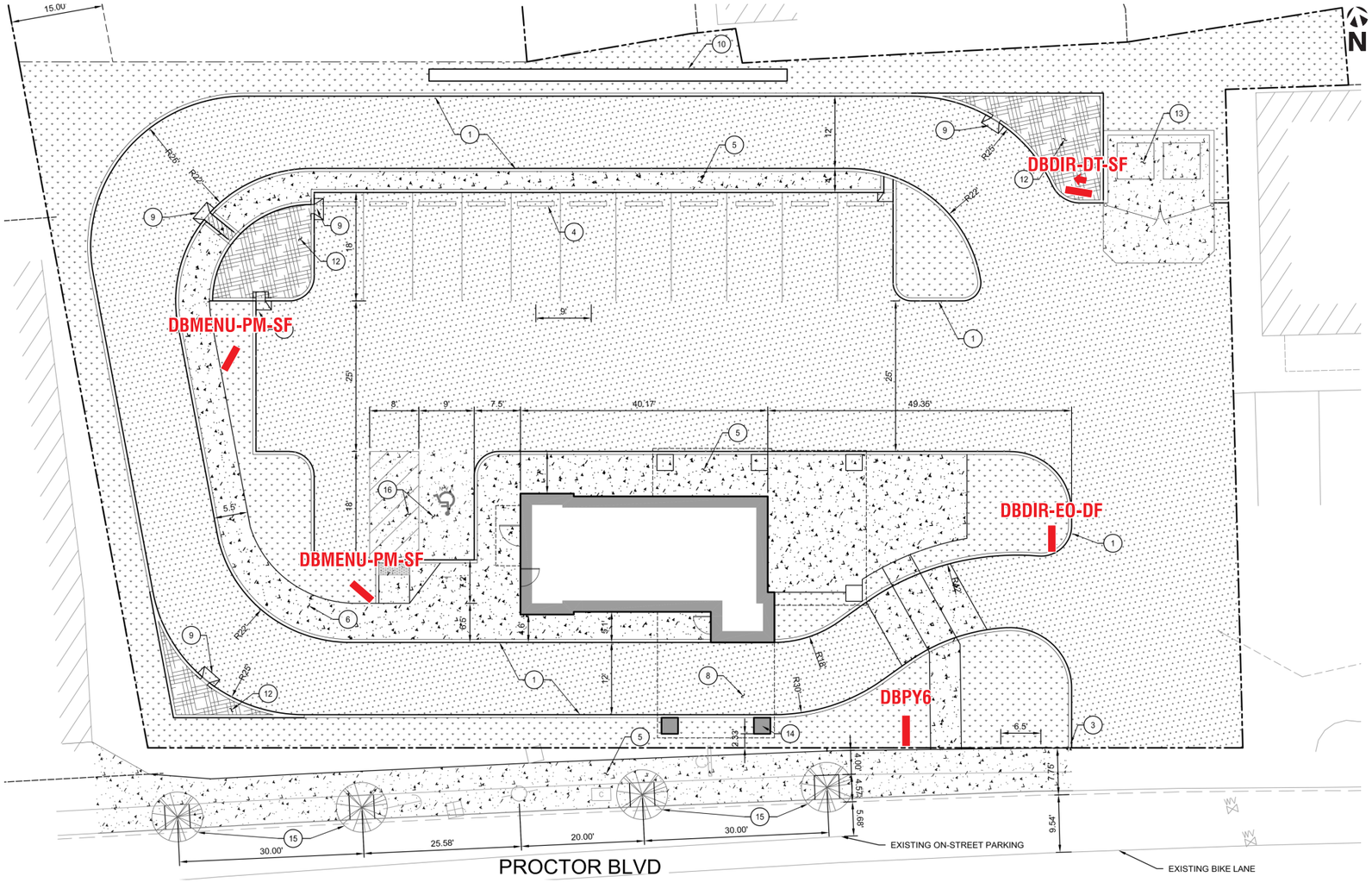
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SUMMARY - PYLON SIGN, DIRECTIONAL SIGNS & PLATE-MOUNTED MENU SIGNS



FACTORY DRAWING

SHOP DRAWING #:
28181A

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 3

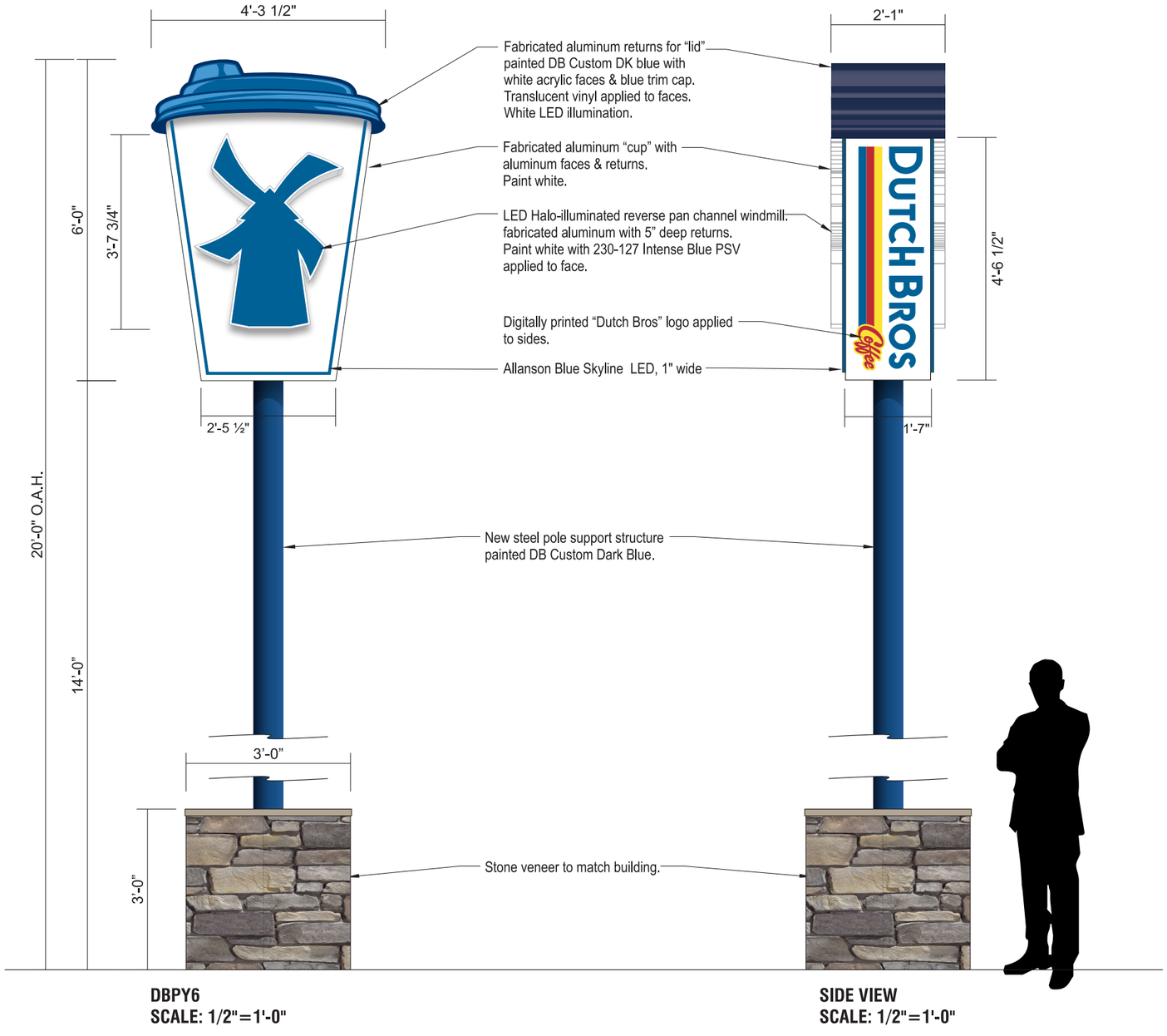
ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

COLOR CODE

- PANTONE 107 C YELLOW
- PANTONE 1795 C RED
- PANTONE 7691 C BLUE
- DB CUSTOM DK BLUE (POLE)
- WHITE
- 230-36 DARK BLUE (LID)
- 230-127 INTENSE BLUE (LID)
- 230-147 DEEP SKY BLUE (LID)

SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F INTERNALLY ILLUMINATED MONUMENT CUP SIGN

LEVEL A FINISH



DBPY6
SCALE: 1/2"=1'-0"

SIDE VIEW
SCALE: 1/2"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181A

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

CONCEPTUAL NIGHT VIEW
NOT TO SCALE

FACTORY DRAWING

SHOP DRAWING #:
28181A

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

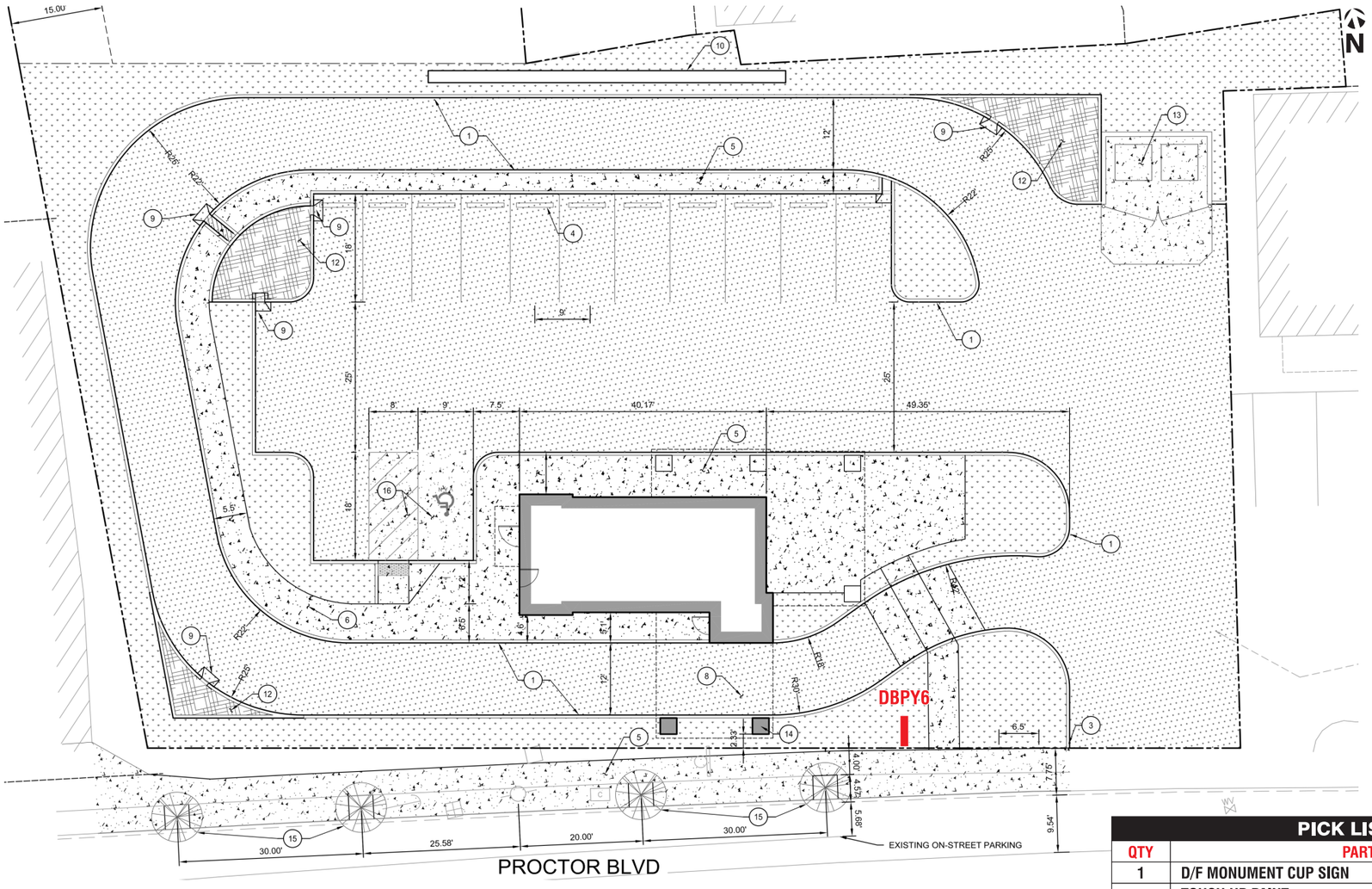
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW POLE SIGN AS SHOWN.

PICK LIST		
QTY	PART	✓
1	D/F MONUMENT CUP SIGN	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

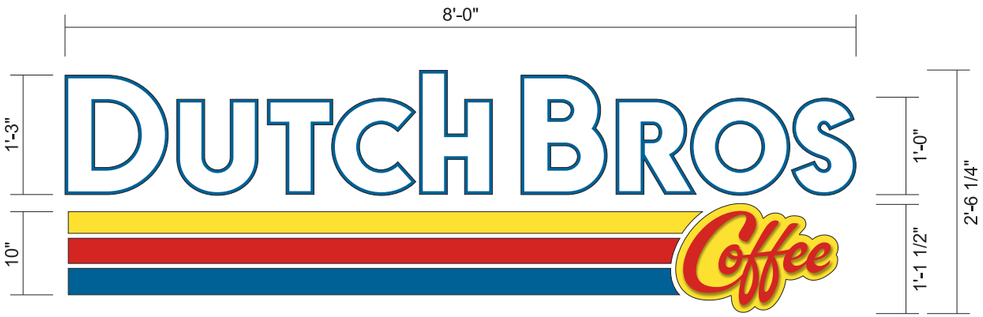
COLOR CODE

- 230-015 YELLOW PSV
- 230-33 RED PSV
- 230-127 INTENSE BLUE PSV
- WHITE

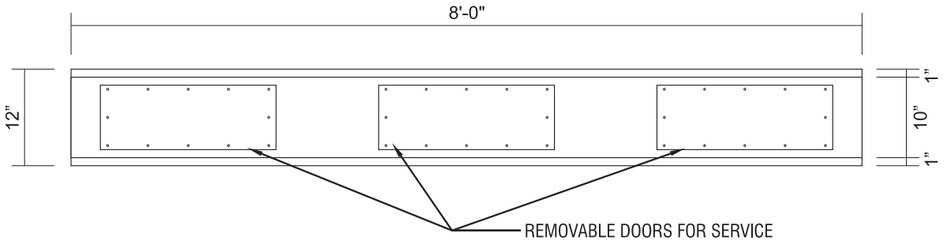
SCOPE OF WORK: MANUFACTURE & INSTALL (2) SETS OF HALO-ILLUMINATED CHANNEL LETTERS WITH REMOTE RACEWAYS

LEVEL A FINISH

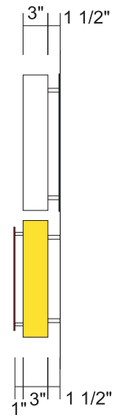
DBCL8-HALO
SCALE: 3/4"=1'-0"



FABRICATED REMOTE RACEWAY
.040 PRE-COAT WHITE ALUMINUM



SIDE VIEW

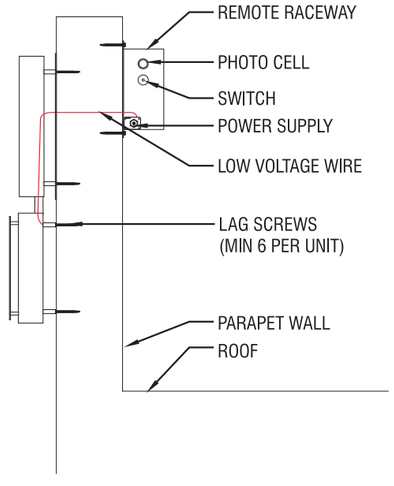


DUTCH BROS:
3" DEEP REVERSE PAN FABRICATED ALUMINUM CHANNEL LETTERS. PAINT WHITE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACKS WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.
1/8" ALUMINUM OVERSIZED BACKERS. PAINT TO MATCH PMS 7691 C BLUE. FLUSH MOUNT BACKERS TO BUILDING.

3 STRIPES:
3" DEEP REVERSE PAN FABRICATED ALUMINUM PAINTED YELLOW, RED & BLUE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACKS WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

COFFEE:
YELLOW AREA TO BE 3" DEEP REVERSE PAN FABRICATED ALUMINUM PAINTED YELLOW
RED “COFFEE” TO BE 1/8" ALUMINUM PAINTED RED. SPACE OF 1" FROM ROUTED OUT LETTERS IN YELLOW BACKGROUND.
BACK UP ROUTED LETTERS WITH WHITE LEXAN IN BACKGROUND AND BACK LIT WITH WHITE LED’S TO ALLOW A HALO-LIT “COFFEE”.
YELLOW BACKGROUND SHAPE TO HAVE CLEAR ACRYLIC BACK WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

ATTACHMENT DETAIL
CHANNEL LETTERS WITH
REMOTE RACEWAY



FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

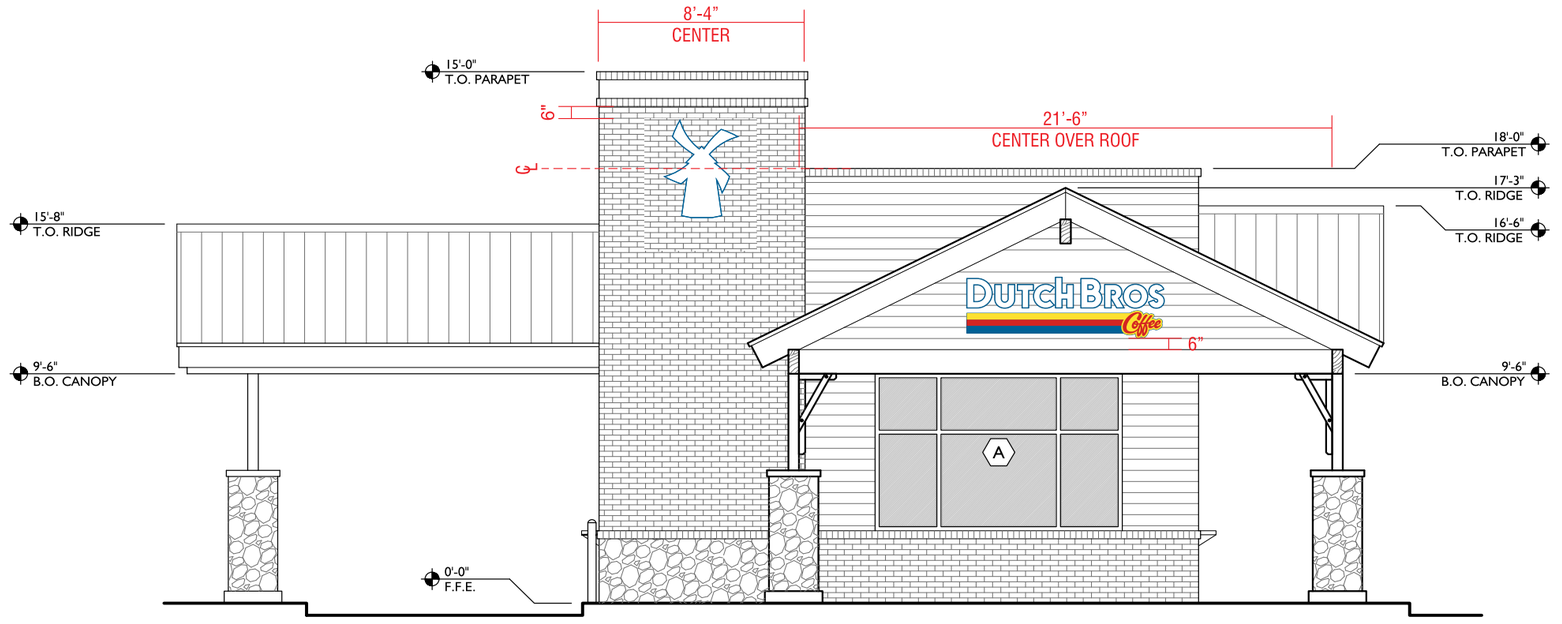
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



EAST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
2	CHANNEL LETTERS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

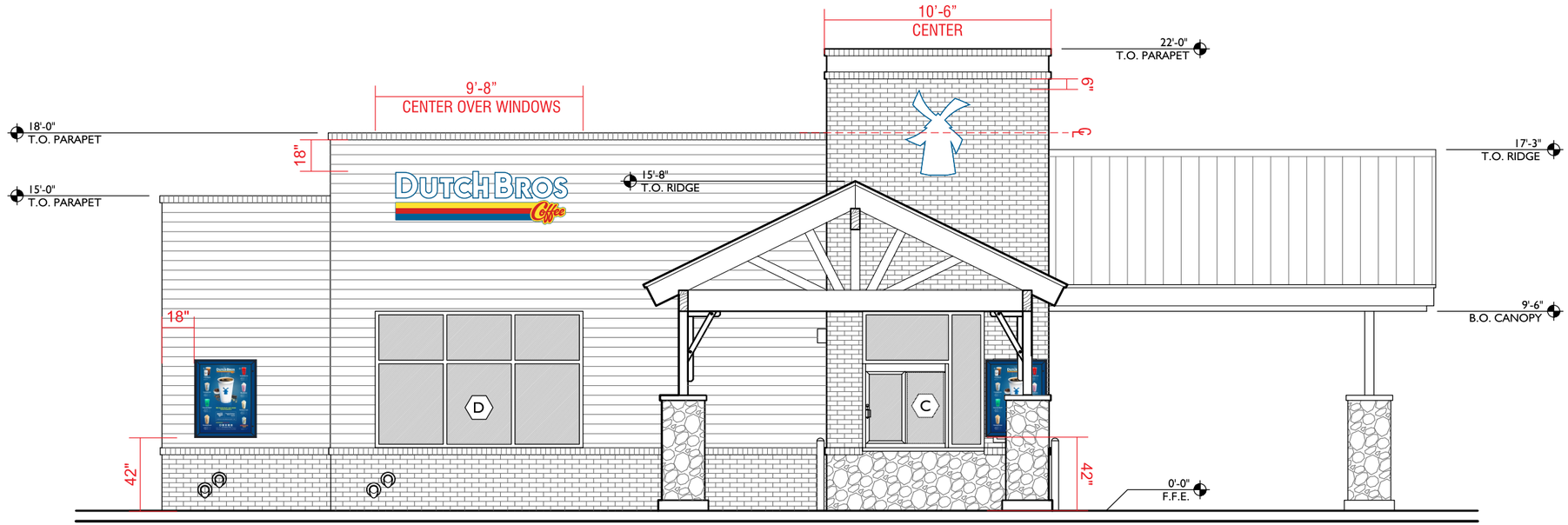
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
2	CHANNEL LETTERS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

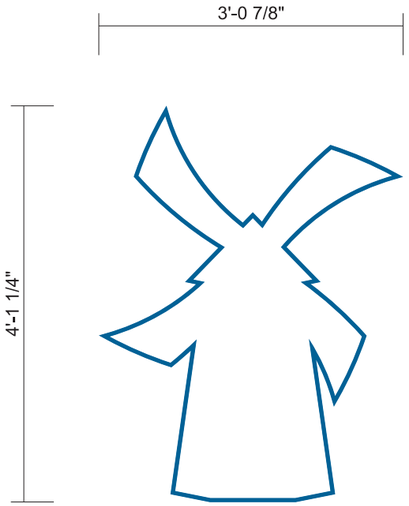
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SCOPE OF WORK: MANUFACTURE & INSTALL (3) HALO-ILLUMINATED WINDMILL LOGOS

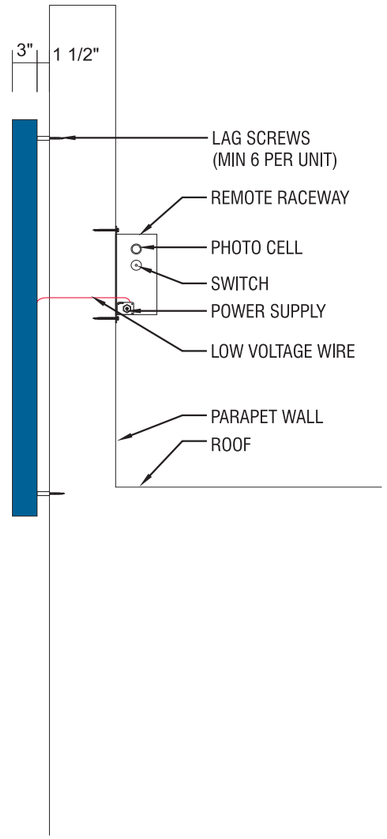
LEVEL A FINISH

DBW11-HALO-LIT
SCALE: 3/4"=1'-0"



SIDE VIEW

ATTACHMENT DETAIL
CHANNEL LETTERS WITH
REMOTE RACEWAY



3" DEEP REVERSE PAN FABRICATED ALUMINUM WINDMILL. PAINT FACE WHITE.
PAINT OUTLINE & RETURNS TO MATCH PMS 7691 C BLUE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACK WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

COLOR CODE

- 230-127 INTENSE BLUE PSV
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

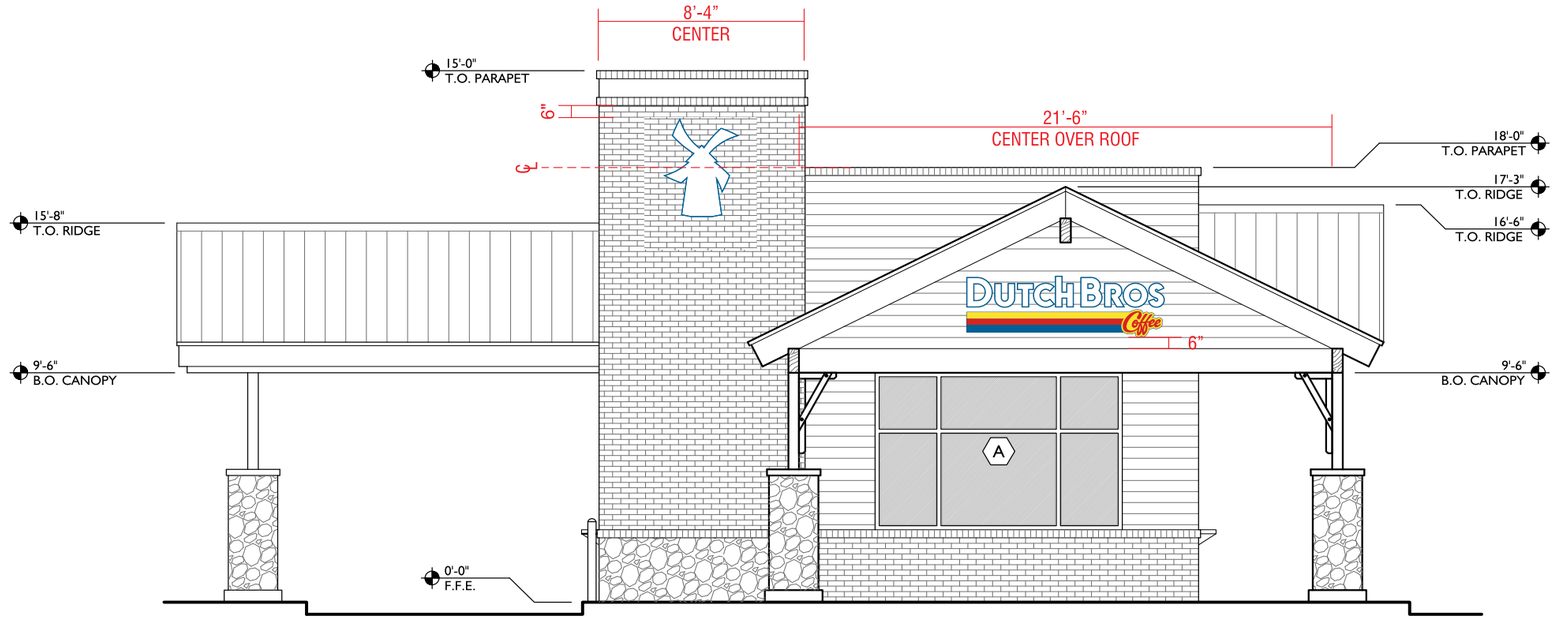
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



EAST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

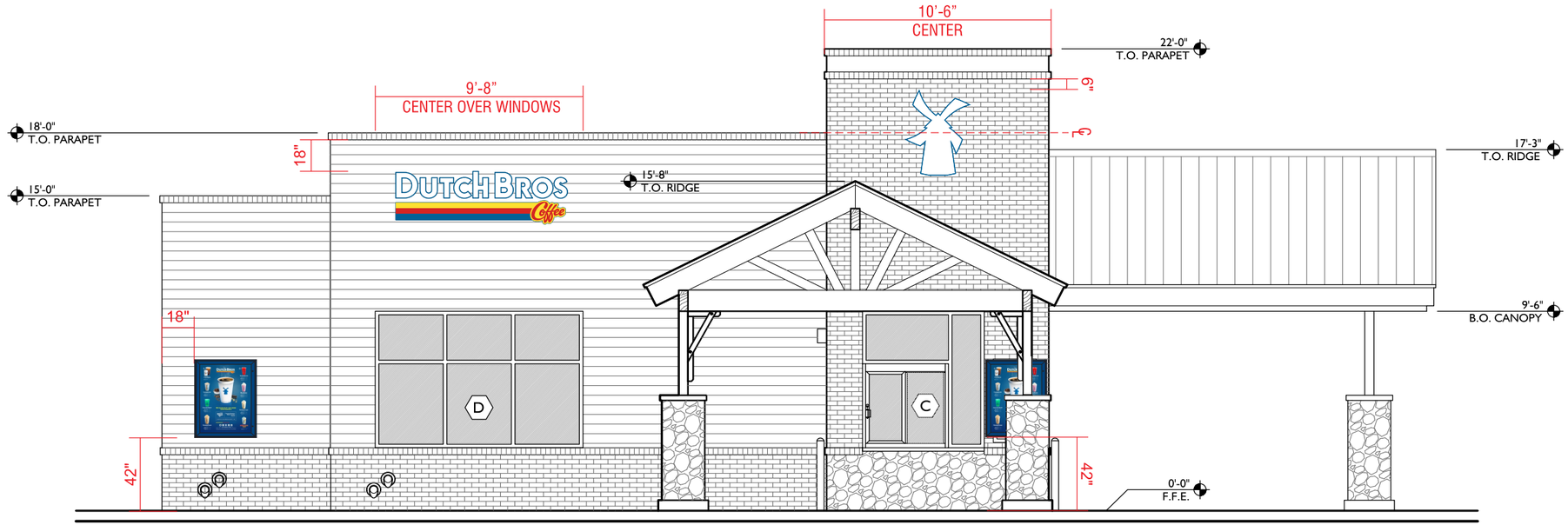
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

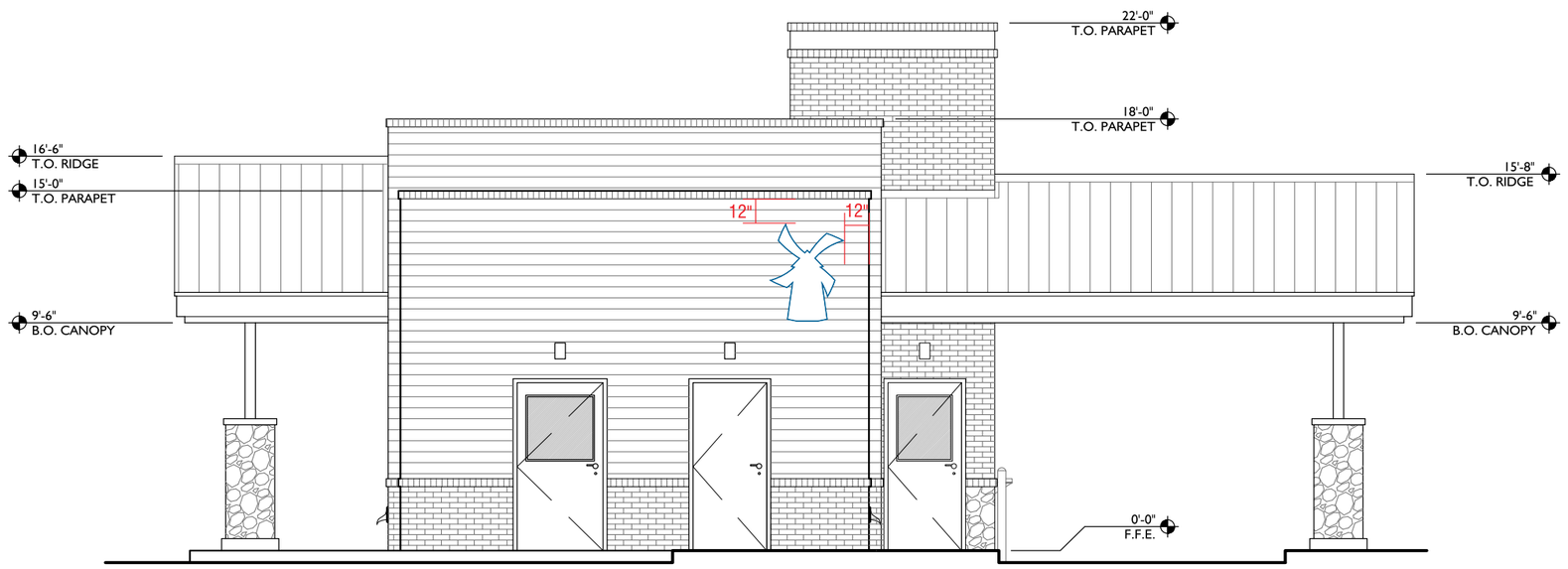
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	4 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



WEST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181D

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

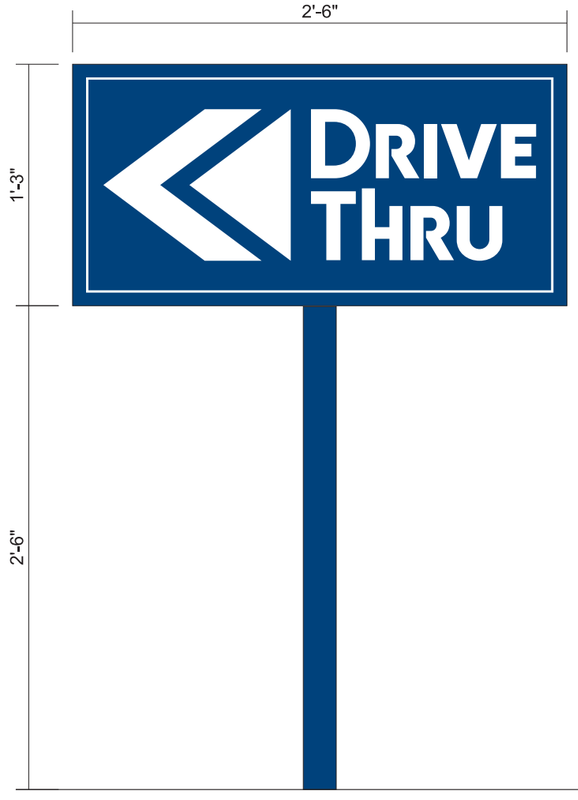
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

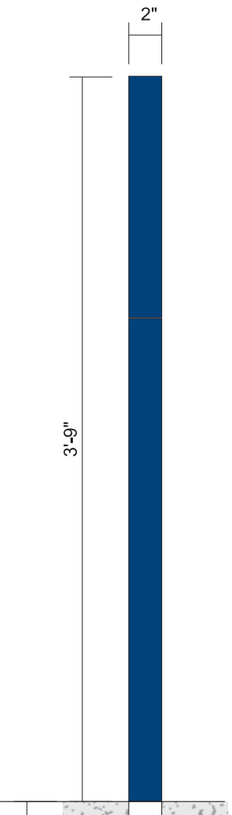
SCOPE OF WORK: MANUFACTURE & INSTALL (1) S/F NON-ILLUMINATED 'DRIVE THRU' SIGN

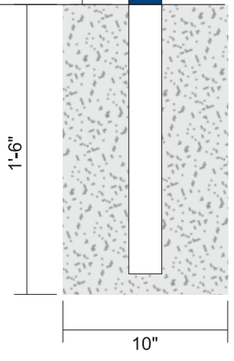
LEVEL A FINISH

LAYOUT
SCALE: 1 1/2"=1'-0"



SIDE VIEW





DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES
PAINT PMS 541 C
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181D

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

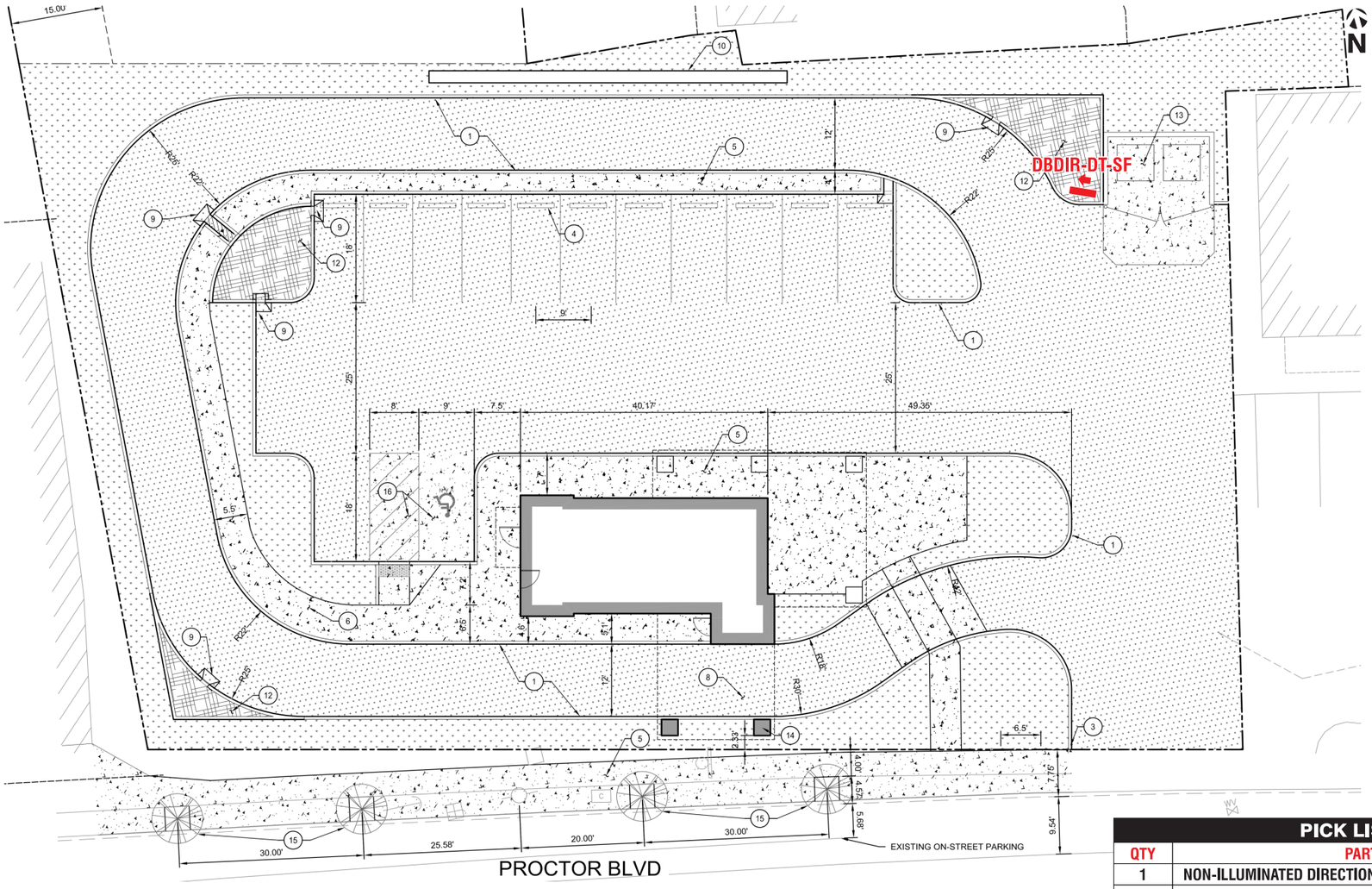
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW 'DRIVE THRU' SIGN AS SHOWN.
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

PICK LIST		
QTY	PART	✓
1	NON-ILLUMINATED DIRECTIONAL SIGN	
	TOUCH UP PAINT	
	SACRETE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181E

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

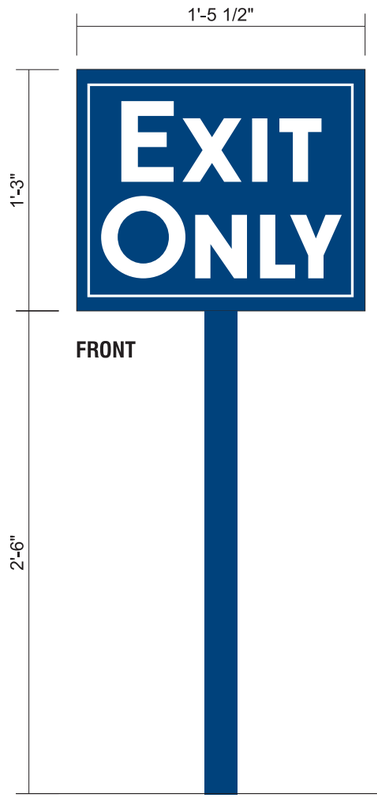
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

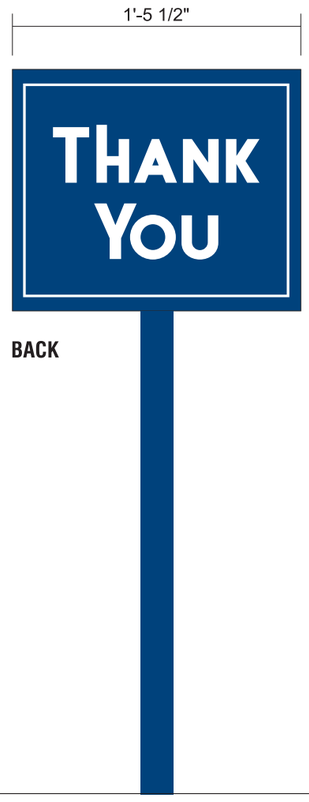
SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F FREESTANDING NON-LIT EXIT ONLY SIGN

LEVEL A FINISH

EXIT ONLY SIGN
SCALE: 1 ½"=1'-0"

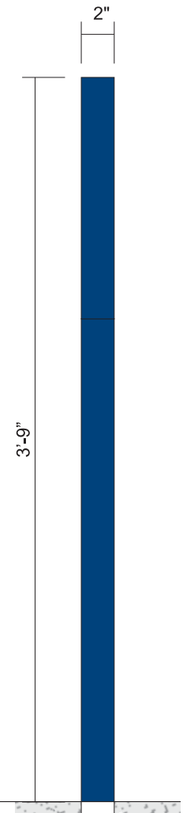


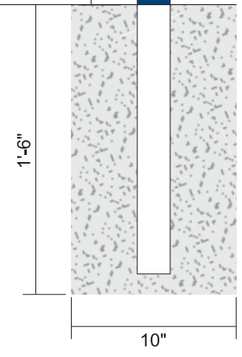
FRONT



BACK

SIDE VIEW





DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES
PAINT PMS 541 C
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181E

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

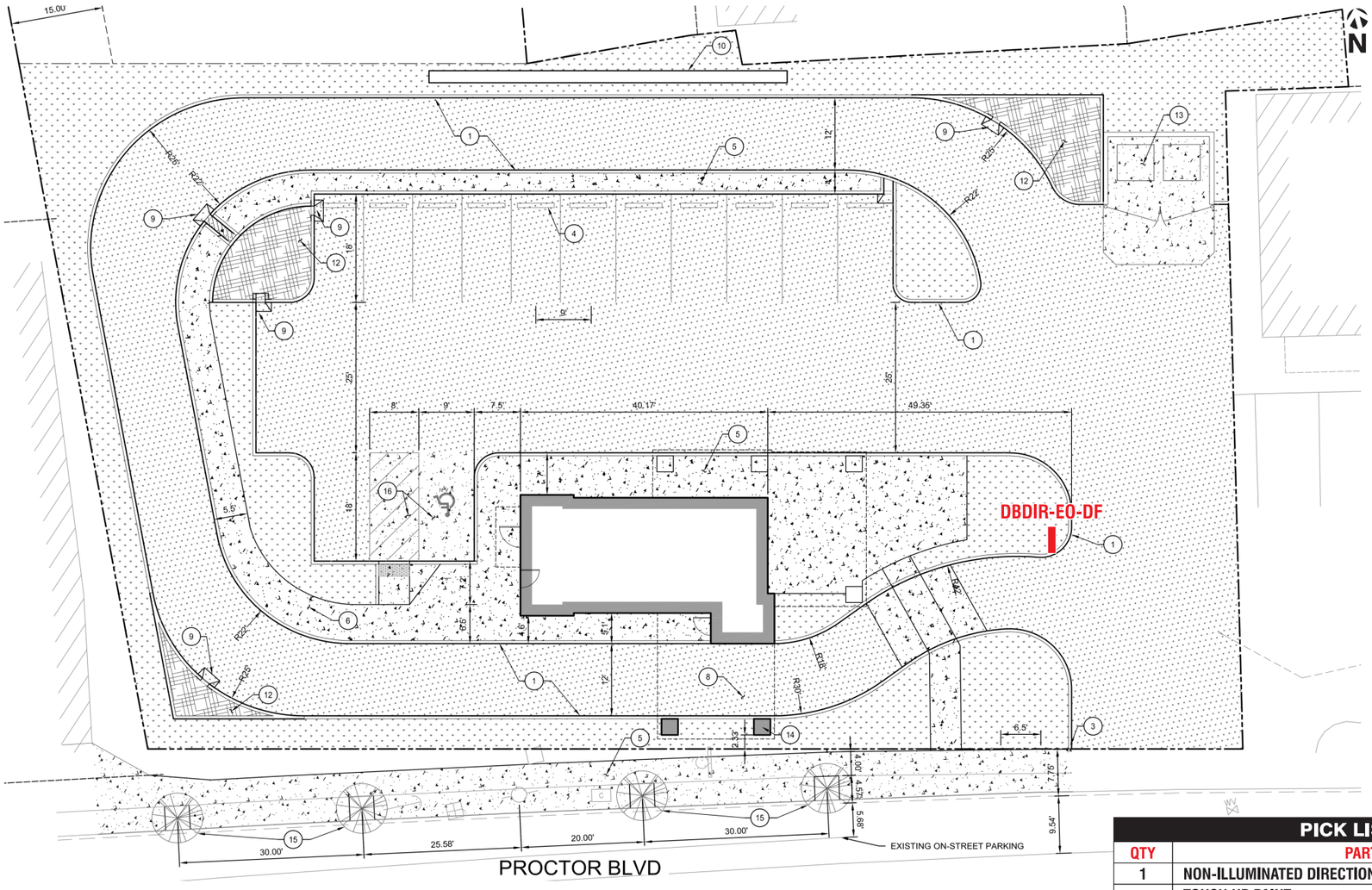
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW 'DRIVE THRU' SIGN AS SHOWN.
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

PICK LIST		
QTY	PART	✓
1	NON-ILLUMINATED DIRECTIONAL SIGN	
	TOUCH UP PAINT	
	SACRETE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

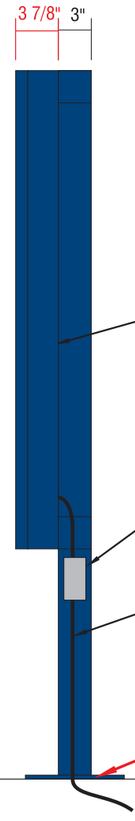
SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 5

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SCOPE OF WORK: PROVIDE (2) S/F ILLUMINATED MENU SIGNS - PLATE-MOUNTED

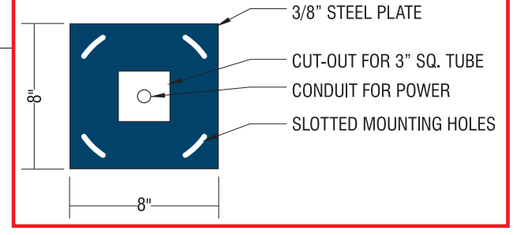
LEVEL A FINISH



FREESTANDING BACKLIT MENU SIGN

- RECEIVE & ASSEMBLE ILLUMINATED MENU SIGN WITH PLATE MOUNT ATTACHMENT
- ASSEMBLE POST & MENU
- PROVIDE ANCHOR BOLTS & ANCHOR BOLT PATTERN
- SHIP BOLT PATTERN TO G.C. FOR LOCATING POWER.
- FOOTING INSTALLED BY G.C.

MOUNTING PLATE - TOP VIEW
SCALE: 1 ½"=1'-0"



COLOR CODE

- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 5

ES&A SIGN & AWNING
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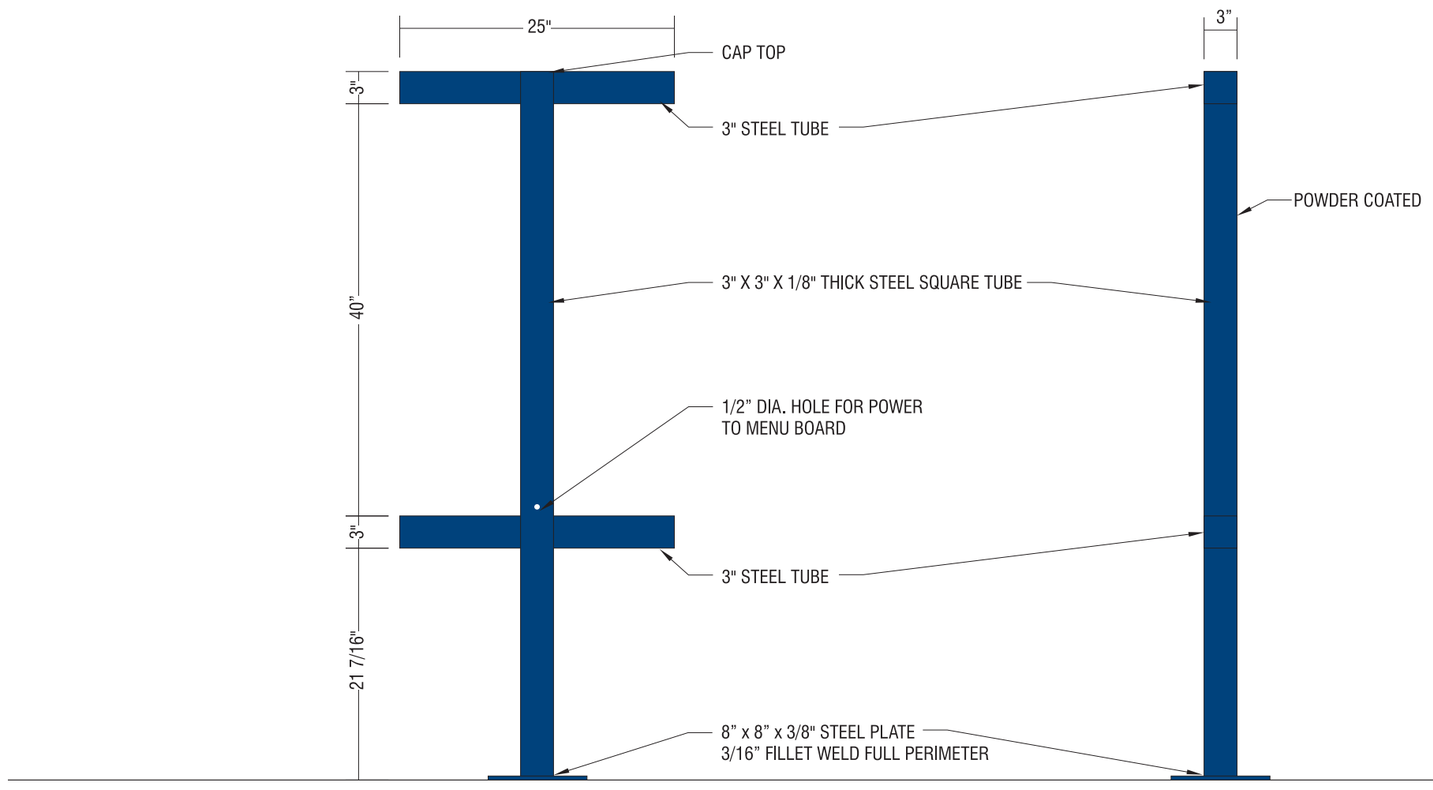
P 541.485.5546 | F 541.485.5813

BACK-LIT MENU BOARD - FRAME



FRAME LAYOUT **SIDE VIEW**

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

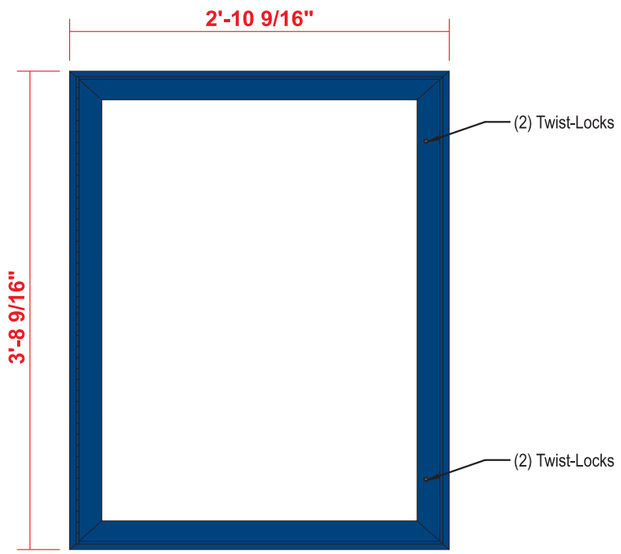
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 5

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

LIGHT BOX DETAIL



30 X 40 LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

SIDE VIEW

PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER
- PRINT NOT INCLUDED

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

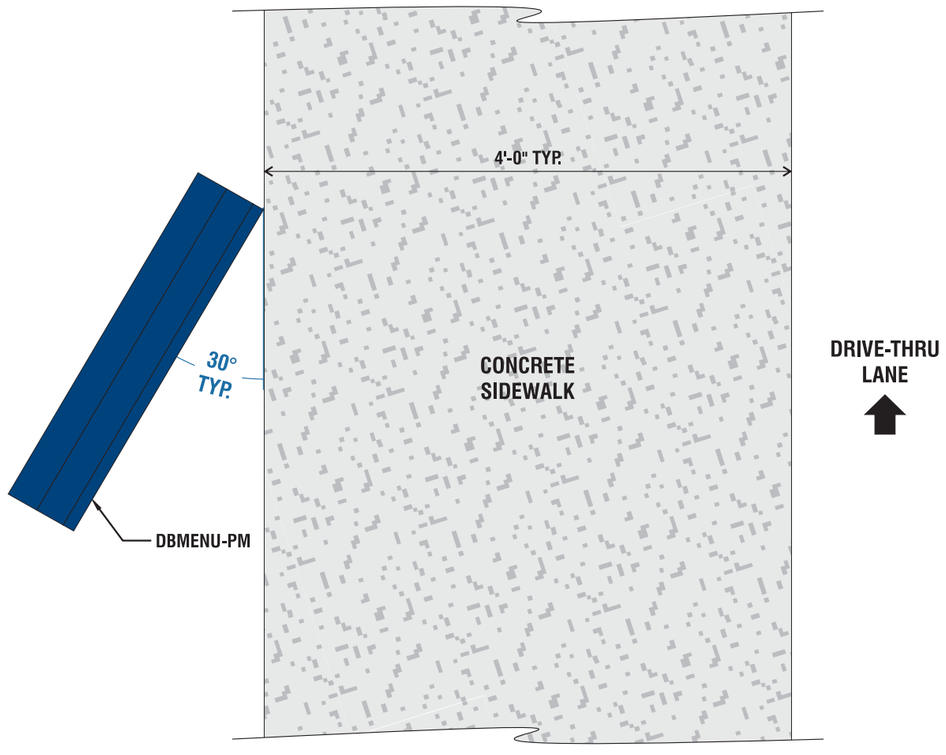
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	4 of 5

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION ORIENTATION DETAIL



FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

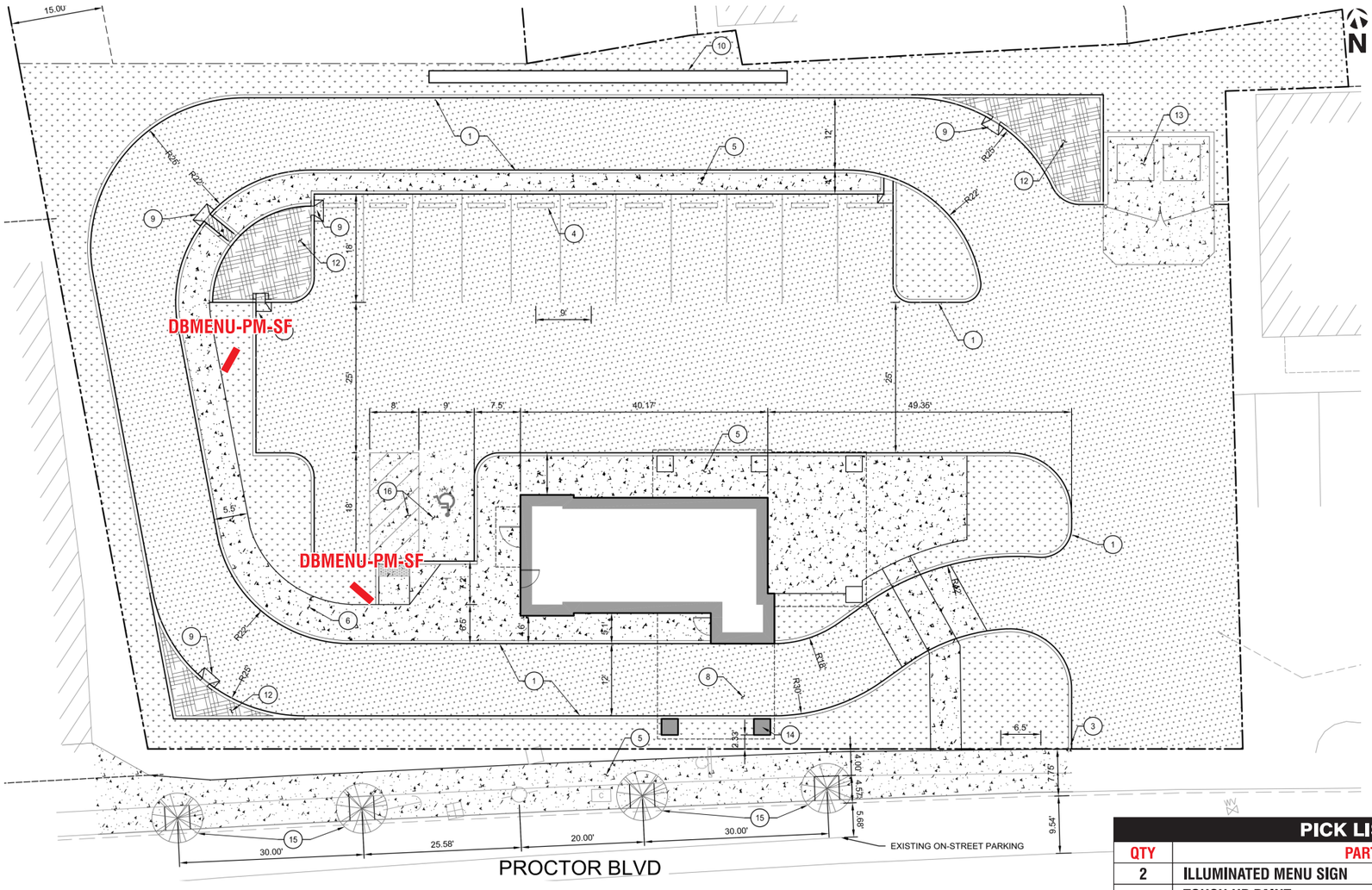
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
1.28.19 UPDATED SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	5 of 5

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
PLATE MOUNT WITH EXPANSION BOLTS INTO EXISTING CONCRETE PAD.

PICK LIST		
QTY	PART	✓
2	ILLUMINATED MENU SIGN	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

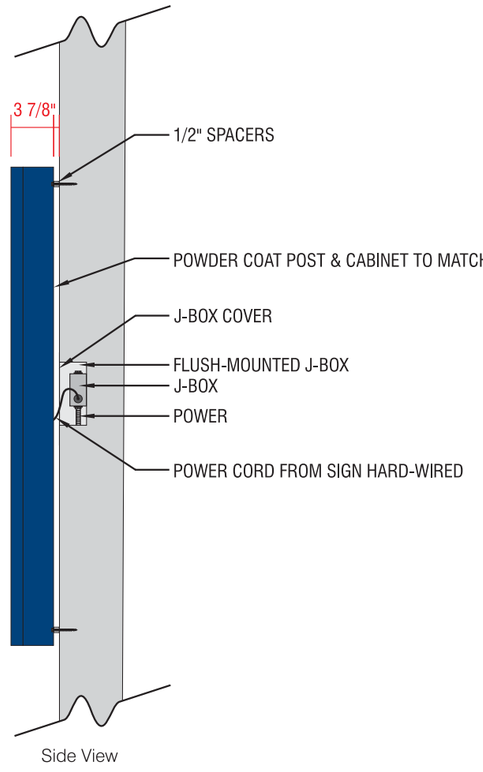
SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SCOPE OF WORK: PROVIDE (3) ILLUMINATED MENU SIGNS - WALL-MOUNTED

LEVEL A FINISH



A WALL-MOUNTED, BACKLIT MENU SIGN
- PRINTED MENU PANEL NOT INCLUDED
- LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

B PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

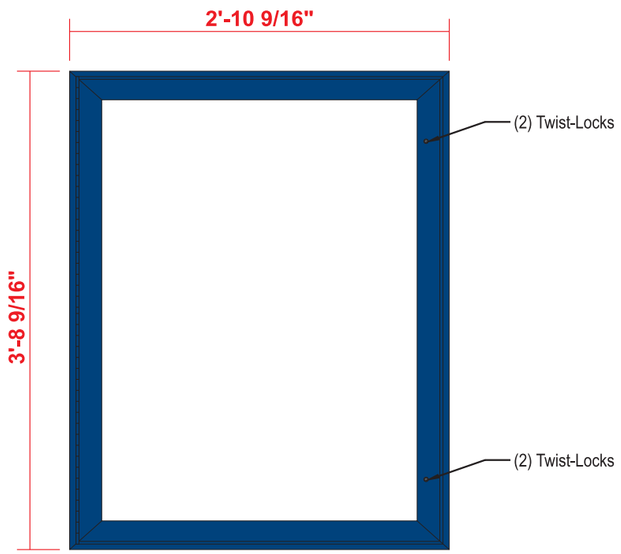
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

LIGHT BOX DETAIL



30 X 40 LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

SIDE VIEW

PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER
- PRINT NOT INCLUDED

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

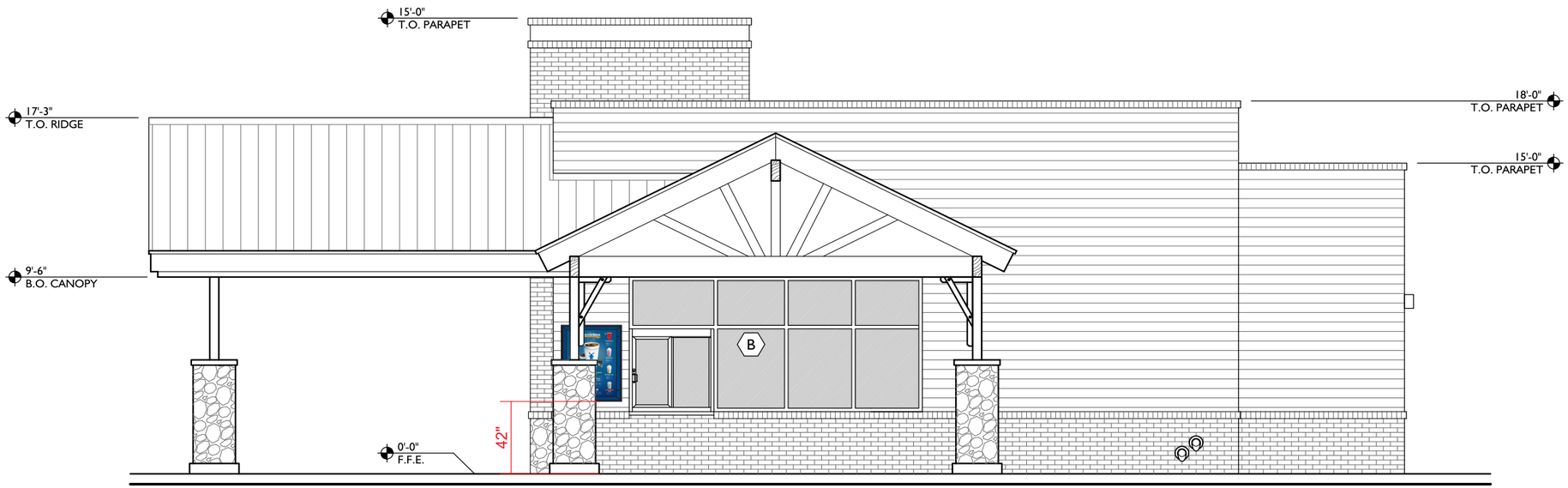
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



NORTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL NEW MENUS SIGN AS SHOWN.

PICK LIST		
QTY	PART	✓
3	ILLUMINATED MENU SIGNS	
	TOUCH UP PAINT	
	INSTALL HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

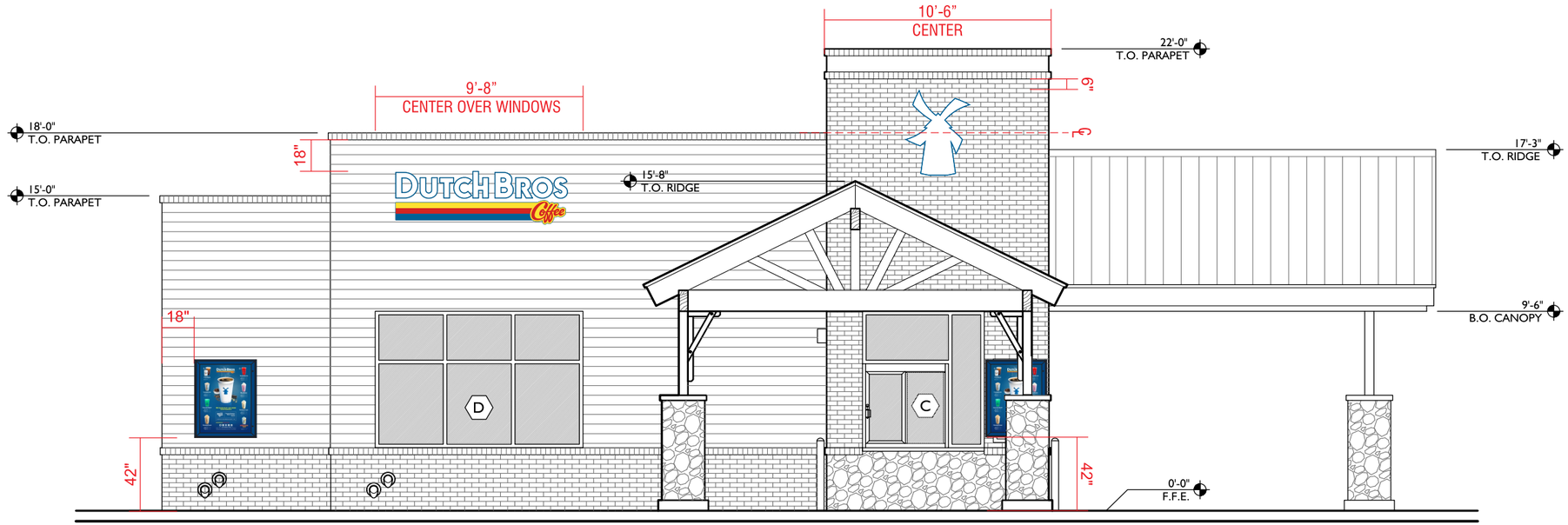
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	4 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL NEW MENUS SIGN AS SHOWN.

PICK LIST		
QTY	PART	✓
3	ILLUMINATED MENU SIGNS	
	TOUCH UP PAINT	
	INSTALL HARDWARE	
SIGNED:	DATE:	

SANDY OREGON

James Cramer <jcramer@ci.sandy.or.us>

Dutch Bros Development (File #18-057)

1 message

Hassan Ibrahim <hai@curran-mcleod.com> Fri, Mar 22, 2019 at 10:39 AM
To: James Cramer <jcramer@ci.sandy.or.us>
Cc: Mike Walker <mwalker@ci.sandy.or.us>

EXHIBIT K

Hi James,

We have the following comments:

1. Concurrence from ODOT will be required since the existing access will be shared with 7Eleven store and the proximity of the ingress/egress to the traffic signal at Proctor/Ten Eyck. The access and traffic movements need to be evaluated and approved by ODOT.
2. Sidewalks will be required along the site frontage with Pleasant Street to include street trees.
3. A drainage report will be required as part of the final construction plans submittal meeting the water quality and quantity requirements.
4. We suggest the utility easement be increased to 20 feet in width as opposed to 15 feet.
5. The proposed storm drainage plan shown on sheet C4.1 needs to be modified. The City doesn't allow the flow to discharge from a manhole to a catch basin.

Regards,

Hassan Ibrahim, P.E.
CURRAN-McLEOD, INC.
6655 SW Hampton St, Ste. 210
Portland, OR 97223
Tel: 503-684-3478
Fax: 503-624-8247
Cell: 503-807-2737
email: hai@curran-mcleod.com

EXHIBIT L

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

March 22, 2019

Mr. James Cramer
City of Sandy
39250 Pioneer Blvd.
Sandy, OR 97055

SUBJECT: REVIEW OF PROPOSED DUTCH BROS. FACILITY

Dear James:

In response to your request, I have reviewed materials submitted in support of the proposed construction of a Dutch Bros. Drive-Through Coffee Facility at 39625 Proctor Boulevard.

Materials submitted by the applicant included a project narrative, site plan, and a Traffic Analysis Letter (TAL) prepared for the development. The TAL, dated November 28, 2018, was prepared under the direction of Rocky Martin and Brian Davis of Lancaster Engineering.

The proposal is for a 824-square-foot facility with a drive-through service window. Thirteen parking spaces are indicated on the site plan. The parcel is located on the north side of Proctor Boulevard west of the intersection of Proctor Boulevard and SE Ten Eyck Road.

Overall

I find the TAL addresses the city's requirements and provides an adequate basis to evaluate impacts of the proposed development.

Comments

1. ***Trip Generation.*** The TAL indicates that because of the small size of the building, trip generation was calculated using the trip rate for land-use category 938, Coffee/Donut Shop with Drive-Through Window and No Indoor Seating from the Institute of Transportation Engineers' *Trip Generation Manual*. The TAL calculated 278 trips during the AM peak hour and 68 in the PM peak hour. Most trips to coffee stands are pass-by trips diverted from the adjacent roadway. The TAL calculated primary trips to be 48 during the AM peak hour and 8 during the PM peak hour. With few new, primary trips, there would be little impact on nearby intersections, including the nearest signalized intersection at Proctor Boulevard and SE Ten Eyck Road. The calculation of trips appears reasonable.

2. ***Analysis.*** Because most of the traffic will be pass-by traffic drawn from Proctor Boulevard, no intersection is predicted to experience significant changes in traffic volumes and no traffic operations analysis was determined to be needed and none was performed.

3. ***Crash Information.*** The TAL indicates that during the five-year period from 2012 through 2016, there were three reported crashes at the intersection of Proctor Boulevard and SE Ten Eyck Road. Two were rear-end crashes. The TAL states no crash patterns were identified. Since Proctor Boulevard is westbound at the site, crash potential at the intersection of Proctor Boulevard and SE Ten Eyck Road would not likely be affected by the proposed development. The proposed coffee facility does not raise any new safety issues.

4. ***Site Plan and Access.*** According to the TAL, the proposal seeks to share the driveway used for access to 39695 Proctor Boulevard.

   The site plan provides for a very long area for queuing to the service window. The site plan illustrates provisions for different vehicle types including large pick-up trucks and passenger cars. The queue storage area provides for 15 passenger vehicles between the ordering kiosk and the pick-up window. This amount of queue storage appears to provide adequate capacity for the proposed use and is far greater than sometimes allowed for similar facilities. I judge that there is little potential for queues at the drive-through window to interfere with inbound customer traffic or operations on nearby streets. The site layout is among the best I have seen for this type of use.

5. ***Driveway Width.*** The TAL states that the driveway that the applicant proposes to use meets city standards.

6. ***Intersection Spacing.*** The development does not propose any new intersections.

7. ***Sight Distance.*** The TAL indicates that sight distance was measured to be in excess of 1000 feet, which easily exceeds the 280-foot measurement associated with a 25-mph speed.

8. ***Conclusions and Recommendations.*** The TAL indicates relatively few new, primary trips will be generated by the development; most traffic will be pass-by traffic drawn from Proctor Boulevard. The TAL indicates driveway width standards are met and that sight distance is more than adequate. The TAL reports there were few crashes at the nearby intersection of Proctor Boulevard and SE Ten Eyck Road. The TAL recommends no mitigation for traffic or safety concerns.

Conclusion and Recommendations

I conclude that the transportation system can accommodate the proposed use without mitigation. The site layout is among the best I have seen and provides space for queuing for

15 passenger vehicles at the service window. I judge that there is little potential for traffic at the facility to interfere with operations on nearby streets.

If you have any questions or need any further information concerning this analysis and review, please contact me at replinger-associates@comcast.net.

Sincerely,

John Replinger

John Replinger, PE
Principal

DutchBrosTAL032219

Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

EXHIBIT M

March 22, 2019: ODOT #8386

ODOT Response

Project Name: Dutch Bros. - Proctor Blvd (Sandy)	**Applicant:** Braden Bernards, Cole Valley Partners
Jurisdiction: City of Sandy	**Jurisdiction Case #:** 18-057 DR/CUP
Site Address: 39625 Proctor Boulevard, Sandy, OR	**Legal Description:** 02S 04E 13AC **Tax Lot(s):** 05500
State Highway: US 26	

The site of this proposed land use action is adjacent to Proctor Blvd (US 26). ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

COMMENTS/FINDINGS

Access

There is an existing access on the subject property that is shared with the adjacent site to the east, 7-Eleven (02S 04E 13AC TL05900). The addition of the proposed use, coffee drive-thru (and future uses on the site) will constitute a Change of Use to the existing access to the State highway. A new State Highway Approach Road Permit is needed and required for the proposed development. Truck turning templates will be needed to ensure that the anticipated delivery vehicles can safely maneuver.

Frontage Improvements, Right of Way, and Containments

Based on the pre-application meeting, development on the vacant parcel will require new sidewalks to current City standards. This may involve additional right-of-way conveyance to the ODOT to accommodate this improvement. The site's previous use was a commercial gas station and storage. The DEQ has an Environmental Clean Up Site Information (ECSI) Database Site Summary Report for the subject property (DEQ ECSI Site ID#1691). Based on the ODOT HazMat Unit's review of the online information the "Locality of the Facility" (i.e., the extent of the contamination) is not identified on the DEQ website. A DEQ file review would be needed to ascertain the extent of the contamination. Additional investigation, including drilling, sampling, and analytical testing, may be needed if insufficient data is available in DEQ files documenting the extent of contamination on ODOT right-of-way. Alternatively, if the site is found to be contaminated, the City may elect to require additional frontage improvements facilitated through a public easement.

General

All alterations within the State highway right of way are subject to the ODOT Highway Design Manual (HDM) standards. Alterations along the State highway but outside of ODOT right-of-way may also be subject to ODOT review pending its potential impact to safe operation of the highway. If proposed alterations deviate from ODOT standards a Design Exception Request must be prepared by a licensed engineer for review by ODOT Technical Services. Preparation of a Design Exception request does not guarantee its ultimate approval. Until more detailed plans have been reviewed, ODOT cannot make a determination whether design elements will require a Design Exception.

Note: Design Exception Requests may take up to 3 months to process.

All ODOT permits and approvals must reach 100% plans before the District Contact will sign-off on a local jurisdiction building permit, or other necessary requirement prior to construction.

ODOT RECOMMENDED LOCAL CONDITIONS OF APPROVAL

Frontage Improvements and Right of Way

☒ Curb and sidewalk shall be constructed as necessary to be consistent with local, ODOT and ADA standards.

☒ Right of way deeded to ODOT as necessary to accommodate the planned cross section shall be provided. The deed must be to the State of Oregon, Oregon Department of Transportation. The ODOT District contact will assist in coordinating the transfer. ODOT should provide verification to the local jurisdiction that this requirement has been fulfilled. The property owner must be the signatory for the deed and will be responsible for a certified environmental assessment of the site prior to transfer of property to the Department.

Note: It may take up to **3 months** to transfer ownership of property to ODOT.

Access to the State Highway

☒ A State Highway Approach Road Permit from ODOT for access to the state highway for the proposed use is required. Truck turning templates shall be provided as needed to ensure vehicles can enter and exit the approach safely. Site access to the state highway is regulated by OAR 734.51. For application information go to http://www.oregon.gov/ODOT/HWY/ACCESSMGT/Pages/Application-Forms.aspx.

Note: It may take **2 to 3 months** to process a State Highway Approach Road Permit.

☒ The applicant shall record cross-over access easements to the adjacent properties with state highway frontage with the County Assessor to facilitate future shared access. Shared access will improve highway safety by reducing potential conflicts between vehicles and between vehicles and pedestrians and bicyclists at closely spaced driveways and will implement ODOT Access Management Program goals.

Permits and Agreements to Work in State Right of Way

☒ An ODOT Miscellaneous Permit must be obtained for all work in the highway right of way. When the total value of improvements within the ODOT right of way is estimated to be $100,000 or more, an agreement with ODOT is required to address the transfer of ownership of the improvement to ODOT. An Intergovernmental Agreement (IGA) is required for agreements involving local governments and a Cooperative Improvement Agreement (CIA) is required for private sector agreements. The agreement shall address the work standards that must be followed, maintenance responsibilities, and compliance with ORS 276.071, which includes State of Oregon prevailing wage requirements.

Note: If a CIA is required, it may take up to **6 months** to process.

☒ The applicant must obtain an ODOT permit to place trees in the state right of way. Tree spacing and design must be consistent with the ODOT Highway Design Manual section 4.2.6 (http://www.oregon.gov/ODOT/Engineering/Documents_RoadwayEng/HDM_04-Cross-Sections.pdf.

If proposed tree placement deviate from ODOT standards (such as placement in a planter strip), a Design Exception Request for clear zone must be prepared by a licensed engineer for review by ODOT Technical Services. Preparation of a Design Exception request does not guarantee its ultimate approval.

Note: It may take up to **3 months** to process a Design Exception.

☒ Illumination within the ODOT right of way must be in accordance with AASHTO illumination standards and the ODOT Lighting Policy and Guidelines, which states that local jurisdictions must enter into an Intergovernmental Agreement (IGA) with ODOT wherein the local jurisdiction is responsible for installation, maintenance, operation, and energy costs.

☒ An ODOT Miscellaneous Permit is required for connection to state highway drainage facilities. Connection will only be considered if the site's drainage naturally enters ODOT right of way. The applicant must provide ODOT District with a preliminary drainage plan showing impacts to the highway right of way.

A drainage study prepared by an Oregon Registered Professional Engineer is usually required by ODOT if:

1. Total peak runoff entering the highway right of way is greater than 1.77 cubic feet per second; or
2. The improvements create an increase of the impervious surface area greater than 10,758 square feet.

ADVISORY INFORMATION

Signs:

☒ Off-premises signs require a permit through the ODOT Outdoor Advertising Sign program (ORS 377.725). To determine whether or not a sign will be on or off premises contact Jill Hendrickson (ODOT Right-of-Way 503.986.3635).

☒ Private signs are not permitted in the state highway right of way (ORS 377.700-377.840).

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209

Region1_DEVREV_Applications@odot.state.or.us

Development Review Planner: Marah Danielson	503.731.8258, marah.b.danielson@odot.state.or.us
Traffic Contact: Avi Tayar, P.E.	503.731.8221
District Contact: Loretta Kieffer	503.667.7441

MEMORANDUM

TO: JAMES CRAMER, ASSOCIATE PLANNER
FROM: MIKE WALKER, PUBLIC WORKS DIRECTOR
RE: DUTCH BROS. FILE No. 18-057 DR / CUP
DATE: MARCH 25, 2019

EXHIBIT N

The following are Public Works' comments on the above-referenced application:

Transportation
At the pre-application conference staff was concerned that the backing and maneuvering movements on the adjacent 7-11 site could impact the operation of the shared approach onto US 26. These spaces and their relationship to the shared approach were not shown on the pre-app submittal.

Staff requested that the applicant submit a site plan showing the location of the parking and maneuvering areas on the 7-11 site and show the path of a passenger car backing out of the westernmost spaces on the 7-11 site and exiting the lot via the shared approach.

Since the 7-11 site also has an approach onto SE Ten Eyck Rd. at the east edge of the site we also asked that the applicant show the path of the same vehicle backing out of the spots and exiting to the east and to show the dimensions for the existing spaces and the distance between the end of the stall and the right-of-way line.

Finally we asked the applicant to submit a narrative discussion of these movements for both sites and identify any on-site conflicts that that could impact traffic on US 26 westbound. I didn't see any of the requested information in the applicant's submittal.

The applicant shall submit the requested information and analysis outlined above and in the January 22nd email to the applicant's traffic consultant. If conditions are identified that would affect operation of the shared approach and traffic on US 26 westbound the applicant shall propose and incorporate mitigation measures to address any impacts.

The street frontage improvements on Proctor Blvd. shall include decorative street lighting, street trees in tree wells, (including provisions for tree lighting) sidewalk scoring patterns and paver bands to match the sidewalk improvements elsewhere on Proctor Blvd.

The street frontage improvements on the Pleasant St. frontage of the site shall include a five-foot wide sidewalk, a five-foot wide planter strip with street trees and streetlighting per 17.84.30 and 17.84.80 SMC.

Utilities
The applicant is proposing underground chambers with open-graded stone backfill for stormwater detention. While the information submitted is for land use review only and is

a final design it is not clear whether the stone backfill will be contained with an impermeable or permeable membrane.

Based on the findings, conclusions and recommendations in the Phase I Environmental Assessment the applicant's stormwater management plan (required by Section 13.18 Sandy Municipal Code) shall review and discuss the use of open graded stone backfill for storage and the potential to transport stormwater or shallow groundwater impacted by Petroleum Contaminated Soil (PCS) from the site to the City's stormwater conveyance system.

Please let me know if you have any questions or need more information.

SANDY OREGON

EXHIBIT O

James Cramer <jcramer@ci.sandy.or.us>

Proposed development 18-057 DR/CUP

'Fancher Family' via Planning <planning@ci.sandy.or.us> Mon, Apr 8, 2019 at 9:23 AM
Reply-To: Fancher Family <gandmfancher@yahoo.com>
To: planning@ci.sandy.or.us
Cc: jcramer@ci.sandy.or.us

Dear Planning and Building Department,

We are responding to the proposed new development on Sandy 18-057 DR/CUP,

If at all possible please try to stick to your city development plan
Subsection 17.90.110(C)(1),,17.12, 17.90,C-1.and the style of the buildings.

This is especially important for this site because it is among the first
impression entering Sandy core area from the East.

Thank you

With highest regards,

Galen and Margaret Fancher mm

NAPA L.L.C.

EXHIBIT P

RECEIVED
APR 15 2019
CITY OF SANDY

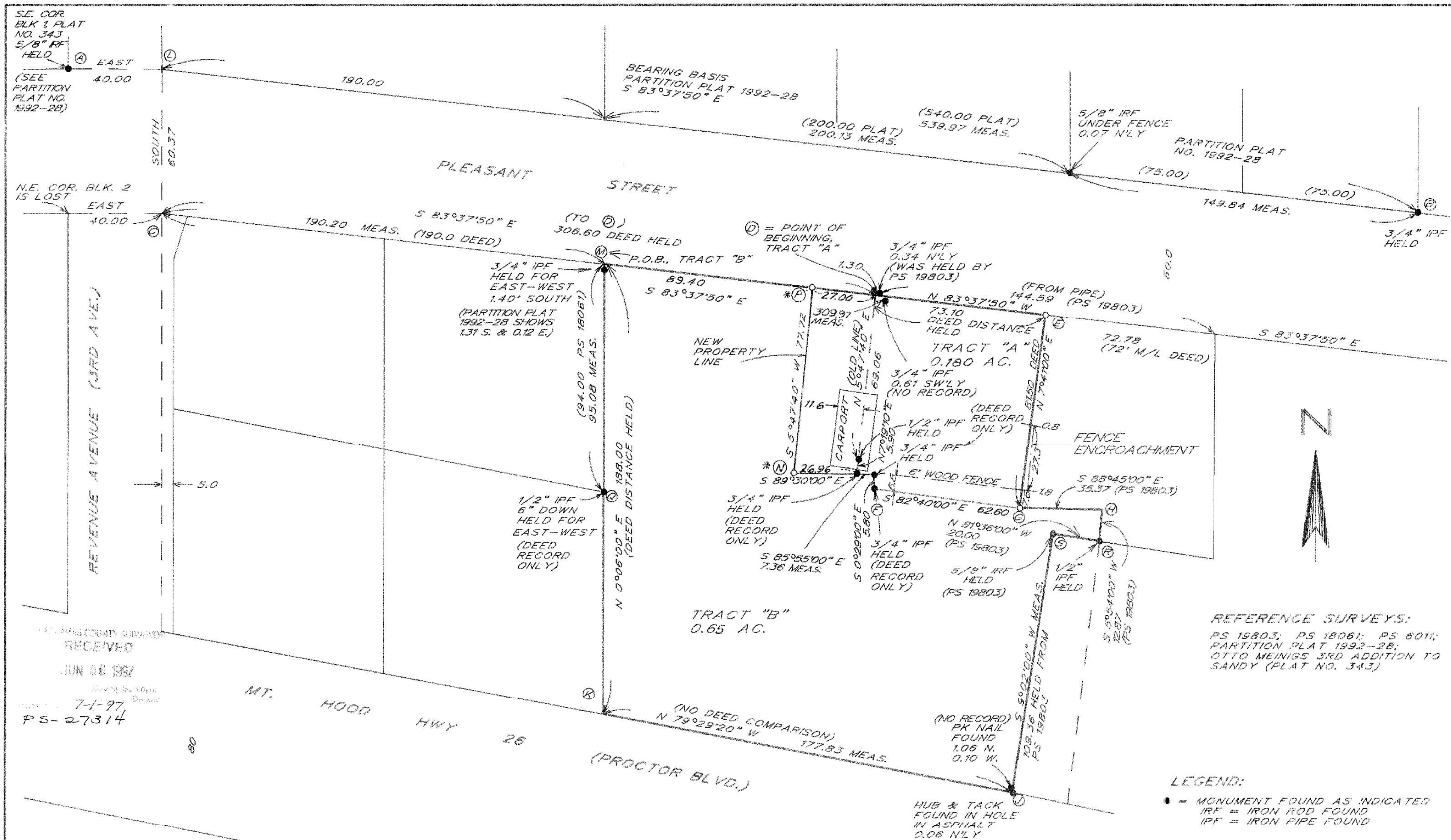
COMMENT SHEET for File No. 18-057 DR/CUP:

Our property is just north of the development and we will be sharing a connected fence line. Our main concerns are regarding our shared fence, which is currently in a poor condition. It looks as though your garbage will be up against it as will the drive thru. Were concerned that the extra noise and headlight glares from the early hours to late evenings will distress our dogs and little girl who is on the Autism Spectrum. We are interested in if you are planning on replacing the fence or leaving it the same. Without a replacement we have big concerns regarding the safety, comfort, and piracy of our families home.

Daniel Valverde — 503-309-3947
Your Name — Phone Number

39630 Pleasant St. Sandy, OR 97055
Address

APPLICABLE CRITERIA: Sandy Municipal Code: 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.42 Central Business District, C-1; 17.66 Adjustments and Variances; 17.68 Conditional Uses; 17.84 Improvements with Development; 17.90 Design Standards; 17.92 Landscaping and Screening; 17.94 Drive-up Uses; 17.98 Parking, Loading, and Access Requirements; and Chapter 15.30 Dark Sky Ordinance.



NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO FORM A PROPOSED PROPERTY LINE ADJUSTMENT BETWEEN TAX LOT 5400 (FEE NO. 92 57278) AND TAX LOT NO. 5500 (FEE NO. 91 49368). I RECOVERED MONUMENTS (A) AND (B) FROM PARTITION PLAT 1992-28 AND AFTER CALCULATING POSITION (L) FROM SAID PLAT, I USED LINE (L) TO (B) AS BEING S 83°37'50" E FOR MY BASIS OF BEARINGS THEREFROM. FROM (L), I CALCULATED POSITION (C) AND USED THIS POSITION FOR TO ESTABLISH DEED CORNER (D). FROM (D), I HELD DEED DISTANCE TO SET A ROD (E) ON THE SOUTHERLY LINE OF PLEASANT STREET. FROM (D), I SURVEYED SOUTHERLY AND FOUND AND HELD 4 DEED CALLED PIPES. FROM THE MOST SOUTHERLY OF THESE 4 PIPES, (F), I HELD RECORD AND DEED DISTANCES TO SET A ROD AT (G). THEN I LAID OFF WESTERLY FROM (D) TO SET A ROD AT (P) AND I THEN PROCEEDED SOUTHERLY TO SET A ROD (N) 0.5 FOOT NORTHERLY OF AN EXISTING CONCRETE FOUNDATION. I THEN HELD A DEED CALLED PIPE FOR EAST TO WEST TO ESTABLISH (M) FOR THE NORTHWEST CORNER OF THE SANDY OIL COMPANY TRACT, DEED FEE 91 49368. FROM (M), I HELD A PIPE FOUND (Q) AND PROJECTED DEED DISTANCE TO ESTABLISH (K) BUT DID NOT SET A ROD. THEN FROM (G), I HELD DISTANCES FROM PS 19803 TO ROD (R) TO ESTABLISH (H), BUT DID NOT SET A ROD. FROM (S), I HELD DISTANCE FROM SAID SURVEY 19803 TO ESTABLISH POINT (J) IN LINE WITH A HUB & TACK FOUND AND I USED THIS POINT FOR THE SOUTHEAST CORNER OF SAID SANDY OIL COMPANY TRACT. THE LINE (P) TO (N) WAS ESTABLISHED AS PER THE OWNERS INSTRUCTIONS. I THEN MAPPED FENCE AND CARPORT ENCROACHMENTS AS SHOWN.

TRACT BEING TRANSFERRED:
2,060 SQ. FT.

APPROVED:

THIS 5 DAY OF June, 1997
FILE NO. 97016 PLA
BY: [signature], ALCP
CITY OF SANDY PLANNING DEPT.

REGISTERED PROFESSIONAL LAND SURVEYOR
[signature]
OREGON JULY 14, 1967 LYLE M. NOLD 812
EXPIRES 12-31-98

LEGEND:

- ● = MONUMENT FOUND AS INDICATED
  - IRF = IRON ROD FOUND
  - IPF = IRON PIPE FOUND
- o = 5/8" X 30" IRON ROD SET WITH YELLOW PLASTIC CAP MARKED "STRAIGHTLINE SURVEYING CO." (RODS SET ON APRIL 28, 1997)
- * = RODS SET ON MAY 29, 1997
- M/L = MORE OR LESS
- P.O.B. = POINT OF BEGINNING

STRAIGHTLINE SURVEYING CO.
PO BOX 126, SANDY, ORE 668-6394

PROPOSED
PROPERTY LINE ADJUSTMENT
TAX LOTS 5400 AND 5500
CITY OF SANDY
FOR JERRY MC GUIRE

SECTION	TOWNSHIP	RANGE	COUNTY
NE 1/4 13	T 2 S.	R 4 E.	CLACKAMAS
SCALE	JOB NO.	MAP NO.	DATE
1" = 30'	97-08	2 4E 13AC	MAY 23 1997

Exhibit R

CHAPTER 17.42
CENTRAL BUSINESS DISTRICT - C-1

17.42.00 INTENT

This district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. This district is not intended for intensive automobile or industrial uses. This district is intended to provide the principal focus for civil and social functions within the community.

This commercial district is intended for civic uses and to provide all basic services and amenities required to keep the downtown the vital center of our community. While the district does not permit new low density building types, it is not intended to preclude dwelling units in buildings containing commercial activities. All development and uses shall be consistent with the intent of the district, as well as compatible with the space, access and exposure constraints and opportunities of the central city.

17.42.10 PERMITTED USES

A. Primary Uses Permitted Outright – Residential:
   1. Attached row houses existing prior to adoption of this Code;
   2. Duplexes existing prior to adoption of this Code;
   3. Residential Care Facility;
   4. Residential dwellings attached to a commercial business;
   5. Single Attached (Zero Lot Line, 2 Units) existing prior to adoption of this Code;
   6. Single Detached existing prior to adoption of this Code;
   7. Single Detached (Zero Lot Line) existing prior to adoption of this Code.

B. Primary Uses Permitted Outright – Commercial in buildings with up to 30,000 square feet of gross floor area and without drive-through facilities:
   1. Retail uses, including but not limited to:
      a. Automotive trailer, recreational vehicle, motorcycle sales and rental;
      b. Convenience market/store;
      c. Eating and drinking establishment including fast-food and high-turnover sit down restaurants but excluding drive-up/drive-through uses;
      d. Grocery store or supermarket;

      COMMENT: This submittal is for a Dutch Brother's Coffee Shop that fits within B.1.c Eating and Drinking Establishment. This project includes a drive-up / drive-through use which requires approval as a Conditional Use per 17.42.20 (B.C).

   2. Service and professional businesses and organizations, including but not limited to:
      a. Athletic club, indoor recreation, or entertainment;
      b. Automotive repair and service;
      c. Commercial day care facility;
      d. Community services;
      e. Education facility (e.g., pre-school, school, college);
      f. Financial institution;
      g. Medical facility (e.g., clinic, hospital, laboratory);
      h. Professional or general business office;

i. Self-service storage;
j. Social organization;

3. Manufacturing, assembly, processing, and production that do not produce significant levels of noise or odor beyond the boundaries of the site;
   a. Brewery, distillery, or winery with pub/tasting room;
4. Bus station or terminal;
5. Group care and assisted living;
6. Minor public facility;
7. Nursery/greenhouse;
8. Outdoor recreation;
9. Overnight lodging;
10. Park and ride station;
11. Parking lot or garage (when not an accessory use);
12. Public park, plaza, playground or recreational area, and buildings;
13. Warehousing and distribution facilities for wholesale merchandise;
14. Other uses similar in nature.

C. Accessory Uses Permitted Outright:
   7. A use customarily incidental and subordinate to a principal use permitted outright;
   8. Outdoor display or storage of merchandise covering no more than 10% of the total retail sales area;
   9. Accessory dwelling unit;
   10. Accessory structures, detached or attached;
   11. Family day care homes, subject to any conditions imposed on the residential dwellings in the zone;
   12. Home businesses;
   13. Parking lot or garage (when associated with development).

   COMMENT: This project includes a Parking Lot - an Outright Permitted Accessory Use per 17.42.10 (C.13).

17.42.20 MINOR CONDITIONAL USES AND CONDITIONAL USES

A. Minor Conditional Uses:
   1. Brewery, distillery, or winery without pub/tasting room;
   2. Congregate housing;
   3. Outdoor product display or storage of merchandise covering greater than 10% of the total retail sales area;
   4. Other uses similar in nature.

B. Conditional Uses:
   A. Automotive fueling station;
   B. Buildings designed for one or more occupants with more than 30,000 square ft. of gross floor area;
   C. Drive-up/drive-in/drive-through (drive-up windows, kiosks, ATM, restaurants, car wash, quick vehicle servicing, and similar uses);
   D. Major public facility;
   E. Multi-family dwellings not contained within a commercial building;
   F. Wholesale lumber or building materials;
   G. Other uses similar in nature.

COMMENT: This project includes a drive-up / drive-through use which is a Conditional Use per 17.42.20 (B.C). requiring a Conditional Use per 17.68 Conditional Uses.

17.42.30 DEVELOPMENT STANDARDS

A.

Residential - Not Above Commercial Building	
Type	**Standard**
Density/Lot Dimension	In conformance with Chapter 17.40 (R-3)
Setbacks	In conformance with Chapter 17.40 (R-3)
Lot Coverage	No maximum
Structure Height	45 ft. maximum
Landscaping	20% minimum
Off-Street Parking	See Chapter 17.98

COMMENT: This project is Commercial / above Residential Standards do not apply.

Commercial	
Lot Area	No minimum (OK)
Lot Dimension	No minimum (OK)
Setbacks	No minimum [4]; maximum 10 ft. (This project has a drive-thru which is a Conditional Use requiring a Type III procedure. The drive-thru canopy is within the 10' maximum setback which meets this standard. However, since this standard is met by the building element requiring the Conditional Use, a variance is required. See 17.66.80 (C) for additional narrative / information.)
Lot Coverage	No maximum (OK)
Landscaping	10% minimum (includes required civic space in Section 17.90.110.) (17% Actual / OK)
Structure Height	45 ft. maximum (22'-0" Actual / OK)
Off-Street Parking	See Chapter 17.98 (See Additional Narrative Detail included with this submittal relative to this section)
Design Review Standards	See Section 17.90.110 (See Additional Narrative Detail included with this submittal relative to this section)

COMMENT: This project meets the Commercial Standards as listed above. For additional information also see the Architectural / Civil pages accompanying this submittal.

B. Special Setbacks - Side or Rear Yard Abutting a More Restrictive District.

1. Property abutting a more restrictive zoning district shall have the same yard setback as required by the abutting district. An additional 10 ft. shall be added for each 10 foot increment in building height over 35 ft.
2. Measurement of the height transition area shall be made between the foundation of the proposed building and the property line of the abutting district.

3. When the proposed structure has different sections that have different heights, the height transition area shall be measured for each vertical surface as if it were to be freestanding. The building then must be located on the site so that no section is closer to the abutting property line than it would be if the section was freestanding.
4. The required buffering and screening and utilities may be located within the height transition area. Off-street parking, accessory structures and incidental development may be located within the height transition area but not any areas designated as buffering and screening area.

COMMENT: N/A. This project is abutted entirely by similarly zoned properties.

[4] Unless abutting a more restrictive zoning district or as required to maintain vision clearance.

CHAPTER 17.66
ADJUSTMENTS AND VARIANCES

17.66.00 INTENT

Adjustments and variances are procedures to vary development standards normally applied to a particular district.

17.66.10 ADJUSTMENTS

Adjustments are a Type I or Type II procedure that provide a means to vary the development standards normally applied in a particular district. This option exists for those circumstances where uniform; unvarying rules would prevent a more efficient use of a lot. A typical example is permitting a structure to be located closer to a property boundary than normally allowed by the zoning district regulations.

Adjustments apply only to individual lots and therefore cannot be used by applicants seeking to vary development standards for lots to be created through a subdivision process. Modifications to land divisions standards should be sought through the Type II or Type III Variance process or where appropriate, the Planned Development process.

An adjustment is intended to:

A. Allow more efficient use of land.

B. Provide flexibility and innovation in site planning and architectural design on individual lots.

C. Permit building location and/or construction techniques that conserve energy.

D. Minimize procedural delays and ensure due process in the review of unique development situations.

E. Provide relief from the strict adherence of land division development standards where site-specific physical or functional land development conditions warrant a variance.

17.66.20 TYPE I ADJUSTMENTS

In issuing a permit the Director may grant or deny an adjustment under the Type I procedure if the request involves only the expansion or reduction by not more than 10% of one or more quantifiable provisions of this code.

17.66.30 TYPE II ADJUSTMENTS

Except in the case of a nonconforming development or use, the Director may grant or deny an adjustment under the Type II procedure if the request involves only the expansion or reduction by not more than 20% of one or more quantifiable provisions of this code.

17.66.40 TYPE I AND II ADJUSTMENT CRITERIA

A. The proposed development will not be contrary to the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City;

B. The proposed development will not substantially reduce the amount of privacy enjoyed by users of nearby structures when compared to the same development located as specified by this Code;

C. The proposed development will not adversely affect existing physical systems and natural systems, such as traffic, drainage, dramatic land forms, or parks; and

D. Architectural features of the proposed development will be compatible to the design character of existing structures on adjoining properties and on the proposed development site.

17.66.50 ADJUSTMENT LIMITATIONS

Adjustments may not be utilized to:

A. Reduce width of accessways required for flag lots created through the land partition or minor replat process

B. Reduce the area reserved for private outdoor space and/or usable open space by more than 10%

C. Reduce project site amenities such as screening and/or landscaping provisions by more than 10%

D. Increase fence height inside clear-vision areas

17.66.60 VARIANCES

Variances are a means of requesting a complete waiver or major adjustment to certain development standards. They may be requested for a specific lot or as part of a land division application. The Type II variance process is generally reserved for major adjustments on individual lots, while variances to development standards proposed as part of a land division are processed as a Type III application (requiring a public hearing).

17.66.70 TYPE II AND TYPE III VARIANCE CRITERIA

The authority to grant a variance does not include authority to approve a development that is designed, arranged or intended for a use not otherwise approvable in the location. The criteria are as follows:

A. The circumstances necessitating the variance are not of the applicant's making.

B. The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.

C. Granting of the variance will not adversely affect implementation of the Comprehensive Plan.

D. The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.

E. The development will be the same as development permitted under this code and City

standards to the greatest extent that is reasonably possible while permitting some economic use of the land.

F. Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.

COMMENT: No Type II or III variance is requested pursuant to 17.66.70. Thus, this section is not applicable. As discussed in the following section, the applicant is requesting three Type III special variances pursuant to 17.66.80.

17.66.80 TYPE III SPECIAL VARIANCES

The Planning Commission may grant a special variance waiving a specified provision for under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

COMMENT: Due to certain unique aspects of this project, we are requesting three Special Variances. Each Special Variance is detailed below relative to the listed Criteria.

Special Variance 1:
Section 17.42.30 / Development Standards
Setbacks

This project has a drive-thru which is a Conditional Use requiring a Type III procedure. The front columns holding the drive-thru roof canopy sit +/- 2'-6" off the front property line while the core building itself sits +/- 22'-6" off the front property line. This canopy is within the 10' maximum setback required and meets this standard. However, since this standard is met by the building element requiring the Conditional Use, a variance is required.

Special Variance 2:
Section 17.90.110 Roof Pitch, Materials, and Parapets
(C.1) - Pitched roofs are required on all new buildings with a span of 50' or less.

The core building for this project is +/- 40' long plus with an additional 16' covered roof extension at the patio / Civic Space. The covered Civic Space (East), the pedestrian entry / walk-up (North), and the drive-thru canopy (South) are all 6:12 pitch gable roof elements. The 40' core building is proposed as a flat roof / fully enclosed parapet requiring a Special Variance to this Section (17.90.110 (C.1).

The parapet condition proposed is intended to create a compact yet solid core building that enhances the articulation and form of the integrated gable structures and pedestrian related roof canopy elements.

The inner core parapet would also provide a small area to screen rooftop equipment, vents and flues related to the core building itself.

Section 17.90.110 (C.8) provides for exceptions but is intended for larger span buildings. The condition on this project could be considered the opposite case - the building itself is

so small that it would be difficult to screen equipment effectively without detracting from the roof elements fundamental to the Sandy Style.

In this case we've proposed enhanced articulation of the exterior covered areas to help compensate for the parapet as building form and equipment screen.

Special Variance 3:
Section 17.90.110 (D.1) Building Orientation and Entrances
Buildings shall be oriented to a public street or civic space. This standard is met when 50% of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or and approved civic space and not more than 20% of the off-street parking as required ... is located between a building's front facade and the adjacent street.

Parking is proposed entirely behind the building meeting that part of this standard.

This project also has a drive-thru component. For maximum vehicle cue depth, flow and safety, the drive-thru is located between the building resulting in less than 50% of the street frontage containing buildings within 10 feet of a sidewalk. However, the drive-thru canopy connects perpendicular to the core and extends to within +/- 2'-6" of the sidewalk.

The core building is +/- 40' long with a 16' canopy covering the Civic Space. The drive-thru canopy is +/- 19' wide. Therefore 47.5% of the core building or 34% of the combined core and Civic canopy are within the minimum setback. Neither meet the 50% site street frontage minimum requiring a Special Variance to this Section (17.90.110 (D.1).

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:
   1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and

COMMENT:
Special variance 1 modifies the setback standard in the C-1 zone. The C-1 zone does not contain any statement of intent or purpose specific to setbacks. The general intent of the C-1 zone is

> "to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. This district is not intended for intensive automobile or industrial uses. This district is intended to provide the principal focus for civil and social functions within the community.
>
> This commercial district is intended for civic uses and to provide all basic services and amenities required to keep the downtown the vital center of our community. While the district does not permit new low-density building types, it is not intended to preclude dwelling units in buildings containing commercial activities. All development and uses shall be consistent with the intent of the district, as well as compatible with the space, access and exposure constraints and opportunities of the central city."

Special variance 1 does not impact the mix of uses in the downtown. The proposed Dutch Bros. is consistent with the retail uses called for by the intent of the C-1 zone. The proposed use is not intensive. It caters to both automobile and pedestrian customers, as do all retail uses in the

downtown. This too is consistent with the intent of the C-1 zone.

The proposed use does not deter from the downtown as the principal focus of civil and social functions and vital center of Sandy, but instead advances that function by improving a long vacant lot into a pedestrian and community friendly retail use with accompanying civic space. The proposed building is consistent with the C-1 zone density standards. Thus, the proposed special variance 1 does not violate the intent and purpose of the C-1 zone.

Special variances 2 and 3 modify the roof pitch and building orientation standards of the Downtown and Village Commercial Design Standards. The intent of the Roof Pitch, Materials, and Parapets standards is found at 17.90.110.C:

> "To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided (See figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E).

As pertinent to the proposed use, figure 17.90.110-G demonstrates the representative roof pitch of a commercial building. The proposed design does not violate the intent or purpose of the Sandy Style as it incorporates multiple pitched roofs that extend toward the pedestrian and vehicular areas of the site and thus are most prominently visible from the vantage of pedestrians and drivers both passing by and utilizing the site. In contrast, the flat roof element is receded and less visible to those same pedestrians and drivers. The purpose of design guidelines generally and the Sandy Style in particular are to ensure the visible facades of structures comport with the desired elements thereby bolstering the visual design and stylistic cohesion of the area as a whole. Elements that are not visibly prominent are less apt to register as part of the visual experience of pedestrians and drivers and do not detract from that purpose. Thus, special variance 2 does not violate the purpose and intent of the Sandy Style and 17.90.110.C.1.

The intent of the Building Orientation and Entrances standards is found at 17.90.110.D:

> "To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)"

As pertinent to the proposed use, figures 17.90.110-C and D demonstrate the representative building orientation elements of Sandy Style. Save for the drive-through, the proposed design could meet the building orientation standards. However, to avoid utilizing a portion of the street frontage for the drive-through would result in a truncated queuing area, limited on-site parking, and auto-pedestrian conflicts. Thus, location of the drive-through between the street frontage and the proposed building was necessary to create a functional on-site circulation system that prevents stacking as would impact the flow of traffic on Hwy 26, as well as to create a design conducive to safe pedestrian access and site utilization that also ensures sufficient on-site parking so as not to negatively impact neighboring properties and unnecessarily increase competition for the limited

parking in the downtown area. Further, the design provides primary building orientation onto the ample civic space that is being created. In all, moving the building beyond 10' from the street frontage reduces negative impacts to the downtown and on balance furthers the Sandy Style objectives represented in figures 17.90.110-C and D. Thus, special variance 3 does not violate the purpose and intent of the Building Orientation and Entrances standards and 17.90.110.D.1.

2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

COMMENT: As discussed in the above comment, each of the three proposed special variances furthers the improvement of a long vacant site in the downtown. Each special variance allows for the site design for the proposed use to be practically improved without sacrificing the Sandy Style or village feel of the proposed use. Without the proposed special variances, the drive-through would have to be located on the other side of building, thus creating limited queuing, decreased parking, and auto pedestrian conflicts. Adding a pitch to the less visible portions of the roof would result in the HVAC systems being relocated, likely to a prominently visible area on the ground along the street frontage, as the non-frontage side of the building would be utilized for the drive-through if no special variances were allowed. Development of the site without special variance would result in increased detrimental impacts to the public welfare that would be injurious to other property owners. Thus, this standard is met.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

COMMENT: Special variance 1 for the setback is the minimum required to accommodate the drive-through and adjacent landscaping. Reduction of the width of the drive-through would render it not functional and reducing landscaping would be contrary to the requirements of the Sandy code. Special variance 2 for the pitched roof is limited in application to the roof area that is set back from view from surrounding vantages with pitched roof areas prominently located in the foreground, creating the visual experience of a cohesive pitched roof. Adding more pitched roof area would undermine the practical necessity to provide screened HVAC for the proposed use. Special variance 3 provides the maximum amount of building frontage within 10' of the sidewalk and civic area that is practical while locating the drive-through between the building and the street. As discussed, the drive-through cannot be reduced in width below 10' and relocation of the drive-through would have negative on-site and external circulation and parking impacts. Thus, this standard is met.

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

17.66.90 APPLICATION

An application for an adjustment or variance shall be made on forms provided by the Director and include the following, where applicable:

A. Description of the land (address, lot, block, tract, or similar description) on which the proposed development is to take place.

COMMENT: 39625 Proctor Blvd, Sandy, OR 97055; Taxlot Number 24E13AC05500; Parcel Number 00656677

B. Narrative addressing how the application meets the specified review criteria.

COMMENT: The Narrative is included with this narrative.

C. Site plan no larger than 11 in. by 17 in. (include a reduced copy if drawn larger) suitable for photocopy reproduction. The site plan shall be drawn to scale and show:

1. Relationship of the site to adjoining properties, streets, alleys, structures, public utilities, and drainageways;
2. Lot line dimensions;
3. Existing and proposed structures;
4. Structures on adjacent property(ies) affected by the request;
5. Vehicle and pedestrian access points and accessways;
6. Drainageways and any other prominent features;
7. Location of trees and shrubs over 3 ft. in height;
8. Fences and walls;
9. Off-street parking facilities;
10. Any other information relevant to the proposal.

COMMENT: The Site Plan Exhibits are included with this narrative.

The Director may modify the submission requirements as necessary.

17.66.100 ELEVATION OF APPLICATION TYPE

Prior to the decision date, the review of a Type I or II adjustment or variance, and any comments received, may cause the Director to elevate the request to a Type III Variance. In this case the Director shall notify the Applicant and any parties in writing, giving the reason(s) that the application is found to qualify as a Type III Variance, requesting any additional information required by this Chapter, and requesting any additional fees applicable under the redefined application type. Upon receipt of new application materials and payment of the revised application fee, the Director shall schedule a public hearing and serve public notice as required in this Chapter.

17.66.190 EFFECTIVE PERIOD OF APPROVAL

Approval of an adjustment or variance shall be effective for a 2-year period from the date of approval, unless substantial construction has taken place. The Director (Type I and Type II) or Planning Commission (Type III) may grant a 1-year extension if the applicant requests such an extension prior to expiration of the initial time limit.

CHAPTER 17.68
CONDITIONAL USES

17.68.00 INTENT

Certain uses listed in each zoning district require special review to determine what their effects may be to the surrounding properties, neighborhood, and community as a whole. The Minor Conditional Use Permit (Type II) and Conditional Use Permit (Type III) processes provide an opportunity to allow a use when potential adverse effects can be mitigated or deny a use if concerns cannot be resolved.

It is the intent of this chapter to permit minor conditional uses or conditional uses that are consistent with the Comprehensive Plan, subject to procedures and criteria intended to mitigate potentially negative impacts.

Procedures and review criteria for conditional development are established for the following purpose:

A. Permit certain types of public and private development that provides a community service in locations related to their service areas.

B. Permit commercial development in locations related to its service area.

C. Ensure that a conditional use is compatible with its immediate area and the affected part of the community

COMMENT: This project involves a Drive-up / Drive-thru which is considered a Conditional Use per 17.42.20 (C). and requires a Type III Review Process.

17.68.10 PROCEDURES

An application filed for a Minor Conditional Use Permit and/or a Conditional Use Permit shall be on forms provided by the Director and include application materials listed in 17.18.30 and the following, unless waived by the Director pursuant to subsection (M):

A. Site plan drawn to scale and showing existing and proposed:
   1. Relationship of the site to adjoining properties, streets, alleys, structures, public utilities, and drainage way with sufficient information on land areas within at least 300 ft. of the subject property specifically addressing land uses, lot lines, circulation systems (including potential for connectivity of streets and pedestrian ways), public facilities, and unique natural features of the landscape.
   2. Boundary of the proposed conditional use and any interior boundaries related to proposed development phases.
   2. Lot line dimensions
   3. Location of structures
   4. Vehicle and pedestrian access points and accessways
   5. General location of vegetated areas
   6. Fences and walls
   7. Parking, maneuvering and loading areas
   8. Trash and recycling areas

9. Direction of traffic flow on the property
10. Existing site conditions including contours at 10-foot intervals, watercourses, flood plains and natural features.
11. Proposed modifications to existing grades

COMMENT: Site / Civil Plans are included with this submittal and are intended to meet the listed criteria.

B. Exterior lighting plan indicating location, size, height, typical design, material, color, and method of illumination.

COMMENT: Exterior Lighting Plans / Details are included with this submittal and are intended to meet the listed criteria.

C. Architectural elevations of all buildings and structures including heights, entrances and exits, and floor plans, in sufficient detail to permit computation of other requirements.

COMMENT: Exterior Architectural Elevations and Renderings are included with this submittal and are intended to meet the listed criteria.

D. Landscape plan drawn to scale showing:
1. Location of existing trees and vegetation proposed to be removed or retained on the site.
2. Location and design of landscape areas
3. Proposed varieties, quantities, and sizes of trees and plant materials
4. Other pertinent landscape features and details of irrigation system required to maintain plant materials.

COMMENT: Landscape Plans are included with this submittal and are intended to meet the listed criteria.

E. Narrative relating to applicable Comprehensive Land Use Plan policies

COMMENT: A Comprehensive Land Use Plan narrative is included with this submittal and is intended to meet the listed criteria.

F. Narrative relating to applicable Sandy Development Code standards

COMMENT: A Sandy Development Code narrative is included with this submittal and is intended to meet the listed criteria.

G. Flood, Slope and Hazard Analysis, if portions of the site have slopes in excess of 15%, floodplains, floodways, wetlands, etc.

COMMENT: There are no known 15% slopes, floodplains, floodways, or wetlands related to this site.

H. Sign Details

COMMENT: A Preliminary Sign Package is included with this submittal and is intended to meet the listed criteria.

I. Traffic impact report

COMMENT: A Traffic Impact Memorandum is included with this submittal and are intended to meet the listed criteria.

J. Utility Plan

COMMENT: Utility Plans are included with Site / Civil Plans (C4.0, C4.1) with this submittal and are intended to meet the listed criteria.

K. Additional data sheet indicating:
1. Square footage of site and structure
2. Building coverage
3. Amount of site to be landscaped
4. Number of parking spaces to be provided
5. Building materials to be used
6. Specifications as to type, color, and texture of exterior surfaces of proposed structures.

COMMENT: The Additional Data sheet is included with this submittal and is intended to meet the listed criteria.

L. Any additional information that may be required by the Director to properly evaluate the proposed site plan. Such additional information shall only be required where its need can be justified on the basis of special and/or unforeseen circumstances.

M. The Director may waive any of the requirements above where determined that the information required is unnecessary to properly evaluate the proposal.

17.68.20 REVIEW CRITERIA

The Planning Director (Minor Conditional Use Permit) through a Type II process or the Planning Commission (Conditional Use Permit) through a Type III process may approve an application, approve with modifications, approve with conditions, or deny an application for a conditional use permit after a public hearing. The applicant must submit evidence substantiating that all requirements of this code relative to the proposed use are satisfied and consistent with the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council.

COMMENT: This project involves a Drive Thru which is considered a Conditional Use per 17.42.20 (C). and requires a Type III Review Process

The following criteria and compatibility factors shall be considered:

A. The use is listed as either a minor conditional use or conditional use in the underlying zoning district or has been interpreted to be similar in use to other listed conditional uses.

COMMENT: The use is listed as a Conditional Use per 17.42.20 (B.C).

B. The characteristics of the site are suitable for the proposed use considering the size, shape, location, topography, and natural features.

COMMENT: The size, shape, location, topography and natural features of this site are well suited for this project. The site is relatively flat, reducing the amount of grading and associated management of contaminated soils. Access from Proctor Blvd is a suitable location for the retail use of the size and character proposed due to the convenience for existing trips to visit the site en route to a destination. The size and shape of the property

are suitable for the size and nature of the proposed use because it provides sufficient area to accommodate the requisite drive-through and on-site parking. The site contains no significant, mapped natural features. Thus, this standard is met.

C. The proposed use is timely considering the adequacy of the transportation systems, public facilities and services existing or planned for the area affected by the use

COMMENT: The proposed use is appropriate for the existing transportation systems, public facilities, and services nearby.

D. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, precludes, or impairs the use of surrounding properties for the primary uses listed in the underlying zoning district.

COMMENT: The character of the C-1 zone includes a "mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core proposed use will complement the surrounding area's primary usage as a central commercial district." The proposed retail use adds to that mix and provides commerce and a meeting place, all of which are consistent of the character of the surrounding area. Thus, the proposed use does not alter the character of the surrounding area and this standard is met.

To the extent that any city decision-maker were to find that the proposed retail use alters the character of the surrounding area, this standard is still met because the proposed use will not impact the commercial use of the surrounding properties. The site is adjacent to a 7-11 market, an office building, and a residential property. The use does not cause any off-site impacts that would in any way limit, preclude, or impair the use of the surrounding sites, let alone significantly limit, preclude, or impair them. Thus, this standard is met.

E. The proposed use will not result in the use of land for any purpose which may create or cause to be created any public nuisance including, but not limited to, air, land, or water degradation, noise, glare, heat, vibration, or other considerations which may be injurious to the public health, safety, and welfare.

COMMENT: The proposed use will not result in the use of land that would be injurious to the public health, safety, and welfare. Per 17.94.20F the sound level will not exceed 55 decibels at the property line.

F. The proposed use will be reasonably compatible with existing or planned neighboring uses based on review of the following:

1. Basic site design (organization of uses on the site)
2. Visual elements (scale, structural design and form, materials, and so forth)
3. Noise
4. Noxious odors
5. Lighting
6. Signage
7. Landscaping for buffering and screening
8. Traffic
9. Effects on off-street parking

10. Effects on air quality and water quality

COMMENT: The proposed use is compatible with the existing neighboring uses because the site design adequately balances the needs of a central commercial corridor with a drive-thru coffee use. Moreover, the proposed use is occurring on an infill, brownfield site. The site design allows for adequate vehicle stacking to ensure nearby traffic patterns are not impacted by this development. The landscaping and visual elements support the City of Sandy's standards.

17.68.30 MODIFICATION TO AN APPROVED CONDITIONAL USE

A. Major Modification. A major modification to an approved Minor Conditional Use Permit or Conditional Use Permit must be processed as a new application. Major Modifications include:
   1. Changes in proposed land use
   2. Substantial change in building elevation, color or materials
   3. Changes in type and location of access ways and parking areas where off-site traffic would be affected
   4. Increase in the floor area proposed for nonresidential use by more than 10 percent from what was previously specified
   5. Increase in the total ground area proposed to be covered by structures by more than 10 percent from what was previously specified
   6. Reduction of project amenities provided, such as recreational facilities, screening, and/or landscaping provisions by more than 10 percent from what was previously specified
   7. Any other modification to specific requirements established at the time of conditional use permit approval

B. Minor Modification. Minor Modifications may include any of the changes listed above provided that the change is quantified below the thresholds for a Major Modification.

   Uses customarily subordinate to a principal use permitted outright may be approved by the Director, as determined through Chapter 17.14 Request for Interpretation, as minor modifications. Minor modifications are processed as a Type II decision.

17.68.40 REASONABLE CONDITIONS

Reasonable conditions, restrictions, or safeguards that would uphold the purpose and intent of this section and mitigate any adverse impact upon adjoining properties which may result by reason of the approved conditional use may be attached. A list of conditions may include, but is not limited to, the following:

A. Controlling the location and number of vehicular ingress and egress points.

   COMMENT: The site is using an existing ingress and egress point.

B. Improving public facilities such as:
   1. Sanitary sewer
   2. Sidewalks, curbs, and other street improvements
   3. Storm drainage
   4. Water supply

COMMENT: The site improves the public facilities by extending facilities into Pleasant Street, including a storm drainage run to Revenue Ave.

C. Increasing street width

D. Increasing the number of off-street parking or loading spaces or areas.

COMMENT: The site provides for adequate off-street parking and is appropriately sized for all the loading vehicles used by the proposed user.

E. Increasing the required lot size or yard dimensions

F. Limiting lot coverage or height of buildings because of obstruction of view and reduction of light and air to adjacent property

G. Limiting the number, size and location of signs

H. Requiring additional landscaping, berming, screening or fencing where necessary to reduce noise and glare and maintain the property in a character in keeping with the surrounding area

I. Requiring additional public safety and crime prevention measures

J. Requiring land dedication or money in lieu of dedication for public purposes

K. Submission of bonds or other suitable security to ensure that requirements are met

L. Submittal of final detailed plan indicating conformance with conditions

M. Undergrounding of utilities

17.68.50 EXPIRATION OF PERMIT

Approval of a Minor Conditional Use Permit or Conditional Use Permit shall be void after 2 years, or such lesser time as specified in the approval, unless substantial construction has taken place or building occupancy obtained. The Planning Director may grant a 1-year extension if the applicant requests such an extension prior to expiration of the initial time limit.

17.68.60 BUILDING PERMIT ISSUANCE

A building permit for all or any portion of a Minor Conditional Use Permit or Conditional Use Permit shall be issued only on the basis of the plan as approved. Any major modification shall be submitted as a new application.

17.68.70 REVOCATION

A. A Minor Conditional Use Permit or Conditional Use Permit shall be subject to revocation if the application is found to include false information or if the conditions of approval have not been complied with or are not being maintained.

B. The Planning Commission shall hold a public hearing to allow the applicant an opportunity to show cause why the permit should not be revoked.

C. If the Planning Commission finds that the conditions of approval have not been complied with or are not being maintained, a reasonable time shall be given for making corrections. If corrections are not made within the time specified, revocation of the conditional use permit shall be effective 10 days after the time specified.

D. Reapplication for a conditional use, which has been denied or revoked, cannot be made within 1 year after the date of the Planning Commission's action, except that the Director may schedule a new hearing if there is new evidence or a change in circumstances.

CHAPTER 17.90
DESIGN STANDARDS

17.90.00 INTENT

Chapter 17.90 is intended to implement the following design standards. In addition to these standards, several appendices are included to aid in the implementation of these standards. Applicable appendices are referenced in this chapter and kept on file by the Planning Director at City Hall. In implementing these standards, the reviewing body shall refer to the following objectives in evaluating Design Review requests:

A. Protect and enhance the city's quality of life and community image.

B. Encourage functional, safe, and aesthetically pleasing development, while maintaining compatibility with the surrounding built and natural environment.

C. Implement the *Sandy Style*, as described by this chapter. The Sandy Style is based on the following guiding principles:

   1. Celebrate Sandy as the Gateway to Mount Hood through contextually appropriate landscaping and building designs.

   2. Protect and enhance Sandy's tree canopy, particularly along the Highway 26 Landscape Management Corridor.

   3. Emphasize a "village" scale and character in new development. Village scale means development is compact and walkable, building entrances are oriented to the street sidewalk or a plaza, and large building masses are broken down through a combination of design elements such as articulation, combinations of complementary building materials and detailing.

   4. Express elements of or reflect Cascadian architecture by adapting appropriate elements of *English Arts and Crafts Style (1900-1920)* and *Oregon Rustic Style (1915-1940),* and/or similar elements, into new buildings and exterior remodels, *except* in locations where this code allows or requires a different architectural style (e.g., *C-1 Historic Roadside Commercial District*).

   5. Encourage green building practices in new construction, such as the use of renewable energy (e.g., solar and wind), use of recycled materials, integration of water quality facilities in landscapes, capture of rainwater for irrigation, and similar practices.

D. The city considers the following elements to be incompatible with the Sandy Style. The reviewing body may deny, or require modifications to, a project with any of the following:

   1. Excessive tree removal and/or grading that may harm existing vegetation within a designated landscape conservation area.

   2. Commercial development where buildings are setback from the street behind surface parking lots.

   3. Excessive surface parking lot paving and redundant driveways.

   4. Drive-up facilities adjacent to a street that interrupt pedestrian circulation patterns or create potential safety hazards.

   5. Disjointed parking areas, confusing or unsafe circulation patterns.

6. Box-like structures with large, blank, unarticulated wall surfaces.
7. Building materials or colors that do not conform to this code.
8. Highly reflective surfaces or heavily tinted glass storefronts.
9. Strongly thematic architectural styles, forms, colors, materials, and/or detailing, that do not conform to the Sandy Style, including some forms of franchise architectural styles associated with some chain commercial establishments.
10. Inadequate landscape buffers adjacent to parking lots, walkways and streets.
11. Visible outdoor storage, loading, and equipment areas.

17.90.10 APPLICABILITY

The provisions of this chapter apply to all zones and uses as follows except as specified in Sections 17.90.10(B), (C), (D), (E), and (F) below:

A. All construction within a Commercial or Industrial Zoning District or a non-residential use in a Residential Zoning District including the following:
   1. New construction;
   2. Replacement of a building that is destroyed as specified in Section 17.08.30;
   3. Addition to an existing building;
   4. Exterior alterations other than general maintenance on an existing building;
   5. Site improvements including changes to landscaping, parking, civic spaces, etc.

   COMMENT: This project falls within the Commercial / C-1 Central Business District.

B. General Maintenance Exception: General maintenance activities including but not limited to the replacement of awnings, entryway covers, doors, windows, siding and roofing materials with like materials, and repainting with the same colors are exempt from these standards.

C. Residential Dwelling Exception: Single family dwellings, duplexes, manufactured dwellings on individual lots of record, and manufactured dwellings in parks are exempt from all requirements of this chapter except for Section 17.90.150.

D. Specific Building Exception: Certain buildings contain architectural characteristics that contribute to the unique character of Sandy's business community. However, these buildings are not necessarily designed in conformance with the applicable design standards described in this chapter. This section allows these buildings to be maintained, repaired, painted or added on to, in a way that is consistent with the existing architectural design of these buildings. Additionally, in the event a portion or the entire building is damaged by any means, this section allows these buildings to be rebuilt as currently designed. This exemption does not allow the architectural design of these buildings to be changed or altered from the current design without compliance with the provisions of this code. (as of February 1, 2008, see Appendix A) All other provisions in this chapter related to site design, landscaping, lighting, and external storage and screening are still applicable. This exception is applicable to the following buildings:
   - Tollgate Inn Restaurant and Bakery (38050 and 38100 Highway 26)
   - Joe's Donut Shop (39230 Pioneer Blvd.)

F. Downtown Area Exceptions: Two areas within downtown Sandy contain several existing

buildings or groupings of buildings that contribute to the unique character of Sandy's downtown (Appendix B). As such, new building construction within these areas may either comply with the Sandy Style design standards of this chapter, or with the details specified below as shown in Figures 17.90.110-A and 178.90.110-B. All other provisions of this chapter related to site design, landscaping, lighting, and external storage and screening still apply.

a. Area A - South side of Pioneer Boulevard between Bruns Avenue and Meinig Avenue, including the lot at the southeast corner of Pioneer and Meinig (Figure 17.90.110-F):

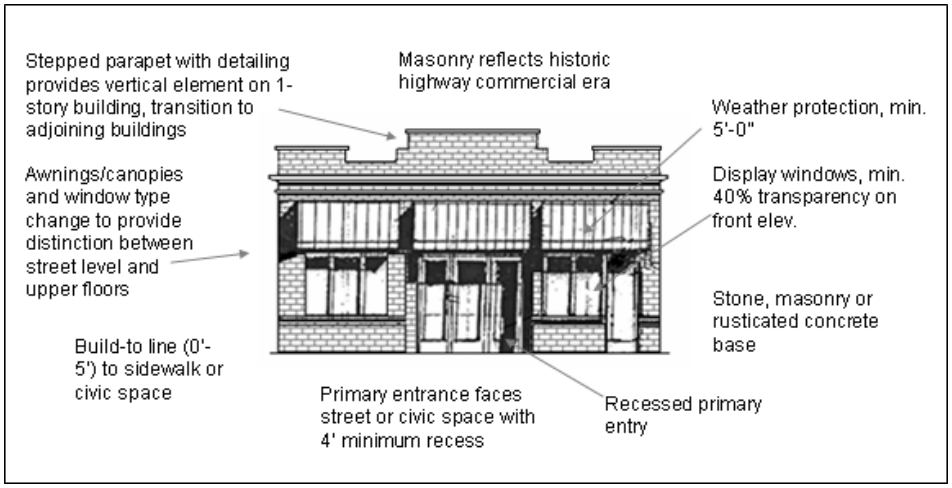
   (1) Use of flat roofs (See Section 17.90.110(C)(8)) with detailed stepped parapet and regularly spaced picture windows (divided or undivided) framed by pilasters, transoms, and sills.

   (2) Use of masonry block, brick or fluted concrete, consistent with the existing historic roadside commercial structures is allowed.

   (3) Buildings may contain symmetrical forms based on a rectangular building plan and simple massing.

   (4) Building articulation and detailing should express the physical structure of buildings in this area.

Figure 17.90.110-A: Typical Building Elements in Historic Roadside Commercial (Roadside Building Style)



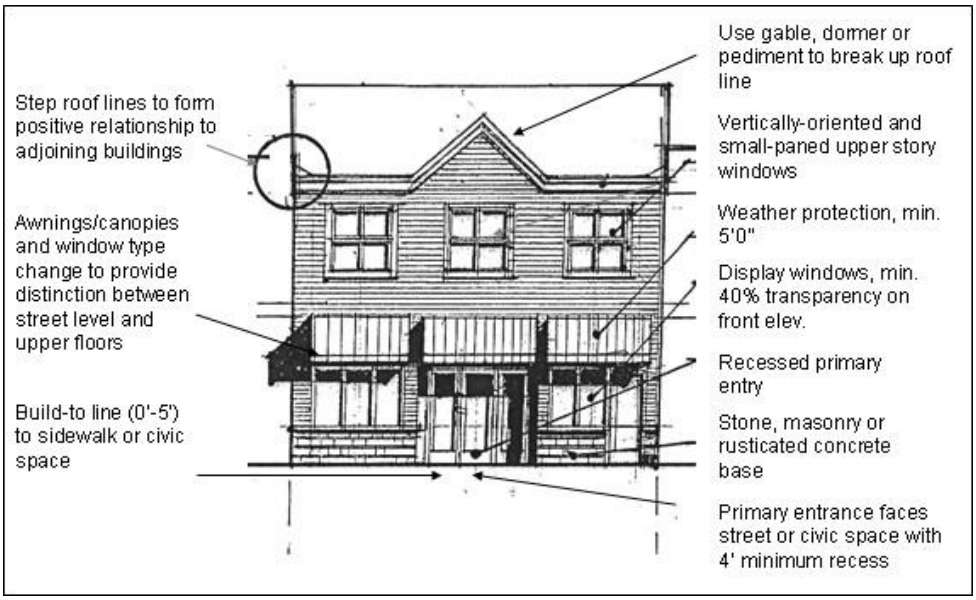
b. Area B - South side of Pioneer Boulevard between Scales Avenue and Bruns Avenue, and for the Odd Fellows Hall on the north side of Pioneer Boulevard:

   (1) The preferred siding material for building remodels is wood lap siding, consistent with the farm-style structures in that area.

   (2) Building forms and detailing should express a farmhouse vernacular; buildings should incorporate front-facing gables, covered porches, and divided or double hung sash windows.

(3) Paint color should not contrast with the white-washed buildings on this block.

Figure 17.90.110-B: Typical Building Elements in Historic Roadside Commercial (Farmhouse-Style)



17.90.30 POWERS AND DUTIES

Staff shall review plans for compliance with the Development Code and other applicable regulations. The Planning Director may tailor the extent of the review by deleting or combining steps when not warranted by the scale of the development.

17.90.40 TYPE OF REVIEW

A. Type I – Administrative

Type I review applies to single family dwellings, duplex dwellings, manufactured homes on individual lots, manufactured homes within MH parks, and permitted residential accessory dwellings and structures.

Type I review also applies to exterior building alterations or additions on existing commercial or industrial buildings, multi-family dwellings, and non-residential uses on residentially zoned lots where the proposed alteration or addition meets the following criteria:

1. Exterior alterations other than general maintenance as defined in Section 17.90.10(B).
2. Modifications to the number of parking spaces by not more than 10 percent;
3. Modifications to the area devoted to landscaping or civic space by not more than 10 percent;

4. Building additions in the C-1 and C-3 zones containing less than 1,000 square feet.
5. Building additions in the C-2, I-1, and I-2 zones containing less than 3,000 square feet.

B. Type II – Director's Review

Type II review includes floor area expansions greater than the thresholds for a Type I review and all other multi-family, commercial, industrial development and non-residential development on residentially zoned land that is in compliance with code standards, except where a Type III procedure is requested or required.

C. Type III – Quasi-Judicial

Type III review includes development where the applicant has requested Type III Design Review or the Director has determined the review will involve more than a nominal amount of discretion in applying this chapter's standards to the application. The more a request seeks to deviate from a standard, the greater the burden on the applicant to demonstrate the request complies with the standard's intent.

COMMENT: This project has a drive-thru which is a Conditional Use and requires a Type III review process.

17.90.70 EXPIRATION OF APPROVAL

Design Review approval shall be void after two (2) years from the date of the Final Order, or lesser time as the Planning Commission may specify, unless the applicant has submitted plans for building permit approval or demolition approval, as applicable, within this timeframe. The Director may grant one extension through a Type I procedure, not to exceed one (1) year, upon a written request from the applicant prior to the expiration date of the approval and a finding that the applicant has made a good faith effort to implement the approved plan.

17.90.80 MODIFYING APPROVALS

A. Major Modification. A major modification to a Design Review approval shall be processed as a new application. Major Modifications include but are not limited to:

1. Changes in proposed land use;
2. Substantial change in building elevation and materials;
3. Changes in type and location of access ways and parking areas where off-site traffic would be affected;
4. Increase in the floor area proposed for nonresidential use by more than 10 percent from what was previously specified;
5. Increase in the total ground area proposed to be covered by structures or parking by more than 10 percent from what was previously specified;
6. Reduction of project amenities provided, such as civic space, recreational facilities, screening, and/or landscaping provisions by more than 10 percent from what was previously specified, and;

7. Any other modification to a requirement established at the time of Design Review approval.

B. Minor Modification. Minor Modifications may include any of the changes listed above provided the change is below the quantifiable thresholds for a Major Modification, per Section 17.90.80(A). Minor modifications shall be processed as a Type I or Type II decision at the Director's discretion; a Type II procedure shall be used where the modification requires interpretation of a discretionary standard.

17.90.90 SUBMISSION REQUIREMENTS - TYPE I

A. Number of Copies: 2

B. Site Plan. As determined by the Planning Director, the site plan shall be drawn at an approved engineering scale (e.g., 1"=100'; 1"=50'; 1"=20'; or 1"=10') and shall include the applicant's entire property including:

1. Dimensions of the property;
2. Proposed building location;
3. Easements of record;
4. Parcel boundaries;
5. Driveway location;
6. Contour lines at the following minimum intervals;
   a. 2' intervals for slopes 0%-14.9%
   b. 5' or 10' intervals for slopes between 15%-25%
   c. Identification of areas exceeding 25%
7. Flood and Slope Hazard Overlay District boundaries;
8. Drainage, including adjacent lands;
9. Natural hazard areas, including potential flood or high ground water, landslides, erosion, drainage ways, and weak foundation soils;
10. Marsh or wetland areas, underground springs, wildlife habitat areas, wooded areas, and surface features such as earth mounds and large rock outcroppings;
11. Streams and stream corridors;
12. Location of trees over 11-inches or greater DBH (6-inches or greater in FSH Overlay District);
13. Additional information as required by the Director such as soils, geology, hydrologic study, photometric analysis, etc.

C. Building elevations showing the required design standards.

17.90.100 SUBMISSION REQUIREMENTS - TYPE II AND TYPE III

A. Number of Copies: Type II – 8 copies, Type III – 15 copies

B. Digital Version – A compact disc containing a digital version of the required narrative in

Microsoft Word format and a plan set in PDF format.

C. Project Narrative documenting compliance with applicable code criteria. If the application involves any deviations from the Code standards (i.e., Type III Design Review), the narrative shall describe how the proposal meets or exceeds the intent of the standard(s) for which a deviation is requested.

D. Site Analysis Map. An analysis of the site showing the relationship between the site and adjacent properties to contain the following:

1. Property boundaries, dimensions, and gross area;
2. Topographic contour lines at two-foot intervals for slopes 0-10 percent and five foot intervals for slopes greater than 10 percent;
3. Location of approved Flood and Slope Hazard Overlay District boundaries and restricted development areas per Chapter 17.60;
4. Site features including existing structures, pavement, large surface features such as earth mounds and large rock outcroppings;
5. Contour lines at the following intervals:
    a. 2’ intervals for slopes 0-14.9%
    b. 5’ or 10’ intervals for slopes between 15%-25%
    c. Identification of areas exceeding 25%;
6. Location and width of public and private streets, drives, sidewalks, rights-of-ways, and easements;
7. Location, size, and species of trees 11-inches and greater DBH (6-inches or greater DBH in FSH Overlay District);
8. North arrow, scale, names and addresses of all persons listed as owners of the subject property on the most recently recorded deed;
9. Name and address of project designer, engineer, surveyor, and/or planner, if applicable;
10. Other information as required by the Director such as soils, geology, hydrologic study, etc.

E. Proposed site plan. The site plan shall contain the following information:

1. The proposed development site, including boundaries, dimensions, and gross area;
2. Features identified on the existing site analysis maps that are proposed to remain on the site;
3. Features identified on the existing site map, if any, which are proposed to be removed or modified by the development;
4. The location and dimensions of all proposed public and private streets, drives, rights-of-way, and easements;
5. The location and dimensions of all existing and proposed structures, utilities, pavement and other improvements on the site. Setback dimensions for all existing and proposed buildings shall be provided on the site plan;
6. The location and dimensions of entrances and exits to the site for vehicular, pedestrian,

and bicycle access;

7. The location and dimensions of all parking and vehicle circulation areas (show striping for parking stalls and wheel stops);
8. Pedestrian and bicycle circulation areas, including sidewalks, internal pathways, pathway connections to adjacent properties, and any bicycle lanes or trails;
9. Loading and service areas for waste disposal, loading and delivery;
10. Outdoor recreation spaces, common areas, plazas, outdoor seating, street furniture, and similar improvements;
11. Location, type, and height of outdoor lighting;
12. Location of mail boxes, if known;
13. Name and address of project designer, if applicable;
14. Locations of bus stops and other public or private transportation facilities;
15. Locations, sizes, and types of signs;
16. Location of retaining walls.

F. Preliminary Utility Plan. (Including the location of all electrical transformers and utility meters)

G. Traffic Impact Study or Traffic Letter (as determined by the Planning Director) in compliance with City standards.

H. Photometric Analysis and cut sheets of proposed lighting demonstrating compliance with Chapter 15.30, Dark Sky Ordinance.

I. Preliminary Grading Plan. A preliminary grading plan indicating where and to what extent grading will take place, including general contour lines, slope ratios, slope stabilization proposals, and natural resource protection proposals consistent with the provisions of this code.

J. Architectural Drawings. Architectural drawings shall contain the following:

1. Building elevations;
2. Building materials: colors and type (including color board);
3. Retaining walls including type and height;
4. Other drawings or studies (e.g., line-of-sight analysis, perspective, model, visual simulation, etc.) as deemed necessary for evaluating the application as determined necessary by the Planning Director.

K. Landscape Plan. Landscape plans shall contain the following:

1. Property and lot boundaries and rights-of-way;
2. Structures and impervious surfaces including parking lots;
3. General landscape development plan, including plant specifications keyed to plan map and including botanical names, common names, sizes, numbers, and methods of planting and maintenance, location of existing plants and groups of plants proposed;
4. Description of soil conditions and plans for soil treatment such as stockpiling of topsoil, addition of soil amendments, and plant selection requirements, relating to soil conditions;

5. Details of irrigation method;
6. Landscape-related structures such as fences, decks, terraces, patios, shelters, play areas, etc.;
7. Boundaries of open space, recreation or reserved areas;
8. Location of pedestrian or bicycle circulation.

L. Signs. Proposed sign details and dimensions in conformance with Chapter 15.32.

M. Other Information or studies determined to be necessary by the Director prepared by qualified professionals to address specific site features or project impacts (e.g. arborist report, natural hazards, Geotechnical, etc.).

COMMENT: This project requires a Type III review process. The above items are included with this submittal and are intended to meet the listed criteria.

17.90.110 DOWNTOWN AND VILLAGE COMMERCIAL (C-1 AND C-3) DESIGN STANDARDS

Development in the C-1 and C-3 districts shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

A. Site Layout and Vehicle Access

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.110-C and 17.90.110-D)

1. All lots shall abut or have cross access to a dedicated public street.

   COMMENT: This project meets this requirement..

2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley.

   COMMENT: N/A.

3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.110(C). When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required.

   COMMENT: This project meets this requirement..

4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation.

   COMMENT: This project shares access w/ the 7-11 convenience store to the East. No barriers exist or are proposed between the parcels.

5. Urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, shall be used to calm traffic and protect pedestrians in parking areas.

COMMENT: Pedestrian access into the site crosses the drive through lane at its exit. That access has been elevated and incorporates a material / texture that is different than the drive itself in order to calm traffic and protect pedestrians.

6. Where openings occur between buildings facing Proctor Boulevard or Pioneer Boulevard, pedestrian ways shall connect the street sidewalk to any internal parking areas. Development shall avoid creating barriers to pedestrian circulation.

   COMMENT: The internal parking area is accessible from the sidewalk via the above-mentioned pedestrian access.

7. Parking lots may include public alley accessed garages at the rear property line, except where a setback is required for vision clearance or to conform to other city standards.

   COMMENT: N/A.

8. Raised walkways or painted crossings from the public street sidewalk to the building entrance(s) are required. Crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or be painted (e.g., colored concrete inlay in asphalt).

   COMMENT: Pedestrian access into the site crosses the drive through lane at its exit. That access has been elevated and incorporates a material / texture that is different than the drive itself in order to calm traffic and protect pedestrians.

9. Joint use of access points and interconnections and cross-over easements between parcels shall be required, where the City determines it is practicable and necessary. A development approval may be conditioned to require a joint use access easement and interconnecting driveways or alleys to comply with access spacing and other applicable code requirements.

   COMMENT: An existing ingress and egress easement is in place between our site and the 7/11 to the east. ODOT has approved the dual use of the existing driveway to serve both properties.

10. Connection to Adjacent Properties: The location of any real improvements to the property must provide for a future street and pedestrian connection to adjacent properties where the City determines this is practicable and necessary.

    COMMENT: N/A.

11. Through lots and corner lots may be permitted with two access points, one onto each abutting street, where necessary to serve a centralized, shared parking facility. Such access points must conform to the above access spacing requirements and parking must be internalized to the property.

    COMMENT: N/A.

12. Free-standing buildings shall be connected to one another with a seamless pedestrian network that provides access to building entrances and civic spaces.

    COMMENT: N/A. This project consists of only one free-standing building / no inter-connection is required.

Figure 17.90.110-C: Downtown Block Elements

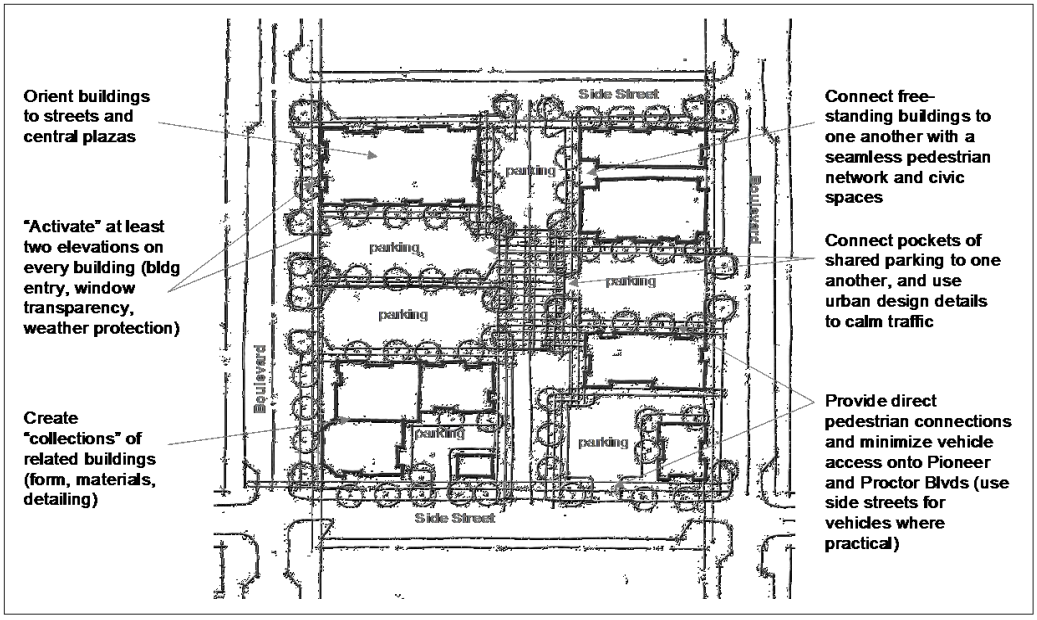
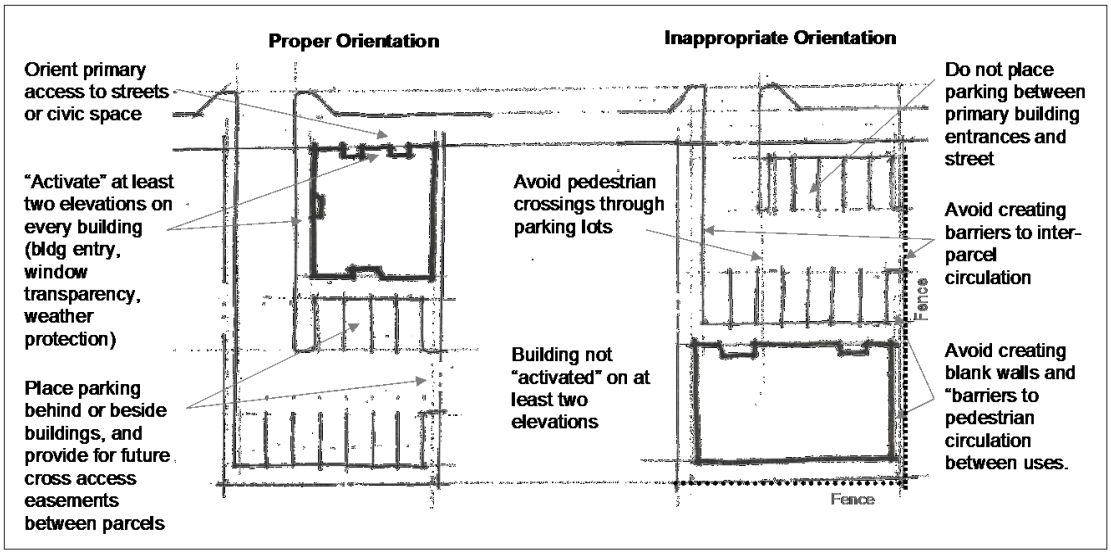


Figure 17.90.110-D: Downtown Building Orientation



B. Building Facades, Materials, and Colors

Intent: To provide building façades, materials and colors consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, Color Palettes (Appendices C and D), and photos (Appendix E)

1. **Articulation.** The Sandy Style includes asymmetrical building forms, which by definition require buildings to be articulated, varied, and provide visual interest. This standard is met by dividing elevations of a structure visible from an abutting public street or pedestrian way into smaller areas or planes to minimize the appearance of bulk as viewed from the street as follows:

    a. All elevations visible from an abutting public street or pedestrian way shall be divided into distinct planes no more than 30 lineal feet long to include the following:

        1) Wall planes meeting this standard shall include a feature or variation in the wall plane that projects or recedes at least six (6) inches from the adjacent plane, for a length of at least four (4) feet. Changes in plane may include but are not limited to recessed entries, bays, secondary roof forms (e.g., gables, lower roof sheds, dormers and towers), canopies, awnings, projections, recesses, alcoves, pergolas, porticos, roof overhangs, or other features consistent with the Sandy Style.

            COMMENT: There are no un-articulated building planes greater than 30'. Due to the small size of the building, only the North and South elevations are longer than 30' total. Those elevations both have secondary roof forms projecting perpendicular to their related walls in a manner complementary to the Style and proportional to the project.

        2) Wall planes shall incorporate at least one visually contrasting and complementary change in materials or changes in texture or patterns, including trim, moldings, or other ornamental devices.

            COMMENT: Detailed Elevations have been included with this submittal showing a small but well articulated building with multiple, complementary materials, textures and trim details. Stone, Stucco, Wood / Heavy Timber all work together to unify form and material in a manner in keeping with the intent of the Sandy Style.

        3) The lower and upper floors of multi-story buildings shall be clearly delineated by using pedestrian shelters, change in siding materials, heavy timber or natural wood accents (e.g., brackets, paneling or other detailing).

            COMMENT: N/A.

2. **Pedestrian Shelters.** Buildings must incorporate pedestrian shelters, as follows:

    a. Pedestrian shelters shall be provided over the building's primary entrance(s) and pedestrian areas (i.e., sidewalks and civic spaces) abutting the subject building.

        COMMENT: The primary pedestrian entrance, the drive-thru and the required civic space are all sheltered with architectural roof elements.

    b. Features such as canopies, arcades, awnings, roofs overhangs, covered porches,

alcoves, and/or porticoes are required.

COMMENT: The building incorporates multiple canopies and covered porches into the architectural expression.

c. Pedestrian shelters must extend at least five (5) feet over the pedestrian area.

COMMENT: All pedestrian shelters extend a minimum of 5' over pedestrian areas.

d. Shelters designed with gables (e.g., over building entrances) are preferred over flat shelters, and must comply with the roof pitch standards in Section 17.90.110(C). Dome or bubble shaped awnings are not permitted.

COMMENT: All shelters are designed with the preferred gable roof form.

3. **Building Materials.** Exterior building materials shall convey an impression of strength and durability consistent with the Sandy Style, as follows:

a. Buildings on the same site shall be architecturally unified. This provision shall apply to new construction, additions, and remodeling such that buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. Unity does not mean repetition or mirroring of building elevations.

COMMENT: N/A. There is only one building on this site.

b. Strong base materials such as natural stone (e.g., basalt, granite, river stone), split-faced rusticated concrete block, or brick are required. Cultured stone may be allowed if it has a stone texture and is similar in appearance and durability to natural stone. A building's base must extend at least 36 inches but not more than 60 inches above the adjacent finished grade and be included on those sides of the building visible from the abutting public street. If the site contains a grade differential making construction of a minimum 36-inch base impracticable, the reviewing body may allow portions of the base to be less than 36-inches.

COMMENT: A strong base material has been incorporated throughout the project. A 36" brick veneer wainscot with a brick cap is shown where there is horizontal siding above and a 36" manufactured stone veneer wainscot with stone cap is shown where there is brick veneer above. Additionally, heavy timber wood posts are supported with a 66" manufactured stone veneer wainscot with stone cap. All are intended to create a strong but varied base to this project.

c. Foundations shall be designed to match the scale of the building being supported. Examples include sheathing the foundation structure with base materials and wall siding.

COMMENT: Exposed foundations are minimized for this project. Where practical and allowed by current code, exposed foundations are to be covered by the base material.

d. Siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, or a combination of these materials. Stucco, synthetic stucco, and metal are permitted only as specified below. Vinyl, plastic or similar siding is not permitted.

COMMENT: Siding materials proposed include horizontal, composite wood and / or brick veneer with manufactured stone wainscot elements. See the Elevations / Renderings included with this submittal for additional information.

1) Where wood siding is used, it shall consist of horizontal (e.g., lap, v-groove, or tongue-and-groove) siding, vertical (board and batten) siding, shingles, or combinations thereof. Vertical grooved (i.e., T1-11) sheet siding and similar materials are prohibited.

   COMMENT: Composite wood siding is intended to run horizontally and is indicated as such on the elevations.

2) Where board-and-batten siding is used, battens shall be a minimum of 2-inches wide x 1-inch deep and spaced 24 inches apart or closer; rough-sawn boards (specialty panel) are preferred over panels having a resin overlay.

   COMMENT: N/A.

3) Where masonry siding is used, it shall consist of brick, stone, or rusticated concrete block, and must incorporate decorative patterns over not less than 15 percent of every elevation where it is used. Examples of decorative patterns include multi-toned masonry units, such as brick, stone, or cast stone, in layered or geometric patterns or split-faced concrete block to simulate rusticated stone-type construction. Changes in pattern should be used to accentuate breaks in building stories, corners, windows, structural bays, and building tops (e.g., parapets where flat roofs are allowed).

   COMMENT: Brick veneer is indicated as a wainscot below composite wood siding locations and as a more distinct element on the Southeast corner of the building. At the corner location a manufactured stone wainscot creates a strong base that differentiates and enhances the brick. The brick at the corner also extends up to a detailed rowlock / soldier course cap to further accentuate the prominent corner as well as the material selection.

4) Where metal siding is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation (e.g., wainscoting or other accent paneling). Metal must be architectural grade and have a non-reflective (burnished or painted) finish conforming to the approved Color Palette. Metal may also be used for flashing, gutters, downspouts, brackets, lighting, and signage and similar functional elements.

   COMMENT: No metal siding is proposed. Where heavy timber brackets and metal flashing, gutters, downspouts are included as part of the detail relative to the roof elements, such elements will be architectural grade and non-reflective.

5) Where stucco or synthetic stucco is used, it shall be used as an accent only, comprising not more than 20 percent of the surface area of the building elevation.

   COMMENT: N/A.

e. Building elevations facing a public right-of-way or civic space shall incorporate at least three (3) of the following features: Using these features may also address other code requirements, such as those related to building articulation, change in relief, pedestrian shelters, and storefront elements.

   1) Exposed, heavy timbers;

COMMENT: Exposed, heavy timber elements are incorporated in this project (1 of 3).

2) Exposed natural wood color beams, posts, brackets and/or trim (e.g., eaves or trim around windows);

COMMENT: Exposed natural wood color beams, posts and brackets are incorporated in this project. (2 of 3)

3) Natural wood color shingles (e.g., used as siding or to accent gable ends);

4) Metal canopies;

COMMENT: Metal roof canopies are incorporated in this project. (3 of 3)

5) Heavy metal brackets (e.g., cast iron or similar appearance), which may be structural brackets or applied as cosmetic detailing; *and,*

COMMENT: Heavy metal bracket details are incorporated in this project (bonus).

6) Similar features, consistent with the Sandy Style.

f. Materials required on elevations visible from an abutting public street must turn the building corner and incorporate appropriate transitions onto elevations not requiring these materials for a distance of not less than two (2) feet.

COMMENT: Material transitions are whole and consistent around the entire building. Such transitions relate to building masses rather than which elevation they are located on for a more unified expression.

4. **Colors.** Building exteriors shall comply with the following standards:

a. Permitted colors include warm earth tones (tans, browns, reds, grays and greens) conforming to the Color Palette provided in Appendix C.

COMMENT: The color and material palette is intended to meet this criteria and is indicated on the Building Elevations and Renderings included with this submittal.

b. High-intensity primary colors, metallic colors and black, may be utilized as trim and detail colors only, not to exceed one (1) percent of the surface area of any elevation. Such color shall not be used as primary wall colors.

COMMENT: There are no high-intensity primary colors, metallic colors proposed for this project. Black has been proposed only as an accent where heavy metal brackets are incorporated.

c. Day-glow colors, highly reflective colors, and similar colors are not permitted.

COMMENT: OK

Figure 17.90.110-E: Typical Building Elements in Sandy Style (Mixed Use Example)

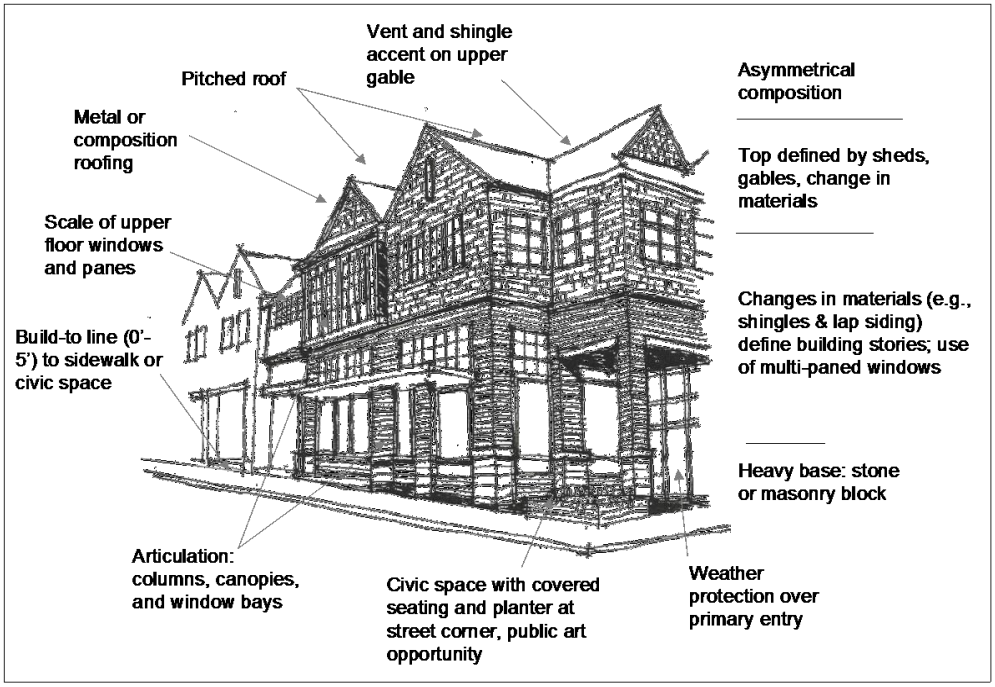


Figure 17.90.110-F: Typical Building Elements in Sandy Style (Mixed Use Example)

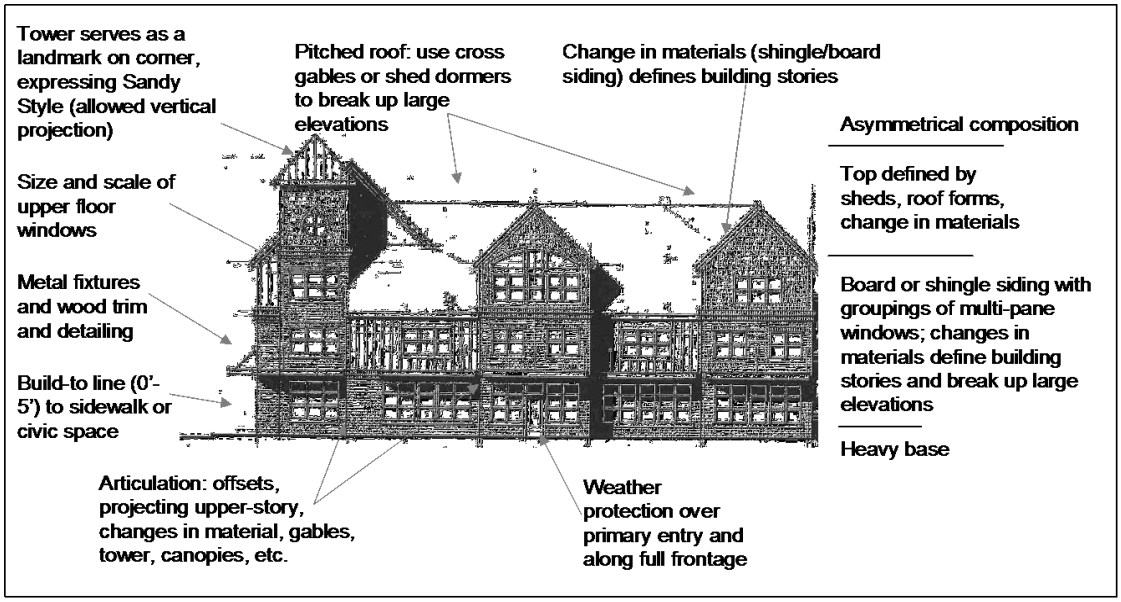
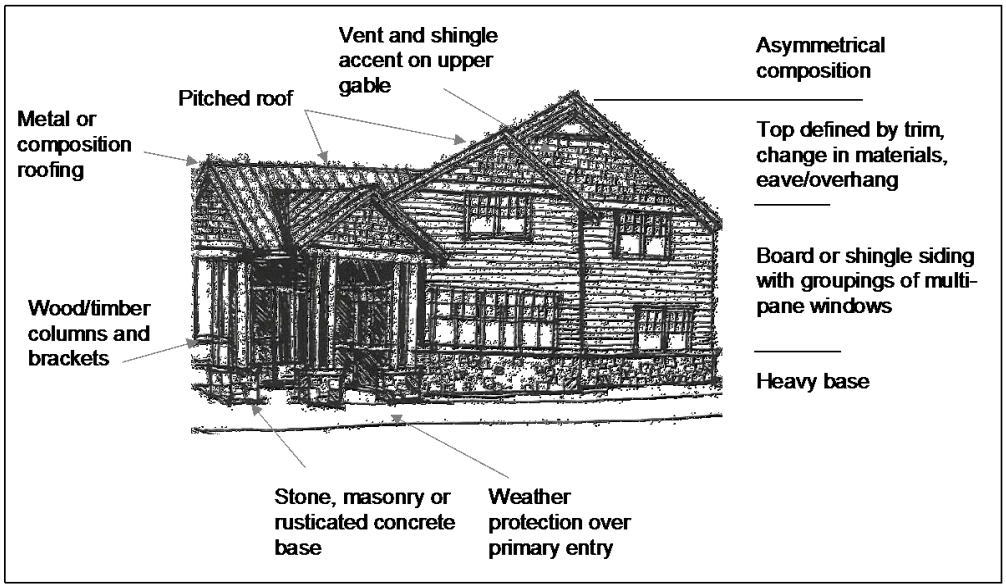


Figure 17.90.110-G: Typical Building Elements in Sandy Style (Commercial Building)



C. Roof Pitch, Materials, and Parapets

Intent: To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Except as provided in subsections 17.90.110(C)(8), below, pitched (gabled or hipped) roofs are required on all new buildings with a span of 50-feet or less. Gable and hipped roof forms must achieve a pitch not less than the following:

Zoning District	Primary Roof Forms (minimum)	Secondary Roof Forms (minimum)
C-1, C-3	6:12	4:12

COMMENT: Pitched / gable roof elements cover the walk-up / pedestrian entry (North), the drive-thru (South), and the Civic / Patio space (East). The small core building is proposed as flat roof / parapet - this will require a Special Variance to this Section (17.90.110 (C.1)).

Please see Section 17.66.80 for additional information relative to this variance.

2. As provided above, "Primary Roof Forms" are those that individually comprise 20 percent or more of the total surface area of a roof elevation. Secondary roof forms (e.g., dormers, towers, cupolas, etc.) are those that comprise less than 20 percent of the roof

elevation. See also, Section 17.74.20 Vertical Projections.

COMMENT: Due to the small size of the building itself the line between Primary and Secondary Roof forms is difficult to distinguish. This project is intended to incorporate all roof elements into a cohesive whole. See comment 17.90.110 (C.1) for additional information.

3. When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street

   COMMENT: Prominent gable roof forms oriented toward the abutting street where visible from that street.

4. Pitched roof surfaces visible from an abutting public street shall provide a secondary roof form (e.g. dormer) in the quantity specified below. Secondary roof forms may be located anywhere on the roof, although grouping these features is preferred.

Roof Length	Number of Secondary Roof Forms
30 – 40 feet	1
41 – 80 feet	2
81 feet and greater	4

   COMMENT: Due to the small size of the building itself the line between Primary and Secondary Roof forms is difficult to distinguish. This project is intended to incorporate all roof elements into a cohesive whole. See comment 17.90.110 (C.1) for additional information.

5. Visible roof materials must be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D.

   COMMENT: Visible roof materials are intended to be standing seam metal and meet the Miller Historic Color palette referenced.

6. All roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from public rights-of-way and civic spaces by parapets, walls or by other approved means. Roof plans and elevations must show proposed equipment locations, approximate dimensions, and line of sight from public rights-of-way and civic spaces. The reviewing body may require additional equipment setbacks, screen walls, or other mitigation to ensure compliance.

   COMMENT: Due to the small size of the building itself a core parapet concept with multiple articulated gable roof forms has been proposed. The parapet is intended to be of a height that allows all roof mounted equipment and flue pipes to be fully screened from view from below. See comment 17.90.110 (C.1) for additional information.

7. A-frame buildings and Mansard-style roofs are not permitted.

   COMMENT: N/A.

8. Exception to Pitched Roof: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building makes construction of a pitched roof impractical, the reviewing body may allow an alternative roof form. An alternative roof form includes an "applied pitched roof" or flat roof constructed over the building or portion of the building as specified below. An example when a pitched roof is considered impractical would be the need to have large rooftop stove vents over the kitchen portion of a restaurant. Roof forms constructed under this exception shall comply with the standards below.

   COMMENT: Due to the small size of the building itself a core Flat Roof / parapet concept with multiple articulated gable roof forms has been proposed. The parapet is intended to be of a height that allows all roof mounted equipment and flue pipes to be fully screened from view from below. See comment 17.90.110 (C.1) for additional information.

   The applicant has requested a special variance to allow a portion of the roof are to be flat. The special variance standards are addressed in this narrative. However, the city may find that in this circumstance the construction of a pitched roof on the flat roof area is impractical. Should that occur, this standard may be applicable and is complied with.

   a. Applied Pitched Roof: An "applied pitched roof" is the preferred alternative roof form and shall be considered first. An "applied pitched roof" is a roof form with the general appearance of a pitched roof in terms of materials, pitch, and overhang, but does not extend all the way from the eave of the building to the ridge of the roof as a typical pitched roof. An "applied pitched roof" shall be constructed according to the following:

      1) For buildings with a span of less than 50 feet, the "applied pitched roof" shall extend at least 50 percent of the distance from the eave to the ridge as if had been constructed as a pitched roof;

      2) For buildings with a span of 50 feet or greater, the applied pitched roof shall extend at least 12 feet from eave.

      3) The reviewing body may require buildings with a span of 50 feet or greater to include an "applied pitched roof" in lieu of a flat roof along street facing elevations.

   b. Flat Roof: Flat roofs shall comply with the following standards:

      1) Sandy Style stepped parapets and detailed coursing shall be provided on those elevations visible from an abutting public street. Parapets shall be varied so that the length of a parapet does not exceed 30 feet without a change in the parapet height of at least 2 feet or as necessary to hide rooftop equipment.

         COMMENT: The building is small so the Flat Roof parapet core is small. Parapets completely surround all flat roof building sides and vary in height at three distinct building masses and by 2'-3' in height relative to each other to create suitable architectural articulation. Varied brick parapet caps are incorporated to further articulate the condition.

      2) Average parapet height shall not exceed 15 percent of the supporting wall height, and the maximum parapet height shall not at any point exceed one-third (1/3) of the height of the supporting wall;

COMMENT: Due to the small size of the building itself will vary between 12"-36" in height but will not exceed 1/3 of the height of the supporting wall.

3) A cornice projecting at least six (6) inches from the building face shall be provided at the roofline of all elevations visible from abutting public rights-of-ways and pedestrian ways;

COMMENT: A 6" brick cornice has been provided at the composite siding parapet and a 16" brick cornice has been provided at the tower parapet.

4) Parapet corners shall be stepped and the parapet be designed to emphasize the center or primary entrance(s), unless the primary entrance is at the corner of the building.

COMMENT: Due to the small size of the building itself a core parapet concept with multiple articulated gable roof forms has been proposed. This highlights the primary entrance(s) and civic space. The parapet is articulated further in building mass and varying parapet height. As such the parapet corners have been maintained in whole rather than over-articulating the small scale of the building itself.

D. Building Orientation and Entrances

Intent: To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I and representative photos in Appendix E)

1. Buildings shall be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 10 feet of a sidewalk or an approved civic space and not more than 20 percent of the off-street parking on a parcel as required by SDC 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).

   COMMENT: Parking is proposed entirely behind the building meeting that part of this standard.

   This project also has a drive-thru component. For maximum vehicle queue depth, flow and safety, the drive-thru is located between the building and the street affecting our ability to meet the 50% street frontage and requiring a Special Variance to this Section (17.90.110 (D.1).

   Please see Section 17.66.80 for additional information relative to this variance.

2. Where parking is placed between a front façade and a street, a landscaped berm and/or architectural features, such as a knee wall, colonnade, arbor, trellis and/or similar device, shall be placed behind the sidewalk to partially screen the parking area from the sidewalk. The partial screen shall be designed to achieve at least 50 percent opacity at the time of installation, with openings for walkways connecting to the building's primary entrance.

   COMMENT: N/A.

3. Ground floor spaces shall face a public street and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel). Where the reviewing authority determines that facing the building to a street is not practical, it may require the building to

face a civic space.

COMMENT: The core building is small, as such we can not meet the 50% site street frontage requirement. This will require a Special Variance to this Section (17.90.110 (D.1)) - see below for additional information.

4. Buildings located at the intersection of two streets shall use a corner building entrance; where a corner entrance is not practical due to the internal functioning of the building space or due to physical constraints of the site (e.g., topography, accessibility, or similar circumstances), a building entrance must be provided within 40 feet of the corner. The building corner must use detailing that emphasizes the corner location and is consistent with the Sandy Style. Examples of acceptable detailing include a rounded or chamfered(beveled) corner, weather protecting canopy, plaza, sculpture, and/or similar pedestrian-oriented features.

   COMMENT: N/A.

5. Upper story residential units shall have an entrance separate from the groundfloor (commercial) space and conform to applicable building codes.

   COMMENT: N/A

6. Buildings shall provide at least two elevations where the pedestrian environment is "activated". An elevation is "activated" when it meets the window transparency requirements in subsection 17.90.110(E), below, and contains a customer entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway or civic space. Where providing a customer entrance on two (2) elevations is not practical, the reviewing body may allow a singleentrance.

   COMMENT: South (40%), and East (41%) elevations meet window transparency requirements of 17.90.110(E) while the North Elevation (33%) nearly does. All serve to provide covered architectural elements at the drive-through, patio / Civic space, and pedestrian walk-up entries respectively.

   Strictly speaking, none of the elevations have access to the interior of the building. Since the project does meet the window transparency requirements, we propose they meet the intent of the "activated" elevations.

7. Primary entries shall face a public street or a civic space and shall be spaced not more than 30 feet apart on average. Ancillary shops shall provide entries every 30 feet, on average.

   COMMENT: N/A.

8. Primary entrances shall be architecturally emphasized and visible from the abutting public right-of-way or civic space and shall be sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches or art, should also be used to emphasize an entrance.

   COMMENT: With no customer access within the building, identifying a primary entrance is a challenge. If the pedestrian walk-up is considered the primary entrance, its location on the North elevation best directs access from the parking lot but does not meet the visibility from the public right-of-way.

   The activation of two elevations, public benches, raised pedestrian pathway, and architectural articulation of roof forms addressing multiple types of distinct customer uses (including the required Civic space) all serve to meet the intent of this section.

E. Windows

Intent: To promote business vitality, public safety and aesthetics through effective window placement and design, consistent with the Sandy Style. (See Figures 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, and 17.90.110-I, and representative photos in Appendix E.

1. **Unified Design.** Building plans must provide for unity in window placement and design so that all sides of a building relate to one another and multiple buildings on a development site relate to one another.

   COMMENT: This project meets this requirement.

2. **Ground Floor Windows**. The ground floor elevation of all new buildings shall contain display areas, windows, and doorways along street frontages and where the building abuts a civic space as follows: Lots with multiple street frontages are required to meet this standard on only two frontages.

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	40 percent of ground floor elevation
Greater than 10,000 sq. ft.	25 percent of ground floor elevation

   COMMENT: This project meets this requirement.

   a. Windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished grade. Where the internal functions of a building preclude windows at this height, the reviewing body may approve locating windows above or below this height. Display boxes affixed to a building's exterior are not counted in meeting the above standard.

      COMMENT: This project meets this requirement.

   b. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented.

      COMMENT: This project meets this requirement.

   c. Windows with any dimension exceeding six (6) feet shall be divided into smaller panes (e.g., 2 foot by 2 foot grid) with real divided panes, vinyl inserts or applied dividers.

      COMMENT: This project meets this requirement.

   d. Windows shall have trim or moldings at least three (3) inches in width around them, or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills.

      COMMENT: This project meets this requirement.

3. **Upper Floor Window Standards.**

a. The reviewing authority may require buildings exceeding 20 feet in height to provide upper-story windows along "activated" frontages. Such windows may be required for attic space, or applied to roof forms where no second story exists, to meet the articulation requirements under Section 17.90.110(B)(1).

b. Windows shall be square or vertically oriented. Individual window units shall not exceed five (5) feet by seven (7) feet. Any portion of a window unit with a dimension exceeding four (4) feet shall be divided into smaller panes.

c. At least half of all the window area in upper floors shall be made up of glass panes with dimensions no greater than two (2) feet by three (3) feet, unless approved by variance or adjustment. Upper story windows that have 1 foot by 1 foot grid inside double pane glass are appropriate and are encouraged.

d. Window trim and moldings shall be compatible with those used on the ground floor.

4. **Prohibited Windows.** The following window types are prohibited:
   a. Darkly tinted windows, mirrored windows, and similar windows are prohibited adjacent to street sidewalks, civic spaces and walkways.

      COMMENT: This project meets this requirement.

   b. Glass curtain windows are not permitted facing public right-of-ways, except where the reviewing body finds that such windows are consistent with the Sandy Style.

      COMMENT: This project meets this requirement.

F. Landscaping and Streetscape Design

Intent: To promote business vitality, public safety and aesthetics through effective landscaping and streetscape design, consistent with the Sandy Style; and to provide for a pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (Figures 17.90.110-A, 17.90.110-B, 17.90.110-C, 17.90.110-D, 17.90.110-E, 17.90.110-F, 17.90.110-G, 17.90.110-H, 17.90.110-I, and Downtown Sandy Streetscape Design)

1. The provisions of Chapter 17.92, Landscaping and Screening General Standards shall apply except in the C-1 Zoning District where conformance with the Downtown Sandy Streetscape Design, as illustrated in Appendix F is required.

   COMMENT: This project meets this requirement.

2. Where any conflict arises between provisions of the Sandy Streetscape Design and other city standards (e.g., sidewalk width, materials, or similar specifications), the Streetscape Design shall prevail. All applicable provisions of Chapter 17.92 Landscaping and Screening General Standards must be met, except as modified by the Downtown Sandy Streetscape Design.

G. Civic Space

Intent: To connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for the public, consistent with Sandy's Downtown Streetscape Design. (See Figures 17.90.110-H and 17.90.110-I).

1. Not less than three (3) percent of the ground floor area of every development shall be

improved as civic space.

COMMENT: Civic Space is 644 SF or 37% of the ground floor area (1740 SF). This project meets this requirement.

2. All civic spaces shall have dimensions of not less than eight (8) feet across and have a surface area of not less than 64 square feet. No civic space is required if the size of this space results in an area of less than 64 square feet.

   COMMENT: This project meets this requirement.

3. Civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review.

   COMMENT: This project provides covered patio / plaza and exterior seating on the patio, as well as bench facilities on Proctor Blvd.

4. The highest priority locations for civic space are those areas with the highest pedestrian activity (e.g., street corners and mid-block pedestrian access ways) that have a western or southern exposure.

   COMMENT: Civic Space is located in an ideal and highly visible location. This project meets this requirement.

5. Unless impractical, civic spaces shall abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Where a right-of-way connection is not possible, the owner must provide a public access way easement to the civic space. Civic spaces shall not be gated or closed to public access, unless otherwise required by the city.

   COMMENT: This project meets this requirement.

6. Exceptions: Building additions and remodels subject to Type I Design Review are not required to set aside or improve civic space, though they are encouraged to do so.

   COMMENT: N/A

Figure 17.90.110-H: Civic Space Example 1

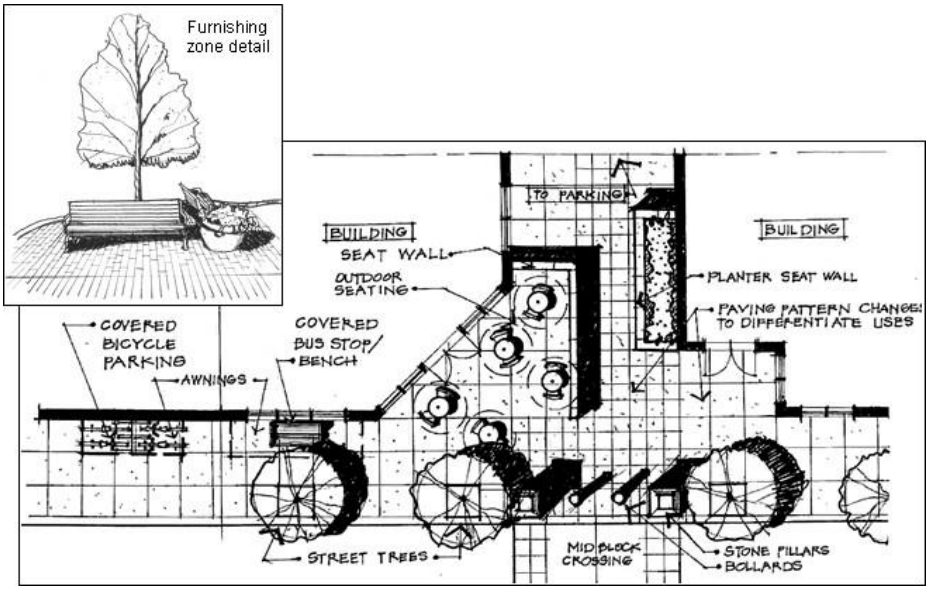
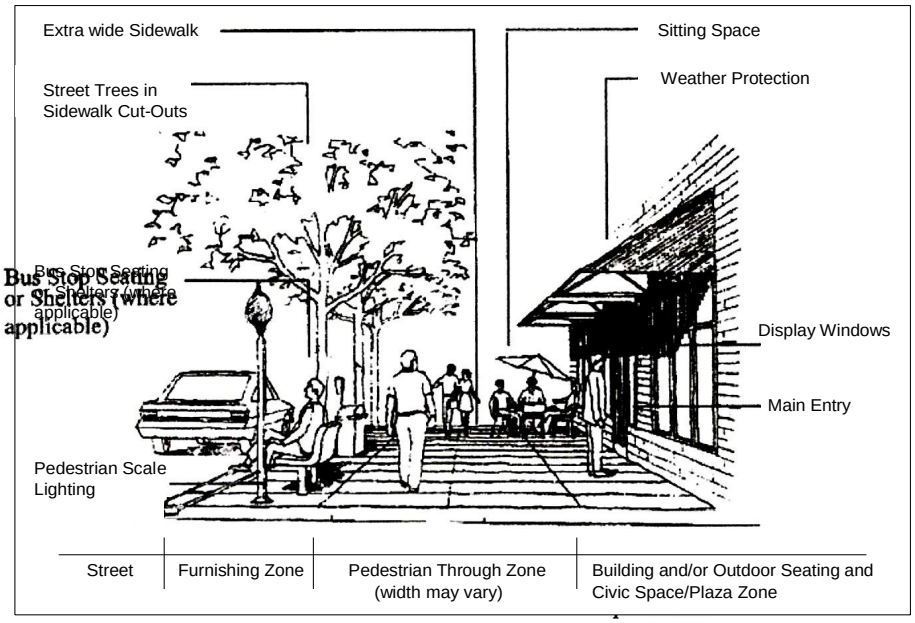


Figure 17.90.110-I: Civic Space Example 2



H. Lighting

Intent: To promote business vitality, public safety and aesthetics through effective outdoor lighting, consistent with the Sandy Style.

1. Streetscape lighting shall conform to the Downtown Sandy Streetscape Design and the requirements of Chapter 15.30, Dark Sky Ordinance.

   COMMENT: This project meets this requirement.

2. Exterior lighting must be an integral part of the architectural design and must complement any ornamental street lighting and remain in context with the overall architectural character of the district. On-site light fixtures conforming to the Sandy Style are encouraged.

   COMMENT: This project meets this requirement.

3. Lighting must be adequate for safety purposes. Walkways, parking lots, and building entrances should be illuminated at 1.5 – 2.0 foot candles.

   COMMENT: This project meets this requirement.

I. Safety and Security

Intent: To promote natural surveillance of public spaces for safety and security.

1. Locate windows in a manner that enables tenants, employees and police to watch over pedestrian, parking and loading areas.

   COMMENT: This project meets this requirement.

2. In commercial, public and semipublic development, including civic spaces, locate

windows in a manner that enables surveillance of interior activity from the public right-of-way.

COMMENT: This project meets this requirement.

3. Provide street address numbers measuring a minimum of six (6) inches high, which clearly locates buildings and their entries for patrons and emergency services.

   COMMENT: This project meets this requirement.

4. Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way and other public areas. (See also, subsection H Lighting.)

   COMMENT: This project meets this requirement.

J. External Storage and Screening

Intent: To promote land use compatibility and aesthetics, particularly where development abuts public spaces.

1. Exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited.

   COMMENT: No exterior storage of merchandise and / or materials is planned.

2. Where such storage is allowed, it must be screened from view from public rights of way and civic spaces.

   COMMENT: N/A.

3. Mechanical, electrical, communications equipment including meters and transformers, and service and delivery entrances and garbage storage areas shall be screened from view from public rights-of-way and civic spaces.

   COMMENT: This project meets this requirement.

4. Trash collection and recycling storage areas must be located within the structure or otherwise screened from view in an enclosed facility. Such facilities must be screened from view from public rights-of-way and civic spaces behind a screening wall constructed to match the materials used on the primary building(s) on the subject site.

   COMMENT: A new Trash Enclosure is proposed with this project - see Civil / Architectural Plans and Renderings.

5. Exceptions to the above provisions may be allowed through Design Review where no other practical alternative exists and such equipment is made to be visually subordinate to the proposed building and landscape, for example, through the use of common materials for screening walls or landscape berms. The reviewing body may require additional setbacks, screening walls or other mitigation, for aesthetic reasons and to minimize odors or noise impacts on adjoining properties, public rights-of-way or civic spaces.

   COMMENT: N/A

CHAPTER 17.92
LANDSCAPING AND SCREENING
GENERAL STANDARDS - ALL ZONES

17.92.00 INTENT

The City of Sandy recognizes the aesthetic and economic value of landscaping and encourages its use to establish a pleasant community character, unify developments, and buffer or screen unsightly features; to soften and buffer large scale structures and parking lots; and to aid in energy conservation by providing shade from the sun and shelter from the wind. The community desires and intends all properties to be landscaped and maintained.

This chapter prescribes standards for landscaping, buffering, and screening. While this chapter provides standards for frequently encountered development situations, detailed planting plans and irrigation system designs, when required, shall be reviewed by the City with this purposes clause as the guiding principle.

17.92.10 GENERAL PROVISIONS

A. Where landscaping is required by this Code, detailed planting plans shall be submitted for review with development applications. No development may commence until the Director or Planning Commission has determined the plans comply with the purposes clause and specific standards in this chapter. All required landscaping and related improvements shall be completed or financially guaranteed prior to the issuance of a Certificate of Occupancy.

B. Appropriate care and maintenance of landscaping on-site and landscaping in the adjacent public right-of-way is the right and responsibility of the property owner, unless City ordinances specify otherwise for general public and safety reasons. If street trees or other plant materials do not survive or are removed, materials shall be replaced in kind within 6 months.

C. Significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development. Trees of 25-inches or greater circumference measured at a height of 4-½ ft. above grade are considered significant. Plants to be saved and methods of protection shall be indicated on the detailed planting plan submitted for approval. Existing trees may be considered preserved if no cutting, filling, or compaction of the soil takes place between the trunk of the tree and the area 5-ft. outside the tree's drip line. Trees to be retained shall be protected from damage during construction by a construction fence located 5 ft. outside the dripline.

D. Planter and boundary areas used for required plantings shall have a minimum diameter of 5-ft. (2-½ ft. radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of 7-½ ft.

E. In no case shall shrubs, conifer trees, or other screening be permitted within vision clearance areas of street, alley, or driveway intersections, or where the City Engineer otherwise deems such plantings would endanger pedestrians and vehicles.

F. Landscaped planters and other landscaping features shall be used to define, soften or screen the appearance of off-street parking areas and other activity from the public street. Up to 35

percent of the total required landscaped area may be developed into pedestrian amenities, including, but not limited to sidewalk cafes, seating, water features, and plazas, as approved by the Director or Planning Commission.

G. Required landscaping/open space shall be designed and arranged to offer the maximum benefits to the occupants of the development as well as provide visual appeal and building separation.

H. Balconies required for entrances and exits shall not be considered as open space except where such exits and entrances are for the sole use of the unit.

I. Roofed structures shall not be included as open space except for open unenclosed public patios, balconies, gazebos, or other similar structures or spaces.

J. Driveways and parking areas shall not be included as open space.

K. All areas not occupied by paved roadways, walkways, patios, or buildings shall be landscaped.

L. All landscaping shall be continually maintained, including necessary watering, weeding, pruning and replacing.

COMMENT: The proposed landscape design complies with provisions of 17.92.10 above. The Project shall comply with future maintenance requirements indicated.

17.92.20 MINIMUM IMPROVEMENTS - LANDSCAPING AND SCREENING

The minimum landscaping area of a site to be retained in landscaping shall be as follows:

ZONING DISTRICT OR USE	PERCENTAGE
R-3	25%
Manufactured Home Park	20%
C -1 Central Business District	10%
C - 2 General Commercial	20%
C - 3 Village Commercial	10%
I - 1 Industrial Park	20%
I - 2 Light Industrial	15%
I - 3 Heavy Industrial	10%

COMMENT: The project is Zoned as C-1 and requires 10% landscaped area. The proposed design provides 17% landscaped area and therefore complies with this requirement.

17.92.30 REQUIRED TREE PLANTINGS

Planting of trees is required for all parking lots with 4 or more parking spaces, public street frontages, and along private drives more than 150 feet long. Trees shall be planted outside the street right-of-way except where there is a designated planting strip or City adopted street tree

plan.

The City maintains a list of appropriate trees for street tree and parking lot planting situations. Selection of species should be made from the city-approved list. Alternate selections may be approved by the Director following written request. The type of tree used shall determine frequency of trees in planting areas. Trees in parking areas shall be dispersed throughout the lot to provide a canopy for shade and visual relief.

Area/Type of Planting	Canopy	Spacing
Street Tree	Medium	30 ft. on center
Street Tree	Large	50 ft. on center
Parking Lot Tree	Medium	1 per 8 cars
Parking Lot Tree	Large	1 per 12 cars

COMMENT: Six street trees are proposed at a minimum 30' on center. 13 parking spaces are proposed and therefore two medium trees are proposed within the parking lot area. The project complies with this requirement.

Trees may not be planted:

- Within 5 ft. of permanent hard surface paving or walkways, unless specific species, special planting techniques and specifications approved by the Director are used.
- Unless approved otherwise by the City Engineer:
  - Within 10 ft. of fire hydrants and utility poles
  - Within 20 ft. of street light standards
  - Within 5 ft. from an existing curb face
  - Within 10 ft. of a public sanitary sewer, storm drainage or water line
- Where the Director determines the trees may be a hazard to the public interest or general welfare.
- Trees shall be pruned to provide a minimum clearance of 8 ft. above sidewalks and 12 ft. above street and roadway surfaces.

COMMENT: The project design indicates trees planted in a 5' width buffer area. The tree species indicated in this condition are small in stature and are not within 5' of public right of way, street lights or utilities. No onsite trees are proposed within 10' of proposed Sanitary Sewer, Storm drainage, or water lines.

17.92.40 IRRIGATION

Landscaping shall be irrigated, either with a manual or automatic system, to sustain viable plant life.

COMMENT: The project shall be equipped with a permanent, below-grade, automatic drip irrigation system per planting note 4 on sheet L10.

17.92.50 TYPES AND SIZES OF PLANT MATERIALS

A. At least 75% of the required landscaping area shall be planted with a suitable combination of trees, shrubs, or evergreen ground cover except as otherwise authorized by Chapter 17.92.10 F.

COMMENT: All softscape areas are proposed to be planted. The project complies with this requirement.

B. Plant Materials. Use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged where possible.

COMMENT: All plant materials indicated on plant schedules on sheets L11 and L20 are native or adaptive plant species. Kentucky Coffeetrees have been substituted for Maples due to concerns about beetles and borers.

C. Trees shall be species having an average mature spread of crown greater than 15 feet and having trunks which can be maintained in a clear condition with over 5 feet of clear wood (without branches). Trees having a mature spread of crown less than 15 feet may be substituted by grouping the same so as to create the equivalent of a 15-foot crown spread.

COMMENT: All proposed trees comply with this standard.

D. Deciduous trees shall be balled and burlapped, be a minimum of 7 feet in overall height or 1 ½ inches in caliper measured 6 inches above the ground, immediately after planting. Bare root trees will be acceptable to plant during their dormant season.

COMMENT: All proposed trees comply with this standard.

E. Coniferous trees shall be a minimum five feet in height above ground at time of planting.

COMMENT: All proposed trees comply with this standard.

F. Shrubs shall be a minimum of 1 gallon in size or 2 feet in height when measured immediately after planting.

COMMENT: All proposed plants comply with this standard. See plant schedule on sheet L20.

G. Hedges, where required to screen and buffer off-street parking from adjoining properties shall be planted with an evergreen species maintained so as to form a continuous, solid visual screen within 2 years after planting.

COMMENT: All proposed shrubs comply with this standard.

H. Vines for screening purposes shall be a minimum of 1 gallon in size or 30 inches in height immediate after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.

COMMENT: NA

I. Groundcovers shall be fully rooted and shall be well branched or leafed. If used in lieu of turf in whole or in part, ground covers shall be planted in such a manner as to provide complete coverage in one year.

COMMENT: All proposed groundcovers shall comply with this standard.

J. Turf areas shall be planted in species normally grown as permanent lawns in western Oregon. Either sod or seed are acceptable. Acceptable varieties include improved perennial ryes and fescues used within the local landscape industry.

COMMENT: NA

K. Landscaped areas may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, decorative hard paving and gravel areas, interspersed with planted areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscape area.

COMMENT: NA No artificial features are proposed.

17.92.60 REVEGETATION IN UNLANDSCAPED OR NATURAL LANDSCAPED AREAS

A. Areas where natural vegetation has been removed or damaged through grading or construction activity in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements shall be replanted.

B. Plant material shall be watered at intervals sufficient to assure survival and growth.

C. The use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged to reduce irrigation and maintenance demands.

COMMENT: NA

17.92.70 LANDSCAPING BETWEEN PUBLIC RIGHT-OF-WAY AND PROPERTY LINES

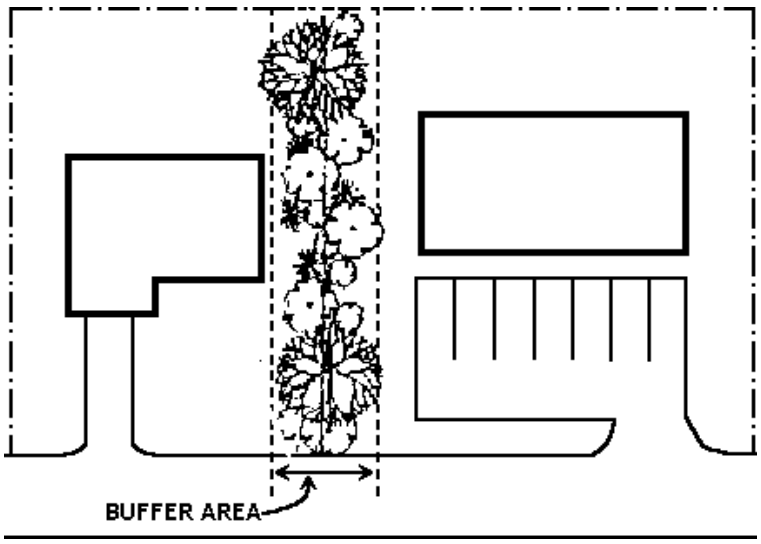
Except for portions allowed for parking, loading, or traffic maneuvering, a required setback area abutting a public street and open area between the property line and the roadway in the public street shall be landscaped. That portion of the landscaping within the street right-of-way shall not count as part of the lot area percentage to be landscaped.

COMMENT: There is a triangular 300 sf. Landscaped area between the property line and back of sidewalk. This area is indicated to be landscaped and irrigated, but has not been counted in the lot area percentage. The project complies with this requirement.

17.92.80 BUFFER PLANTING - PARKING, LOADING AND MANUEVERING AREAS

Buffer plantings are used to reduce building scale, provide transition between contrasting architectural styles, and generally mitigate incompatible or undesirable views. They are used to soften rather than block viewing. Where required, a mix of plant materials shall be used to achieve the desired buffering effect.

Buffering is required in conjunction with issuance of construction permits for parking areas containing 4 or more spaces, loading areas, and vehicle maneuvering areas. Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Decorative walls and fences may be used in conjunction with plantings, but may not be used by themselves to comply with buffering requirements. Exception: truck parking lots are exempt from parking bay buffer planting requirements.



COMMENT: An interesting palette of native and adaptive plant materials are proposed for site buffering areas at the right-of-way and the west edge of the site. The project complies with this requirement.

17.92.90 SCREENING (HEDGES, FENCES, WALLS, BERMS)

Screening is uses where unsightly views or visual conflicts must be obscured or blocked and where privacy and security are desired. Fences and walls used for screening may be constructed of wood, concrete, stone, brick, and wrought iron, or other commonly used fencing/wall materials. Acoustically designed fences and walls are also used where noise pollution requires mitigation.

A. Height and Opacity. Where landscaping is used for required screening, it shall be at least 6 ft. in height and at least 80 percent opaque, as seen from a perpendicular line of sight, within 2 years following establishment of the primary use of the site.

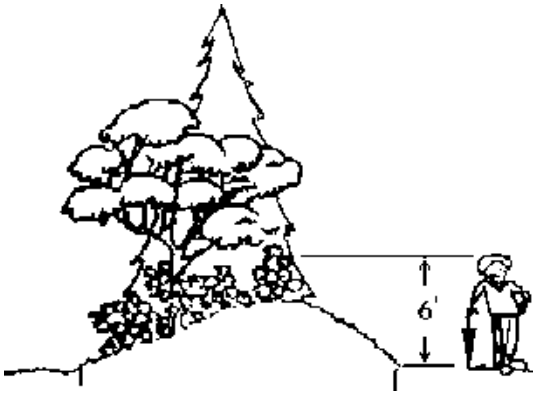
B. Chain Link Fencing. A chain link fence with slats shall qualify for screening only if a landscape buffer is also provided in compliance with Section 17.92.00 above.

C. Height Measurement. The height of hedges, fences, walls, and berm shall be measured from the lowest adjoining finished grade, except where used to comply with screening requirements for parking, loading, storage, and similar areas. In these cases, height shall be

measured from the finished grade of such improvements. Screening is not permitted within vision clearance areas.

COMMENT: Opaque vegetated hedge screens are proposed along the north edge of the site between the vehicle queuing and the property line to screen cars from adjacent properties. The trash enclosure is proposed to have an opaque screen at all elevations. The project complies with this requirement.

D. Berms. Earthen berms up to 6 ft. in height may be used to comply with screening requirements. Slope of berms may not exceed 2:1 and both faces of the slope shall be planted with ground cover, shrubs, and trees.

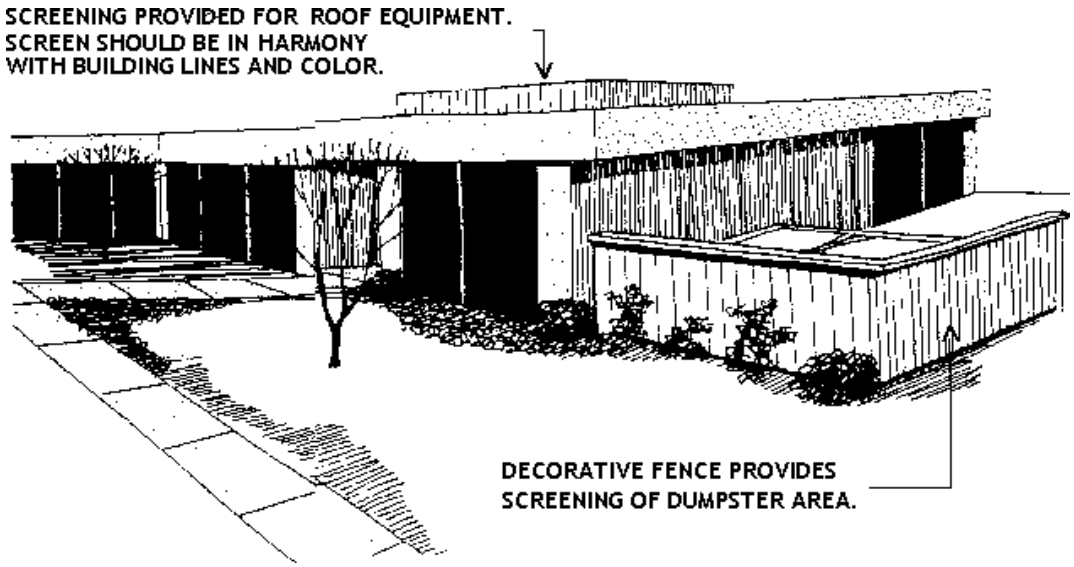


A. Long expanses of fences and walls shall be designed to prevent visual monotony through use of offsets, changes of materials and textures, or landscaping.

17.92.100 SCREENING OF SERVICE FACILITIES

Site-obscuring shrubbery or a berm, wall or fence shall be placed along a property line between residential and commercial and industrial zones and around unsightly areas such as trash and recycling areas, gas meters, ground level air conditioning units, disc antennas exceeding 36 inches in diameter and equipment storage or an industrial or commercial use with outside storage of equipment or materials.

COMMENT: The trash/recycling area is proposed to be enclosed with a 6' height sight-obscuring enclosure. This requirement is met.



17.92.110 OUTDOOR STORAGE

All outdoor storage areas for commercial, industrial, public and semi-public uses are to be entirely screened by a sight obscuring fence, vegetative materials, or other alternative deemed appropriate by the Director. Exceptions to the preceding requirements include: new or used cars, cycles and trucks (but not including car parts or damaged vehicles); new or used boat sales; recreational vehicle sales; new or used large equipment sales or rentals; manufactured home sales; florists and plants nurseries.

COMMENT: NA

17.92.130 PERFORMANCE BOND

If weather conditions or other circumstances beyond the control of the developer or owner make completion of the landscaping impossible prior to desired occupancy, an extension of up to 6 months may be applied for by posting "security" equal to 120% of the cost of the landscaping, assuring installation within 6 months. "Security" may consist of a performance bond payable to the city, cash, certified check, time certificates of deposit, assignment of a saving account, letter of credit, or other such assurance of access to funds necessary for completion as shall meet the approval of the City Attorney. Upon acceptance of the security, the developer or owner may be allowed occupancy for a period of up to 180 days. If the installation of the landscaping improvement is not completed within 180 days, the City shall have access to the security to complete the installation and/or revoke occupancy. Upon completion of the installation by the city, any portion of the remaining security minus administrative charges of 30% shall be returned to the owner. Costs in excess of the posted security shall be assessed against the property and the City shall thereupon have a valid lien against the property, which will come due, and payable.

COMMENT: The project shall comply with this requirement.

17.92.140 GUARANTEE

All landscape materials and workmanship shall be guaranteed by the installer and/or developer for a period of time not to exceed two years. This guarantee shall insure that all plant materials survive in good condition and shall guarantee replacement of dead or dying plant materials.

COMMENT: The project shall guarantee landscape materials and workmanship for a period of two growing seasons.

CHAPTER 17.94
DRIVE-UP USES

17.94.00 INTENT

These provisions are established to ensure safe, functional drive-up uses while not impeding flow of traffic. For purposes of this section, a vehicle shall be considered no less than twenty feet in length.

The width and turning radius of drive-up aisles shall be approved through the Type I design review process.

17.94.10 APPLICABLILITY

These regulations govern all drive-up uses in all zoning districts.

17.94.20 MINIMUM REQUIREMENTS

A. Parking maneuvers shall not occur in the stacking area. The stacking area shall not interfere with safe and efficient access to other parking areas on the site or adjacent properties.

COMMENT: Drive-thru stacking does not interfere with normal entry or exit to the parking area. This project meets this requirement.

B. Drive-up aisles and windows must be located a minimum of fifty feet from residential zones to avoid adverse impacts.

COMMENT: There are no residential zones within 50' of this project. This project meets this requirement.

C. All restaurant facilities, except short term food service, providing drive-up service shall provide at least two designated parking spaces immediately beyond the service window or provide other satisfactory methods to allow customers requiring excessive waiting time to receive service while parked.

COMMENT: N/A. This is a short term food service drive-up (coffee shop).

D. The grade of the stacking area to the drive-up shall not exceed a slope of twelve percent.

COMMENT: This project meets this requirement - see Grading Plan, Sheet C3.0 for slope indications.

E. The drive-up shall be designed to provide as much natural ventilation as possible to eliminate the buildup of exhaust gasses.

COMMENT: This project meets this requirement.

F. The sound level of communications systems shall not exceed fifty-five decibels at the property line and shall otherwise comply with provisions of the Sandy Municipal Code regarding sound levels.

COMMENT: This project meets this requirement.

17.94.30 STACKING DISTANCE

Drive-up window uses shall provide a minimum stacking area clear of the public right-of-way and parking lot aisles from the window serving the vehicles as follows:

A. Banks. Each lane shall provide a minimum capacity for 5 vehicles.

B. Restaurants. Each lane shall provide a minimum capacity for 8 vehicles.

Short-Term Food Service. Each lane shall provide a minimum capacity for 3 vehicles. Short Term Food Service is defined as a facility serving espresso, ice cream, or other single-service product. A maximum of one designated parking space located at the end of the stacking area may be substituted for one required stacking space for small convenience food stops only.

COMMENT: This project is a Short Term Food Service establishment (Coffee Shop) and stacking for 16 vehicles is provided. This project meets this requirement

C. Other Drive-up Uses:
1. Automotive Fueling Stations. Each lane shall provide a minimum capacity for 4 vehicles.
2. Other Uses. Each lane shall provide a minimum capacity for 2 to 8 vehicles, as determined through the design review process.

CHAPTER 17.98
PARKING, LOADING, AND ACCESS REQUIREMENTS

17.98.00 INTENT

The intent of these regulations are to provide adequate capacity and appropriate location and design of on-site parking and loading areas as well as adequate access to such areas. The parking requirements are intended to provide sufficient parking in close proximity for residents, guests, customers, and/or employees of various land uses. These regulations apply to both motorized vehicles (hereinafter referred to as vehicles) and bicycles.

17.98.10 GENERAL PROVISIONS

A. Provision and Maintenance. The provision of required off-street parking for motor vehicles and bicycles, and loading facilities for motor vehicles is a continuing obligation of the property owners. Building permits or other permits will only be issued after review and approval of site plans showing location of permanent access, parking and loading facilities.

B. Unspecified Requirements. Vehicle and bicycle parking requirements for uses not specified in this chapter shall be determined by the Director based upon the requirements of similar specified uses.

C. New Structure or Use. When a structure is constructed or a new use of land is commenced, on-site vehicle and bicycle parking and loading spaces shall be provided in accordance with Section 17.98.20 below or as otherwise modified through a planned development or specific area plan.

COMMENT: This is a new structure and is subject to vehicle and bicycle parking and loading spaces per Section 17.98.20 below.

D. Alteration of Existing Structures. When an existing structure is altered to the extent that the existing use is intensified, on-site vehicle and bicycle parking shall be provided in the amount required for such intensification.

E. Increased Intensity. When increased intensity requires no more than 2 vehicle spaces, no additional parking facilities shall be required. However, the effects of changes, additions, or enlargements shall be cumulative. When the net effect of one or more changes generates a need for more than two spaces, the additional required spaces shall be provided. Additional spaces shall be required for the intensification but not for the original use.

F. Change in Use. When an existing structure or use of land is changed in use from one use to another use as listed in Section 17.98.20 below and the vehicle and bicycle parking requirements for each use type are the same; no additional parking shall be required. However, where a change in use results in an intensification of use in terms of number of vehicle and bicycle parking spaces required, additional parking space shall be provided in an amount equal to the difference between the number of spaces required for the existing use and number of spaces required for the more intensive use.

G. Time of Completion. Required parking spaces and loading areas shall be improved and available for use prior to issuance of a temporary occupancy and/or final building inspection.

H. Inoperative Motor Vehicles. In any residential district, all motor vehicles incapable of movement under their own power or lacking legal registration shall be completely screened from public view.

I. Truck Parking. In residential zoning districts, no overnight parking of trucks or other equipment on wheels or tracks exceeding a 1-ton capacity used in the conduct of a business activity shall be permitted except vehicles and equipment necessary for farming and truck gardening on the premises where such use is conducted.

J. Mixed Uses. In the case of mixed uses, the total required vehicle and bicycle parking shall be the sum of requirements of individual uses computed separately.

K. Conflicting Parking Requirements. When a building or use is planned or constructed in such a manner that more than one standard is applicable, the use that requires the greater number of parking spaces shall govern.

L. Availability of Parking Spaces. Required vehicle and bicycle parking spaces shall be unobstructed, available for parking of vehicles and bicycles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for parking of vehicles and bicycles used in conducting the business or use and shall not be used for sale, repair, or servicing of any vehicle or bicycle.

M. Residential Parking Analysis Plan. A Residential Parking Analysis Plan shall be required for all new residential planned developments, subdivisions, and partitions to include a site plan depicting all of the following:
1. Location and dimension of required parking spaces as specified in Section 17.98.200.
2. Location of areas where parking is not permitted as specified in Sections 17.98.200(A)(3) and (5).
3. Location and design of parking courts (if applicable).

N. Location of Required Parking.
1. Off-street vehicle parking required for residential uses, except for residential uses in the Central Business District, shall be provided on the development site of the primary structure. Except where permitted by 17.98.40 below, required parking for all other uses in other districts shall be provided on the same site as the use or upon abutting property.
2. May be utilized in the C-1 Zoning District to meet the minimum parking requirements as specified in Section 17.98.30 (B).
3. Bicycle parking required for all uses in all districts shall be provided on the development site in accordance with Section 17.98.160 below.

O. Unassigned Parking in Residential Districts.
1. Multi-family dwelling units with more than 10 required vehicle parking spaces shall provide unassigned parking. The unassigned parking shall consist of at least 15 percent of the total required parking spaces and be located to be available for use by all occupants and guests of the development.
2. Multi-family dwelling units with more than 10 required bicycle parking spaces may provide shared outdoor bicycle parking. The shared bicycle parking shall consist of at least 15 percent of the total required parking spaces and be located such that they are available for shared use by all occupants and guests of the development.

P. Fractions. When the sum of the required vehicle and bicycle parking spaces is a fraction of a space (0.5 or more of a space) a full space shall be required.

Q. Maximum Parking Allowed. Commercial or Industrial zoned properties shall not be permitted to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.

COMMENT: Parking for 12 customers and / or employees is required - Parking for 13 vehicles has been provided. Two Bike Parking spaces are required and four are being provided. This project meets this requirement.

17.98.20 OFF-STREET PARKING REQUIREMENTS

A. **Off Street Parking Requirements.** Off street parking shall conform to the following standards:

1. All square footage measurements are gross square feet of total floor area.
2. 18 lineal inches of bench shall be considered 1 seat.
3. Except as otherwise specified, parking for employees shall be provided based on 1 space per 2 employees for the largest shift in addition to required parking specified in Sections A6-A9 below.
4. Where less than 5 parking spaces are required, then only one bicycle space shall be required except as otherwise modified in Sections 5-9 below.
5. In addition to requirements for residential off street parking, new dwellings shall meet the on-street parking requirements in Section 17.98.200.

Residential Uses	Number of Parking Spaces	Number of Bicycle Spaces
Single Family Detached	2 per dwelling	0
Single Family Attached	2 per dwelling	0
Duplexes	2 per dwelling	0
Accessory Dwelling Units	1 per dwelling	0
Manufactured Home Park	2 per dwelling, plus 1 visitor space for each 10 vehicle spaces	0
Multi-Family Dwellings	1.5 per studio unit or 1 bedroom 2.0 per 2 bedroom 2.25 per 3 bedroom or greater	1 per dwelling unit
Congregate Housing, Retirement Homes, Intermediate Care Facilities, and Halfway Houses	1 per each 3 residents, plus 1 per 2 employees	5% or 2 whichever is greater
Group Care Facilities	1 per 1000 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

7.

Community Service, Institutional and Semi-Public Uses	Number of Parking Spaces	Number of Bicycle Spaces
Administrative Services	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

Community Recreation Buildings	1 per 200 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Church, Chapel, or Auditorium	1 per 4 fixed seats or 1 per each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Library or Museums	1 per 300 sq. ft., plus 1 per 2 employees	30%
Lodge. Fraternal and Civic Assembly with/or without eating and drinking facilities	1 per 4 fixed seats or 1 for each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Hospitals	1 per 1000 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Day Care/Preschool/Kindergarten	2 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Elementary	2 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Middle School/Junior High	3 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater
School – Senior High	6 per classroom, plus 1 per each employee	5% or 2 whichever is greater
School – Vocational or College	6 per classroom, plus 1 per 2 employees	5% or 2 whichever is greater

8.

Commercial Uses	**Number of Parking Spaces**	**Number of Bicycle Spaces**
Retail Sales, general or personal services	1 per 200 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Shopping centers	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Retail Sales, Bulky Merchandise (examples: furniture or motor vehicles)	1 per 800 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
General, professional or banking offices and services	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Eating or Drinking Establishments COMMENT: This project is a Short Term Food establishment (Coffee Shop).	1 per 250 sq. ft. of gross floor area or 1 per 4 fixed seats or stools, plus 1 per 2 employees	5% or 2 whichever is greater
Grocery Store; Food and Beverage Retail Sales, Convenience Store	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater

Funerals and Interment Services: Crematory and Undertaking Interring and Cemeteries are exempt	1 per 4 fixed seats or 1 space for each 50 sq. ft. of public assembly area where there are no fixed seats, plus 1 per 2 employees	5% or 2 whichever is greater
Fuel Sales	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Medical or dental office or clinic	1 per 300 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Participant Sports or Recreation: Indoor or Outdoor; Spectator Sports; Theater or similar use	1 per 4 fixed seats or 1 space per 4 participants based on projected participant capacity, plus 1 per 2 employees	5% or 2 whichever is greater
Transient Habitation: Campground or RV Park	1 per designated space, plus 1 visitor space for each 8 spaces, plus 1 per 2 employees	Exempt
Hotel or Motel	1 per guest room or suite, plus 1 per 2 employees	Exempt

9.

Industrial Uses	**Number of Parking Spaces**	**Number of Bicycle Spaces**
Sales, Storage, Rental, Services and Repairs of: Agricultural and Animals Automotive/Equipment Fleet Storage Light Equipment Non-operating vehicles, boats and recreational vehicles Building Equipment	1 per 400 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Sales, Storage, Rental, and Repairs of: Heavy Equipment, Farm Equipment	1 per 800 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
Storage, distribution, warehousing, or manufacturing establishment; air, rail, trucking freight terminal	1 per employee on the largest shift, plus 1 per 2 employees	5% or 2 whichever is greater

17.98.30 REDUCTION OF PARKING REQUIREMENTS

A. Transit Amenity Reduction.

1. Any existing or proposed use in C-1 and C-3 Zoning Districts subject to minimum parking requirements and located within 400 feet of an existing transit route may reduce the number of required parking spaces by up to 10% by providing a transit stop and related amenities including a public plaza, pedestrian sitting areas, or additional landscaping provided such landscaping does not exceed 25% of the total area dedicated for transit oriented purposes.

2. Required parking spaces may be reduced at a ratio of 1 parking space for each 100 square feet of transit amenity space provided above and beyond the minimum requirements.
3. Uses, which are not eligible for these reductions, include truck stops, building materials and lumber sales, nurseries and similar uses not likely to be visited by pedestrians or transit customers.

B. Central Business District and Village Commercial District. Required off-street parking for non-residential uses in the C-1 and C-3 Zoning District may be reduced by 25 percent.

COMMENT: N/A.

17.98.40 SHARED USE OF PARKING FACILITIES

A. Except for residential uses, required parking facilities may be located on an adjacent parcel of land or separated only by an alley, provided the adjacent parcel is maintained in the same ownership as the use it is required to serve.

B. In the event that several parcels occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements for the uses computed separately.

C. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facility used jointly, to the extent that it can be shown by the owners or operators that the needs of the facilities do not materially overlap (e.g., uses primarily of day time versus night time uses) and provided that such right of joint use is evidenced by a deed, lease, contract or similar written instrument establishing such joint use.

17.98.50 SETBACKS

A. Parking areas, which abut a residential zoning district, shall meet the setback of the most restrictive adjoining residential zoning district.

COMMENT: N/A. There are no residential zones abutting this project.

B. Required parking shall not be located in a required front or side yard setback area abutting a public street except in industrial districts. For single family and two-family dwellings, required off-street parking may be located in a driveway.

COMMENT: There are no parking spaces within any front or side yard setbacks. This project meets this requirement.

C. Parking areas shall be setback from a lot line adjoining a street the same distance as the required building setbacks. Regardless of other provisions, a minimum setback of 5 feet shall be provided along the property fronting on a public street. The setback area shall be landscaped as provided in this code.

COMMENT: This project meets this requirement.

17.98.60 DESIGN, SIZE AND ACCESS

All off-street parking facilities, vehicular maneuvering areas, driveways, loading facilities, accessways, and private streets shall conform to the standards set forth in this section.

A. Parking Lot Design. All areas for required parking and maneuvering of vehicles shall have a durable hard surface such as concrete or asphalt.

COMMENT: This project meets this requirement.

B. Size of Space.

1. A standard parking space shall be 9 feet by 18 feet.

   COMMENT: The site has 9 standard stalls all with a dimension of 9 feet by 18 feet.

2. A compact parking space shall be 8 feet by 16 feet.

   COMMENT: The site has 4 compact stalls all with a dimension of 8 feet by 16 feet.

3. Handicapped parking spaces shall be 13 feet by 18 feet. Accessible parking shall be provided for all uses in compliance with the requirements of the State of Oregon (ORS 447.233) and the Americans with Disabilities Act.

   COMMENT: The project only required 1 ADA parking stall; therefore it is a Van Accessible stall. This stall is 17 feet by 18 feet.

4. Parallel parking spaces shall be a length of 22 feet.

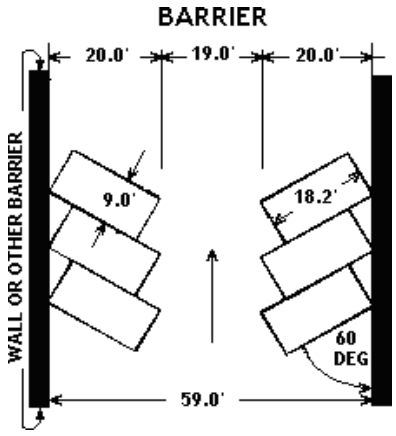
   COMMENT: N/A

5. No more than 35 percent of the parking stalls shall be compact spaces.

   COMMENT: The site has 4 compact stalls. These stalls account for 31% of the site parking.

C. Aisle Width.

Parking Aisle	Single Sided One-Way	Single Sided Two-Way	Double Sided One-Way	Double Sided Two-Way
90 degree	20 feet	22 feet	25 feet	25 feet
60 degree	20 feet	20 feet	20 feet	20 feet
45 degree	20 feet	20 feet	20 feet	20 feet
Parallel	12 feet	12 feet	16 feet	16 feet



17.98.70 ON-SITE CIRCULATION

A. Groups of more than three (3) parking spaces shall be permanently striped.

B. Backing and Maneuvering. Except for a single family dwelling or two family dwelling, groups of more than 3 parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles enter the right-of-way (except for alleys) in a forward manner. Parking spaces shall not have backing or maneuvering movements for any of the parking spaces occurring across public sidewalks or within any public street, except as approved by the City Engineer. Evaluations of requests for exceptions shall consider constraints due to lot patterns and impacts to the safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

COMMENT: This project meets this requirement.

17.98.80 ACCESS TO ARTERIAL AND COLLECTOR STREETS

A. Location and design of all accesses to and/or from arterials and collectors (as designated in the Transportation System Plan) are subject to review and approval by the City Engineer. Where practical, access from a lower functional order street may be required. Accesses to arterials or collectors shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions may be granted by the City Engineer. Evaluations of exceptions shall consider posted speed of the street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

COMMENT: Vehicular access to and from the project site is via an existing driveway approach off of Procter Avenue, an Arterial Street. Due to the "change in use" of the site, ODOT required the project submit for approval to use the existing driveway approach for the project. On January 31, 2019 ODOT approved the driveway approach. The existing driveway is located less than 150 feet from the intersection of Proctor Avenue and Ten Eyck Road.

B. No development site shall be allowed more than one access point to any arterial or collector street (as designated in the Transportation System Plan) except as approved by the City Engineer. Evaluations of exceptions shall consider posted speed of street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
COMMENT: Only 1 access point is requested for this project.

C. When developed property is to be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in A and B above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.
COMMENT: The existing driveway location does not meet the City requirement of 150 feet from an intersection. The project is requesting an exception be granted by the City Engineer, to allow for the existing driveway to continue to be used.

17.98.90 ACCESS TO UNIMPROVED STREETS

Access to Unimproved Streets. Development may occur without access to a City standard street when that development constitutes infill on an existing substandard public street. A condition of development shall be that the property owner sign an irrevocable petition for street improvements and/or a declaration of deed restrictions agreeing to future completion of street improvements. The form shall be provided by the City and recorded with the property through the Clackamas County Recorder's Office. This shall be required with approval of any of the following applications:

- Land partitions
- Conditional uses
- Building permits for new non-residential construction or structural additions to non-residential structures (except accessory development)
- Building permits for new residential units

17.98.100 DRIVEWAYS

A. A driveway to an off-street parking area shall be improved from the public roadway to the parking area a minimum width of 20 feet for a two-way drive or 12 feet for a one-way drive but in either case not less than the full width of the standard approach for the first 20 feet of the driveway.

COMMENT: Drive and aisle widths are detailed on the Architectural Enlarged Site Plan (Sheet A1.1) as well as the Civil Site Plan (Sheet C2.0). This project meets this requirement.

B. A driveway for a single-family dwelling shall have a minimum width of 10 feet.

C. A driveway for a two-family dwelling shall have a minimum width of 20 feet. A driveway approach must be constructed in accordance with applicable city standards and the entire driveway must be paved with asphalt or concrete.

D. Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve feet for their entire length and width but such clearance may be reduced in parking structures.

E. No driveway shall traverse a slope in excess of 15 percent at any point along the driveway length.

COMMENT: There are no driveway slopes in excess of 15% for this project. This project meets this requirement.

F. The location and design of the driveway shall provide for unobstructed sight per the vision clearance requirements. Requests for exceptions to these requirements will be evaluated by the City Engineer considering the physical limitations of the lot and safety impacts to vehicular, bicycle, and pedestrian traffic.

COMMENT: Vehicular access to and from the project site is via an existing driveway approach off of Procter Avenue, an Arterial Street. Due to the "change in use" of the site, ODOT required the project submit for approval to use the existing driveway approach for the project. On January 31, 2019 ODOT approved the driveway approach. The existing driveway is located less than 150 feet from the intersection of Proctor Avenue and Ten Eyck Road. There are no modification to the existing vision clearances. Per Section 17.98.110.A no

vision clearance analysis is required due to the sites location within the Central Business District.

17.98.110 VISION CLEARANCE

A. Except within the Central Business District, vision clearance areas shall be provided at intersections of all streets and at intersections of driveways and alleys with streets to promote pedestrian, bicycle, and vehicular safety. The extent of vision clearance to be provided shall be determined from standards in Chapter 17.74 and taking into account functional classification of the streets involved, type of traffic control present at the intersection, and designated speed for the streets.

COMMENT: N/A. This project is within the Central Business District.

B. Traffic control devices, streetlights, and utility installations meeting approval by the City Engineer are permitted within vision clearance areas.

17.98.120 LANDSCAPING AND SCREENING

A. Screening of all parking areas containing 4 or more spaces and all parking areas in conjunction with an off-street loading facility shall be required in accordance with zoning district requirements and Chapter 17.98. Where not otherwise specified by district requirement, screening along a public right-of-way shall include a minimum 5-ft. depth of buffer plantings adjacent to the right-of-way.

COMMENT: This project proposes a 5’ width screen planting zone along the entire right-of-way frontage. This project meets this requirement.

B. When parking in a commercial or industrial district adjoins a residential zoning district, a sight-obscuring screen that is at least 80% opaque when viewed horizontally from between 2 and 8 feet above the average ground level shall be required. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within 3 years after installation.

COMMENT: N/A. This project does not adjoin a residential zoning district.

C. Except for a residential development which has landscaped yards, parking facilities shall include landscaping to cover not less than 10% of the area devoted to parking facilities. The landscaping shall be uniformly distributed throughout the parking area and may consist of trees, shrubs, and ground covers.

COMMENT: The project proposes a total of 6,061 sf of area for parking and 766 sf (12.6%) of that area is landscaped.

D. Parking areas shall be divided into bays of not more than 20 spaces in parking areas with 20 or more spaces. Between, and at the end of each parking bay, there shall be planters that have a minimum width of 5 feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. Truck parking and loading areas are exempt from this requirement.

COMMENT: The largest parking bay is 11 spaces and has a minimum of 5’ width planting areas adjacent. Trees are located in all adjacent planters with the exception of the northwest planted, which is a lined stormwater planter lacking the depth for a tree. This project meets this requirement.

E. Parking area setbacks shall be landscaped with major trees, shrubs, and ground cover as specified in Chapter 17.92.

COMMENT: See planting sheets L10, L11, L20 for planting information. This project meets this requirement.

F. Wheel stops, bumper guards, or other methods to protect landscaped areas shall be provided. No vehicle may project over a property line or a public right-of-way. Parking may project over an internal sidewalk, but a minimum clearance of 5 feet for safe pedestrian circulation is required.

COMMENT: Wheel stops are provided for this project and no vehicle projects over a property line or into a public right-of-way. This project meets this requirement.

17.98.130 PAVING

A. Parking areas, driveways, aisles and turnarounds shall be paved with concrete, asphalt or comparable surfacing, constructed to city standards for off-street vehicle areas.

COMMENT: Parking areas for this project are intended to be asphalt and constructed to City standards. This project meets this requirement.

B. Gravel surfacing shall be permitted only for areas designated for non-motorized trailer or equipment storage, propane or electrically powered vehicles, or storage of tracked vehicles.

COMMENT: N/A

17.98.140 DRAINAGE

Parking areas, aisles and turnarounds shall have adequate provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way and abutting private property.

COMMENT: Parking areas and on-site drainage collection is accomplished via surface collection and below grade conveyance and is detailed on Civil Plans / Utility Plans (Sheet C4.0, C4.1) and in Stormwater Narrative. The site has been divided into small drainage basins to minimize the quantity of surface runoff. Stormwater is managed on site to the maximum extent possible. This project meets this requirement.

17.98.150 LIGHTING

Artificial lighting shall be provided in all required off-street parking areas. Lighting shall be directed into the site and shall be arranged to not produce direct glare on adjacent properties. Light elements shall be shielded and shall not be visible from abutting residential properties. Lighting shall be provided in all bicycle parking areas so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or vehicle parking lots during all hours of use.

COMMENT: Site Lighting is provided, directed into the site and arranged to not produce direct glare on adjacent properties. Fixtures and light levels relative to site boundaries are detailed on the Photometric Plan (Sheet E1.0). This project meets this requirement.

17.98.160 BICYCLE PARKING FACILITIES

Multi-family developments, industrial, commercial and community service uses, transit transfer stations, and park and ride lots shall meet the following standards for bicycle parking facilities. The intent of this section is to provide secure bicycle parking that is visible from a building's primary entrance and convenient to bicyclists.

A. Location.
   1. Bicycle parking shall be located on-site, convenient to primary building entrances, and have direct access to both the public right-of-way and to the main entrance of the principal structure.
   2. Bicycle parking areas shall be visible from building interiors where possible.
   3. For facilities with multiple buildings or parking lots, bicycle parking shall be located in areas of greatest use and convenience to bicyclists.
   4. If the bicycle parking area is located within the vehicle parking area, the bicycle facilities shall be separated from vehicular maneuvering areas by curbing or other barrier to prevent damage to parked bicycles.
   5. Curb cuts shall be installed to provide safe, convenient access to bicycle parking areas.

B. Bicycle Parking Space Dimensions.
   1. Each required bicycle parking space shall be at least 2 ½ feet by 6 feet. If covered, vertical clearance of 7 feet must be provided.
   2. An access aisle of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking. Vertical or upright bicycle storage structures are exempted from the parking space length.

C. Security.
   1. Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be located.
   2. Racks requiring user-supplied locks shall accommodate both cable and U-shaped locks. Racks shall be designed and installed to permit the frame and both wheels to be secured, with removal of the front wheel, or the frame and one wheel to be secured, if both wheels remain on the bicycle.
   3. Bicycle racks shall be securely anchored to the ground or a structure and shall be designed to hold bicycles securely by means of the bicycle frame.
   4. All outdoor bicycle parking facilities shall provide adequate shelter from precipitation where possible.

D. Signing. Where bicycle facilities are not directly visible and obvious from the public right-of-way, entry or directional signs shall be provided to direct bicyclists from the public right-of-way to the bicycle parking facility.

E. Exemptions. Temporary street side sales and temporary uses such as fireworks stands, Christmas tree sales lots, single-family and two-family residences are exempt from the standards.

COMMENT: Bicycle Parking will be provided at on a concrete surface adjacent to the front public access to the patio in a high-visibility area. At minimum, two spaces must be provided per Table 17.98.20.8. Four spaces are being provided. This project meets this requirement.

17.98.170 CARPOOL AND VANPOOL PARKING

New industrial, commercial, and community service uses with more than 50 employees shall meet the following minimum requirements for carpool and vanpool parking.

COMMENT: N/A. This project will have less than 50 employees.

A. Number and Marking. At least 10% but not less than 1 of the employee parking spaces shall be marked and signed for use as a carpool/vanpool space. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only".

B. Location. Designated carpool/vanpool parking spaces shall be the closest employee parking spaces to the building entrance normally used by employees except for any handicapped spaces provided.

17.98.180 SCHOOL DESIGN REQUIREMENTS

A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading children shall be located on the site of a school having a capacity greater than 25 students.

17.98.190 OFF-STREET LOADING FACILITIES

A. The minimum area required for commercial and industrial loading spaces is as follows:
   1. 250 square feet for buildings of 5,000 to 19,999 square feet of gross floor area.
   2. 500 square feet for buildings of 20,000 to 49,999 square feet of gross floor area
   3. 750 square feet for buildings in excess of 50,000 square feet of gross floor area.

B. The required loading berth shall be not less than 10 feet in width by 35 feet in length and shall have an unobstructed height clearance of 14 feet.

C. Loading areas shall be screened from public view from public streets and adjacent properties except in industrial districts and shall require the same screening as parking lots.

D. Sufficient space for turning and maneuvering of vehicles shall be provided on the site in accordance with the standard specifications established by the City Engineer.

E. Entrances and exits shall be provided at locations approved in accordance with applicable ordinances and statutes.

F. No off-street loading facilities shall be required where buildings abut a public alley in such a manner that loading operations can be conducted from said alley in accordance with applicable traffic and parking ordinances.

COMMENT: N/A

17.98.200 RESIDENTIAL ON-STREET PARKING REQUIREMENTS

A. **Residential On-Street Parking Requirements**. Residential on-street parking shall conform to the following standards:

1. In addition to required off-street parking, all new residential planned developments, subdivisions and partitions shall provide one (1) on-street parking space within 200 feet of each dwelling except as provided in Section 17.98.200(A)(6) below.

2. The location of residential on-street parking shall be reviewed for compliance with this section through submittal of a Residential Parking Analysis Plan as required in Section 17.98.10(M).

3. Residential on-street parking shall not obstruct required clear vision areas and shall not violate any local or state laws.

4. Parallel residential on-street parking spaces shall be 22 feet minimum in length.

5. Residential on-street parking shall be measured along the curb from the outside edge of a driveway wing or curb cut. Parking spaces must be set back a minimum of 15 feet from an intersection and may not be located within 10 feet of a fire hydrant.

6. Portions of residential on-street parking required by this section may be provided in parking courts that are interspersed throughout a development when the following standards are met:
   a. No more than eight (8) parking spaces shall be provided in a parking court;
   b. Parking spaces within a parking court shall be nine (9) feet wide and 18 feet in depth;
   c. Notwithstanding Section 17.98.70, vehicles parked in a parking court are permitted to back onto the public right-of-way from the parking court;
   d. A parking court shall be located within 200 feet of the dwellings requiring parking in accordance with the requirements of Section 17.98.10(M);
   e. No more than two (2) parking courts shall be provided within a block, with only one (1) parking court provided along a block face;
   f. A parking court shall be paved in compliance with the standards of this chapter and the latest adopted grading and drainage standards;
   g. If a parking court is adjacent to a public right-of-way, it shall be publicly owned and maintained;
   h. If a parking court is adjacent to a private drive, it shall be privately owned and maintained. For each parking court there shall be a legal recorded document which includes:
      i A legal description of the parking court; ii Ownership of the parking court;
      iii Use rights; and
      iv A maintenance agreement and the allocation and/or method of determining liability for maintenance of the parking court;
   i. A parking court shall be used solely for the parking of operable passenger vehicles.

CHAPTER
17.100 LAND DIVISION

17.100.00 INTENT

The intent of this chapter is to implement the Comprehensive Plan, to provide procedures, regulations, and design standards for land divisions and associated improvements and to provide for orderly and efficient land division patterns supported by a connected system of streets, water supply, sewage and drainage facilities.

The division of land is the initial step in establishing Sandy's ultimate development pattern. The framework of streets, blocks and individual lots is implemented through the land division process. Density, units per gross acre, and dimensional standards are established in zoning district regulations.

This chapter presents the review procedures, design standards and improvement requirements for land divisions. Procedures for replats and property line adjustments are also addressed in this chapter.

17.100.10 GENERAL PROVISIONS

A. No land shall be divided prior to approval of a minor partition, major partition or subdivision in accordance with this Code.

B. No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure on the remainder of a lot with less than the minimum lot, yard or setback requirements of the zoning district.

C. Land division is processed by approval of a tentative plan prior to approval of the final land division plat or map. Where a Type II or Type III procedure is required for land division approval, that procedure shall apply to the tentative plan approval. As long as there is compliance with the approved tentative plan and conditions, the Director shall have the authority to approval final plats and maps for land divisions through a Type I procedure.

17.100.20 LAND DIVISION CLASSIFICATION - TYPE I, II OR III PROCEDURES

A. Type I Land Division (Property Line Adjustment). Property line adjustments shall be a Type I procedure if the resulting parcels comply with standards of the Development Code and this chapter.

B. Type I Land Division (Minor Partition). A minor partition shall be a Type I procedure if the land division does not create a street and the resulting parcels comply with the standards of the zoning district and this chapter.

COMMENT: This project includes an application for a Type 1 Land Division.

C. Type II Land Division (Major Partition or Subdivision). A major partition or subdivision shall be a Type II procedure when a street is extended, satisfactory street conditions exist and

the resulting parcels/lots comply with the standards of the zoning district and this chapter. Satisfactory street conditions exist when the Director determines one of the following:

1. Existing streets are stubbed to the property boundaries and are linked by the land division.
2. An existing street or a new proposed street need not continue beyond the land division in order to complete an appropriate street system or to provide access to adjacent property.
3. The proposed street layout is consistent with a street pattern adopted as part of the Comprehensive Plan or an officially adopted City street plan.

D. Type II Land Division (Minor Revised Plat). A minor replat of an existing platted subdivision shall be a Type II procedure when the street(s) are existing and no extension or reconstruction/realignment is necessary, when the replat does not increase the allowable density, the resulting parcels comply with the standards of the zoning district and this chapter, and the replat involves no more than six (6) lots.

E. Type III Land Division (Major Partition or Subdivision). A major partition or subdivision shall be a Type III procedure if unsatisfactory street conditions exist or the resulting parcels/lots do not comply with the standards of the zoning district and this chapter. The Director shall determine if unsatisfactory street conditions exist based on one of the following criteria:

1. The land division does not link streets that are stubbed to the boundaries of the property.
2. An existing street or a new proposed street will be extended beyond the boundaries of the land division to complete a street system or provide access to adjacent property.
3. The proposed street layout is inconsistent with a street pattern adopted as part of the Comprehensive Plan or officially adopted City street plan.

F. Type III Land Division (Major Replat). A major replat involves the realignment of property lines involving more than six lots, even if the subdivision does not increase the allowable density. All parcels resulting from the replat must comply with the standards of the zoning district and this chapter. Any replat involving the creation, extension or modification of a street shall be processed as a major replat.

17.100.30 PROPERTY LINE ADJUSTMENT

Approval of a property line adjustment is required to move a common boundary between two parcels or lots. A Type I property line adjustment is not considered a development action for purposes of determining whether floodplain, greenway, or right-of-way dedication or improvements are required.

A. Application Requirements. Property line adjustment applications shall be made on forms provided by the city and shall be accompanied by:

1. Eight copies of the property line adjustment map;
2. The required fee;
3. Any data or narrative necessary to explain the application.

B. Map Information. The property line adjustment map and narrative shall include the following:

1. The names, addresses and phone numbers of the owner(s) of the subject parcels and authorized representative;

2. Scale of the drawing using an engineer's scale;
3. North arrow and date;
4. Legal description of the property;
5. Dimensions and size of the parcels involved in the property line adjustment;
6. Approximate locations of structures, utilities, rights-of-way and easements;
7. Points of access, existing and proposed;
8. Any natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
9. Approximate topography, particularly noting any area of steep slope.

C. Approval Criteria. The Director shall approve a request for a property line adjustment if the following criteria are satisfied:
1. No additional parcels are created.
2. All parcels meet the density requirements and dimensional standards of the base zoning district.
3. Access, utilities, easements, and proposed future streets will not be adversely affected by the property line adjustment.

D. Final Approval. Three paper copies of the final map shall be submitted within one year of approval of the property line adjustment. The final map shall include a boundary survey, which complies with ORS Chapters 92 and 209. The approved final map, along with required deeds, must be recorded with Clackamas County.

17.100.40 MINOR AND MAJOR PARTITIONS

Approval of a partition is required for a land division of 3 or fewer parcels in a calendar year. Partitions, which do not require creation or extension of a street for access, is classified as a Type I minor partition. Partitions, which require creation or extension of a street for access is classified as a Type II, major partition.

A. Preapplication Conference. The applicant for a minor or major partition shall participate in a preapplication conference with city staff to discuss procedures for approval, applicable state and local requirements, objectives and policies of the Sandy Comprehensive Plan, and the availability of services. A preapplication conference is required.
COMMENT: A preapplication Conference has been held for this project.

B. Application Requirements. Partition applications shall be made on forms provided by the planning department and shall be accompanied by:
1. Eight copies of the tentative plan for the minor or major partition;
2. The required fee;
3. Any data or narrative necessary to explain the application;
4. List of affected property owners.
COMMENT: These requirements have been met.

C. Tentative Partition Plan. The tentative plan shall be a minimum of 8 1/2 x 11 inches in size and shall include the following information:
1. The date, north point, engineering scale, and legal description;
2. Name and address of the owner of record and of the person who prepared the partition plan;

3. Zoning, size and dimensions of the tract to be partitioned;
4. Size, dimensions and identification of proposed parcels (Parcel 1, Parcel 2, Parcel 3);
5. Approximate location of any structures on the tract to be partitioned, including setbacks to proposed parcel boundaries;
6. Location, names and widths of streets, sidewalks and bikeways within the tract to be partitioned and extending 400 feet beyond the tract boundaries;
7. Location, width and purpose of existing and proposed easements on the tract to be partitioned;
8. Location and size of sewer, water and drainage facilities proposed to serve the tract to be partitioned;
9. Natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
10. Approximate topography, particularly noting any area of steep slope;
11. A plan for future parcel redivision, if the proposed parcels are large enough to be redivided under the comprehensive plan or zoning designation.

COMMENT: These requirements have been met.

D. Approval Criteria. The Director or Planning Commission shall review the tentative plan for a minor or major partition based on the classification procedure (Type I, II or III) and the following approval criteria:
1. The proposed partition is consistent with the density, setback and dimensional standards of the base zoning district.
2. The proposed partition is consistent with the design standards set forth in this chapter.
3. Adequate public facilities are available or can be provided to serve the proposed partition.
4. All proposed improvements meet City standards.
5. The plan preserves the potential for future redivision of the parcels, if applicable.

E. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative partition plan as deemed necessary. In no event, however, shall the Director or Planning Commission require greater dedications or conditions than could be required if the entire tract were subdivided.

F. Approval of Tentative Partition Plan. When a tentative partition plan has been approved, all copies shall be marked with the date and conditions of approval. One copy shall be returned to the applicant, one copy shall be sent to the county and one copy shall be retained by the city.

G. Approval Signatures for Final Partition Map. Following review and approval of a final partition map, the Director shall:
1. Review Plat for Accuracy. The Director may require field investigations to verify that the plat survey is accurate. The applicant shall be notified and afforded an opportunity to make corrections if needed.
2. Sign the plat to certify that the map is approved.
3. Notify the applicant that the partition map and accompanying documents have been approved and are ready for recording with the Clackamas County Recorder.
4. Deliver the signed original to the applicant who shall deliver the original and two exact copies to the County Recorder's office. One recorded copy shall be returned to the City of Sandy immediately after recording is completed.

H. Effective Date for Final Partition Map Approval. The partition shall become final upon recording of the approved partition map together with any required documents with the County Recorder. Work specifically authorized following tentative approval may take place prior to processing of the final partition map. The documents effectuating a partition shall become null and void if not recorded with the County Recorder within one year following approval.

I. Improvements. The same improvements shall be installed to serve each parcel of a partition as required of a subdivision. Improvement standards are set forth in Section 17.90. If the Director and City Engineer find a need to vary the improvement standards for a partition, the application shall be processed through a Type III hearing and may except specific improvements.

J. Exceptions to Improvements. Exceptions to improvements may be approved in transition areas or other areas as deemed appropriate by the city. In lieu of excepting an improvement, the Planning Commission may recommend to the city council that the improvement be installed in the area under special assessment financing or other facility extension policies of the city.

17.100.50 NONRESIDENTIAL PARTITIONS OR SUBDIVISIONS

This section includes special provisions for partitions or subdivisions of land that is zoned for commercial or industrial use.

A. Principles and Standards. In addition to the standards established for partitions or subdivisions, the applicant for a nonresidential partition or subdivision shall demonstrate that the street, parcel and block pattern proposed is adapted to uses in the vicinity. The following principles and standards shall be observed:
   1. Proposed commercial and industrial parcels shall be suitable in area and dimensions to the types of development anticipated.
   2. Street right-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated.
   3. Special requirements may be imposed by the city with respect to street, curb, gutter and sidewalk design and construction.
   4. Special requirements may be imposed by the city with respect to the installation of public utilities, including but not limited to water, sewer, and stormwater drainage facilities.
   5. Efforts shall be made to protect adjacent residential areas from potential nuisance from a proposed commercial or industrial subdivision. Such efforts may include the provision of extra depth in parcels backing up on existing or potential residential development and landscaped buffers.
   6. Streets carrying nonresidential traffic, particularly truck traffic, should not normally be extended through adjacent residential areas.

   COMMENT: These requirements have been met.

17.100.60 SUBDIVISIONS

Approval of a subdivision is required for a land division of 4 or more parcels in a calendar year. A two-step procedure is required for subdivision approval: (1) tentative plat review and

approval; and (2) final plat review and approval.

A. Preapplication Conference. The applicant for a subdivision shall participate in a preapplication conference with city staff to discuss procedures for approval, applicable state and local requirements, objectives and policies of the Sandy Comprehensive Plan, and the availability of services. The preapplication conference provides the opportunity to discuss the conceptual development of the property in advance of formal submission of the tentative plan in order to save the applicant unnecessary delay and cost.

B. Application Requirements for a Tentative Plat. Subdivision applications shall be made on forms provided by the planning department and shall be accompanied by:
   1. 20 copies of the tentative plat;
   2. Required fee and technical service deposit;
   3. 20 copies of all other supplementary material as may be required to indicate the general program and objectives of the subdivision;
   4. Preliminary title search;
   5. List of affected property owners.

C. Format. The Tentative Plat shall be drawn on a sheet 18 x 24 inches in size and at a scale of one inch equals one hundred feet unless an alternative format is approved by the Director at the preapplication conference. The application shall include one copy of a scaled drawing of the proposed subdivision, on a sheet 8 1/2 x 11, suitable for reproduction.

D. Data Requirements for Tentative Plat.
   1. Scale of drawing, north arrow, and date.
   2. Location of the subdivision by section, township and range, and a legal description sufficient to define the location and boundaries of the proposed tract.
   3. A vicinity map, showing adjacent property boundaries and how proposed streets may be extended to connect to existing streets.
   4. Names, addresses, and telephone numbers of the owner(s) of the property, the engineer or surveyor, and the date of the survey.
   5. Streets: location, names, paved widths, alleys, and right-of-way (existing and proposed) on and within 400 feet of the boundaries of the subdivision tract.
   6. Easements: location, widths, purpose of all easements (existing and proposed) on or serving the tract.
   7. Utilities: location of storm drainage, sanitary sewers and water lines (existing and proposed) on and abutting the tract. If utilities are not on or abutting the tract, indicate the direction and distance to the nearest locations.
   8. Ground elevations shown by contour lines at two-foot vertical intervals for ground slopes of less than 10 percent and at ten-foot vertical intervals for ground slopes exceeding 10 percent. Ground elevation shall be related to an established benchmark or other datum approved by the Director.
   9. Natural features such as marshes, rock outcroppings, watercourses on and abutting the property, location of wooded areas.
   10. Approximate location of areas subject to periodic inundation or storm sewer overflow, location of any floodplain or flood hazard district.
   11. Location, width, and direction of flow of all water courses.
   12. Identification of the top of bank and boundary of mandatory setback for any stream or water course.

13. Identification of any associated wetland and boundary of mandatory setback.
14. Identification of any wetland and boundary of mandatory setback.
15. Location of at least one temporary bench mark within the tract boundaries.
16. Existing uses of the property, including location and present use of all existing structures to remain on the property after platting.
17. Lots and Blocks: approximate dimensions of all lots, minimum lot sizes, and proposed lot and block numbers.
18. Existing zoning and proposed land use.
19. Designation of land intended to be dedicated or reserved for public use, with the purpose, conditions, or limitations of such reservations clearly indicated.
20. Proposed development phases, if applicable.
21. Any other information determined necessary by the Director at the preapplication conference, such as a soil report or other engineering study, traffic analysis, floodplain or wetland delineation, etc.

E. Approval Criteria. The Director or Planning Commission shall review the tentative plat for the subdivision based on the classification procedure (Type II or III) set forth in Section 17.12 and the following approval criteria:
1. The proposed subdivision is consistent with the density, setback and dimensional standards of the base zoning district, unless modified by a Planned Development approval.
2. The proposed subdivision is consistent with the design standards set forth in this chapter.
3. The proposed street pattern is connected and consistent with the Comprehensive Plan or official street plan for the City of Sandy.
4. Adequate public facilities are available or can be provided to serve the proposed subdivision.
5. All proposed improvements meet City standards.
6. The phasing plan, if requested, can be carried out in a manner that meets the objectives of the above criteria and provides necessary public improvements for each phase as it develops.

F. Conditions. The Director or Planning Commission may require dedication of land and easements and may specify such conditions or modifications of the tentative plat as deemed necessary.

G. Improvements. A detailed list of required improvements for the subdivisions shall be set forth in the approval and conditions for the tentative plat.

H. Tentative Plat Expiration Date. The final plat shall be delivered to the Director for approval within one year following approval of the tentative plat, and shall incorporate any modification or condition required by approval of the tentative plat. The Director may, upon written request of the subdivider, grant an extension of the tentative plat approval for up to one additional year.

I. Submission of Final Plat. The applicant shall survey the subdivision and prepare a final plat in conformance with the tentative plat approval and the requirements of ORS Chapter 92.

J. Information on Plat. In addition to information required for the tentative plat or otherwise specified by state law, the following information shall be shown on the final plat for the

subdivision:

1. Tract boundary lines, right-of-way lines of streets and property line with dimensions, bearings or deflection angles and radii, arcs, points of curvature and tangent bearings. All bearings and angles shall be shown to the nearest one-second and all dimensions to the nearest 0.01 foot. If circular curves are proposed in the plat, the following data must be shown in table form: curve radius, central angles, arc length, and bearing of long chord. All information shown on the face of the plat shall be mathematically perfect.
2. Easements denoted by fine dotted lines, clearly identified and, if already of record, their recorded references. If an easement is not definitely located of record, a statement of the easement shall be given. The width of the easement, its length and bearing, and sufficient ties to locate the easement with respect to the subdivision shall be shown. If the easement is being dedicated by the plat, it shall be properly referenced in the owner's certificates of dedication.
3. Any building setback lines if more restrictive than the city zoning ordinance.
4. Location and purpose for which sites, other than residential lots, are dedicated or reserved.
5. Easements and any other areas for public use dedicated without any reservation or restriction.
6. A copy of any deed restrictions written on the face of the plat or prepared to record with the plat with reference on the face of the plat.
7. The following certificates that may be combined where appropriate:
   a) A certificate signed and acknowledged by all parties having any recorded title interest in the land, consenting to the preparation and recording of the plat.
   b) A certificate signed and acknowledged as above, dedicating all land intended for public use except land which is intended for the exclusive use of the lot owners in the subdivision, their licensees, visitors, tenants and servants.
   c) A certificate with the seal of and signed by the engineer or the surveyor responsible for the survey and final plat.
   d) Other certificates now or hereafter required by law.
8. Supplemental Information with Plat. The following data shall accompany the final plat:
   a) A preliminary title report issued by a title insurance company in the name of the owner of the land, showing all parties whose consent is necessary and their interest in the tract.
   b) Sheets and drawings showing the following:
      1) Traverse data including the coordinates of the boundary of the subdivision and ties to section corners and donation land claim corners, and showing the error of closure, if any.
      2) The computation of distances, angles and courses shown on the plat.
      3) Ties to existing monuments, proposed monuments, adjacent subdivisions, street corners and state highway stationing.
   c) A copy of any deed restrictions applicable to the subdivision.
   d) A copy of any dedication requiring separate documents.
   e) A list of all taxes and assessments on the tract which have become a lien on the tract.
   f) A certificate by the engineer that the subdivider has complied with the improvement requirements.
9. Certification by the city engineer or by the owner of a privately owned domestic water supply system, that water will be available to the property line of each and every lot depicted in the final plat.

K. Technical Plat Review. Upon receipt by the city, the plat and supplemental information shall be reviewed by the city engineer and Director through a Type I procedure. The review shall focus on conformance of the final plat with the approved tentative plat, conditions of approval and provisions of city, county or state law applicable to subdivisions.

1. The city engineer may make field checks as needed to verify that the final plat is sufficiently correct on the ground, and city representatives may enter the subdivision property for this purpose.
2. If the city engineer or Director determines that full conformance has not been made, he shall advise the subdivider of the changes or additions that must be made and shall afford the subdivider an opportunity to make the changes or additions.
3. All costs associated with the technical plat review and recording shall be the responsibility of the applicant.

L. Approval of Final Plat. The signatures of the Director and the city engineer shall indicate approval of the final plat. After the plat has been approved by all city and county officials, two prints of all data (plat face, dedications, certificates, approvals and one copy of recorded restrictive and protective covenants) shall be returned to the city engineer within 20 working days of recording.

M. Recording of Final Plat. Approval of the plat by the city shall be conditioned on its prompt recording. The subdivider shall, without delay, submit the plat to the county assessor and the county governing body for signatures as required by ORS 92.100. The plat shall be prepared as provided by ORS 92.080. Approval of the final plat shall be null and void if the plat is not submitted for recording within thirty days after the date the last required approving signature has been obtained.

17.100.70 LAND DIVISION DESIGN STANDARDS

All land divisions shall be in conformance with the requirements of the applicable base zoning district and this chapter, as well as with other applicable provisions of this Code. Modifications to these requirements may be accomplished through a Planned Development. The design standards in this section shall be used in conjunction with street design standards included in the City of Sandy Transportation System Plan and standards and construction specifications for public improvements as set forth in adopted Public Facilities Plans and the Sandy Municipal Code.

17.100.80 CHARACTER OF THE LAND

Land which the Director or the Planning Commission finds to be unsuitable for development due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations or topography, utility easements, or other features which will reasonably be harmful to the safety, health, and general welfare of the present or future inhabitants of the partition or subdivision and the surrounding areas, shall not be developed unless adequate methods are formulated by the subdivider and approved by the Director or the Planning Commission to solve the problems created by the unsuitable land conditions.

17.100.90 ACCESS CONTROL GUIDELINES AND COORDINATION

A. Notice and coordination with ODOT required. The city will coordinate and notify ODOT

regarding all proposals for new or modified public and private accesses on to Highways 26 and 211.

B. It is the city policy to, over time, reduce noncompliance with the Oregon Highway Plan Access Management Policy guidelines.

C. Reduction of compliance with the cited State standards means that all reasonable alternatives to reduce the number of accesses and avoid new non-complying accesses will be explored during the development review. The methods to be explored include, but are not limited to: closure, relocation, and consolidation of access; right-in/right-out driveways; crossover easements; and use of local streets, alleys, and frontage roads.

17.100.100 STREETS GENERALLY

No subdivision or partition shall be approved unless the development has frontage or approved access to an existing public street. In addition, all streets shall be graded and improved in conformance with the City's construction standards, approved by the City Engineer, in accordance with the construction plans.

A. Street Connectivity Principle. The pattern of streets established through land divisions should be connected to: (a) provide safe and convenient options for cars, bikes and pedestrians; (b) create a logical, recognizable pattern of circulation; and (c) spread traffic over many streets so that key streets (particularly U.S. 26) are not overburdened.

B. Transportation Impact Studies. Transportation impact studies may be required by the city engineer to assist the city to evaluate the impact of development proposals, determine reasonable and prudent transportation facility improvements and justify modifications to the design standards. Such studies will be prepared in accordance with the following:
   1. A proposal established with the scope of the transportation impact study shall be coordinated with, and agreed to, by the city engineer. The study requirements shall reflect the magnitude of the project in accordance with accepted transportation planning and engineering practices. A professional civil or traffic engineer registered in the State of Oregon shall prepare such studies.
   2. If the study identifies level-of-service conditions less than the minimum standards established in the Sandy Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered as part of the land use decision for the proposal.

C. Topography and Arrangement. All streets shall be properly related to special traffic generators such as industries, business districts, schools, and shopping centers and to the pattern of existing and proposed land uses.

D. Street Spacing. Street layout shall generally use a rectangular grid pattern with modifications as appropriate to adapt to topography or natural conditions.

E. Future Street Plan. Future street plans are conceptual plans, street extensions and connections on acreage adjacent to land divisions. They assure access for future development and promote a logical, connected pattern of streets. It is in the interest of the city to promote a logical, connected pattern of streets. All applications for land divisions shall provide a future street plan that shows the pattern of existing and proposed future streets within the

boundaries of the proposed land divisions, proposed connections to abutting properties, and extension of streets to adjacent parcels within a 400 foot radius of the study area where development may practically occur.

F. Connections. Except as permitted under Exemptions, all streets, alleys and pedestrian walkways shall connect to other streets within the development and to existing and planned streets outside the development and to undeveloped properties which have no future street plan. Streets shall terminate at other streets or at parks, schools or other public land within a neighborhood.

Where practicable, local roads shall align and connect with other roads when crossing collectors and arterials.

Proposed streets or street extensions shall be located to provide direct access to existing or planned transit stops, and existing or planned neighborhood activity centers, such as schools, shopping areas and parks.

G. Exemptions.
1. A future street plan is not required for partitions of residentially zoned land when none of the parcels may be redivided under existing minimum density standards.
2. Standards for street connections do not apply to freeways and other highways with full access control.
3. When street connection standards are inconsistent with an adopted street spacing standard for arterials or collectors, a right turn in/right turn out only design including median control may be approved. Where compliance with the standards would result in unacceptable sight distances, an accessway may be approved in place of a street connection.

COMMENT: The project meets these guidelines.

17.100.110 STREET STANDARDS AND CLASSIFICATION

Street standards are illustrated in the figures included at the end of this chapter. Functional definitions of each street type are described in the Transportation System Plan as summarized below.

A. Major arterials are designed to carry high volumes of through traffic, mixed with some unavoidable local traffic, through or around the city. Major arterials should generally be spaced at 1-mile intervals.

B. Minor arterials are designed to collect and distribute traffic from major and minor arterials to neighborhood collectors and local streets, or directly to traffic destinations. Minor arterials should generally be spaced at 1-mile intervals.

C. Residential minor arterials are a hybrid between minor arterial and collector type streets that allow for moderate to high traffic volumes on streets where over 90% of the fronting lots are residential.

D. Collector streets are designed to collect and distribute traffic from higher type arterial streets

to local streets or directly to traffic destinations. Collector streets should generally be spaced at 1/2-mile intervals.

E. Local streets are designed to provide direct access to abutting property and connect to collector streets. A general spacing of 8-10 local streets per mile is recommended.

F. Cul-de-sacs and dead end streets are discouraged. If deemed necessary, cul-de-sacs shall be as short as possible and shall not exceed 400 feet in length.

G. Public access lanes are designed to provide primary access to a limited number of dwellings when the construction of a local street is unnecessary.

H. Alleys are designed to provide access to multiple dwellings in areas where lot frontages are narrow and driveway spacing requirements cannot be met.

17.100.120 BLOCKS AND ACCESSWAYS

A. Blocks. Blocks shall have sufficient width to provide for two tiers of lots at appropriate depths. However, exceptions to the block width shall be allowed for blocks that are adjacent to arterial streets or natural features.

B. Residential Blocks. Blocks fronting local streets shall not exceed 400 feet in length, unless topographic, natural resource, or other similar physical conditions justify longer blocks. Blocks may exceed 400 feet if approved as part of a Planned Development, Specific Area Plan, adjustment or variance.

C. Commercial Blocks. Blocks located in commercial districts shall not exceed 400 feet in length.

D. Pedestrian and Bicycle Access Way Requirements. In any block in a residential or commercial district over 600 feet in length, a pedestrian and bicycle accessway with a minimum improved surface of 10 feet within a 15-foot right-of-way or tract shall be provided through the middle of the block. To enhance public convenience and mobility, such accessways may be required to connect to cul-de-sacs, or between streets and other public or semipublic lands or through greenway systems.

17.100.130 EASEMENTS

A minimum eight (8) foot public utility easement shall be required along property lines abutting a right-of-way for all lots within a partition or subdivision. Where a partition or subdivision is traversed by a watercourse, drainage way, channel or stream, the land division shall provide a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse, and such further width as determined needed for water quality and quantity protection.

17.100.140 PUBLIC ALLEYS

A. Public alleys shall have a minimum width of 20 feet. Structural section and surfacing shall conform to standards set by the City Engineer.

B. Existing alleys may remain unimproved until redevelopment occurs. When development

occurs, each abutting lot shall be responsible for completion of improvements to that portion of the alley abutting the property.

C. Parking within the alley right-of-way is prohibited except as provided in Section 17.100.140(D) below.

D. An alley with a minimum width of 28 feet may permit parallel parking on one side of the alley only.

17.100.150 RESIDENTIAL SHARED PRIVATE DRIVES

A shared private drive is intended to provide access to a maximum of two (2) dwelling units.

A. Criteria for Approval
Shared private drives may be approved by the Director when one or more of the following conditions exist:
1. Direct access to a local street is not possible due to physical aspects of the site including size, shape, or natural features.
2. The construction of a local street is determined to be unnecessary.

B. Design
1. A shared private drive constructed to city standards shall not serve more than two (2) dwelling units.
2. A shared access easement and maintenance agreement shall be established between the two units served by a shared private drive. The language of the easement and maintenance agreement shall be subject to approval by the Director.
3. Public utility easements shall be provided where necessary in accordance with Section 17.100.130.
4. Shared private drives shall be fully improved with an all weather surface (e.g. concrete, asphalt, permeable pavers) in conformance with city standards. The pavement width shall be 20 feet.
5. Parking shall not be permitted along shared private drives at any time and shall be signed and identified accordingly.

17.100.160 PUBLIC ACCESS LANES

Public access lanes are designed to provide primary access to a limited number of dwellings where the construction of a local street is not necessary. Public access lanes are intended to serve a maximum of six (6) dwelling units.

A. Criteria for Approval
Public access lanes may be approved by the Director when certain conditions exist which make the construction of a standard local street unnecessary. Approval of public access lanes shall be based on one or more of the following:
1. Physical conditions such as natural features, unusual lot size, shape, or other unique features prevent the construction of a local street.
2. It is determined that construction of a local street is not necessary to facilitate orderly development of a future street system.
3. It is determined that there are no logical extensions of an existing local street to serve the

site.

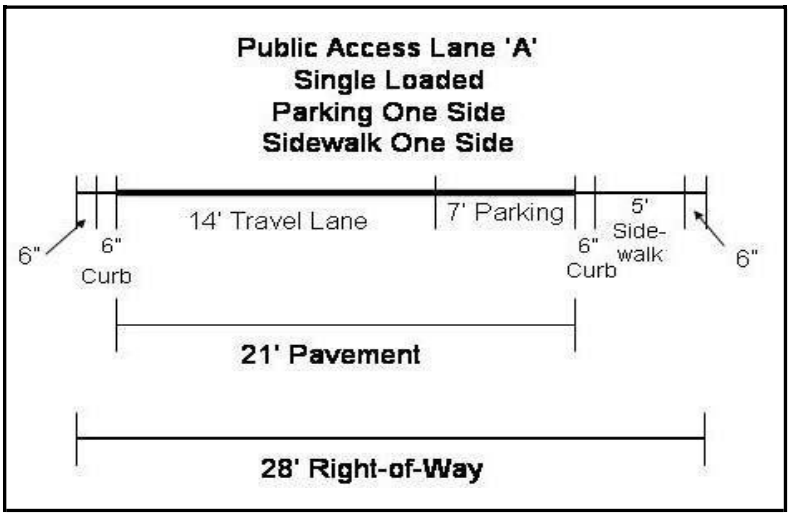
B. General Provisions

1. A public access lane may serve a maximum of six (6) dwelling units.
2. Public access lanes are subject to spacing requirements of Section 17.100.120.
3. Public utility easements shall be provided where necessary in accordance with Section 17.100.130.
4. If a public access lane is designed as a dead end, a turnaround shall be provided at the point where the lane terminates. The design of the turnaround shall be subject to approval by the Director and the Fire Department.
5. Parking shall be prohibited in public access lane turnarounds.

C. Public Access Lane Design

1. Public Access Lane 'A' (Figure 17.100 - A)
   a) Public access lane 'A' is designed to be single loaded and provide access to lots located on one side of the lane only.
   b) Public access lanes shall be constructed to city standards and must meet the required dimensions as specified in this section.
   c) Curbside sidewalks on the side of the lane which abuts lot frontage are along public access lanes to achieve specified dimensions.
   d) Planter strips are not required along public access lanes due to the minimal lots served. Lots abutting a public access lane are required to have street trees planted in accordance with Section 17.100.290.
   e) Parking is permitted on one side of a public access lane 'A' as shown in Figure 17.100 - A. Parking shall be permitted on the side of the lane which abuts lot frontages only. Signage shall be displayed to indicate the parking regulations along the lane and in the turnaround.

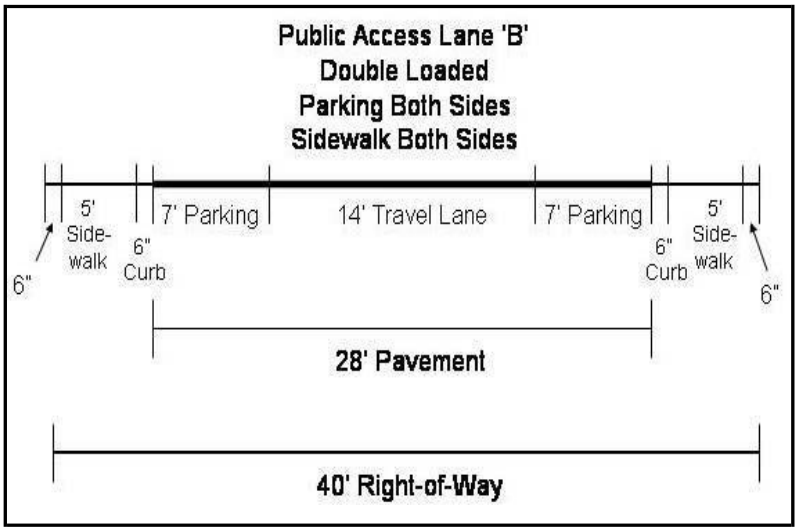
Figure 17.100 – A: Public Access Lane 'A'



2. Public Access Lane Option 'B' (Figure 17.100 - B).
   a) Public access lane 'B' is designed to be double loaded and provide access to lots located on both sides of the lane.

b) Public access lanes shall be constructed to city standards and must meet the required dimensions as specified in this section.
c) Curbside sidewalks are required along both sides of the access lane to achieve specified dimensions.
d) Planter strips are not required along public access lanes due to the minimal lots served. Lots abutting a public access lane are required to have street trees planted in accordance with Section 17.100.290.
e) Parking is permitted on both sides of a public access lane 'B' as shown in Figure 17.100 - B. Signage shall be displayed to indicate the parking regulations along the lane and in the turnaround.

Figure 17.100 – B: Public Access Lane 'B'



17.100.170 FLAG LOTS

Flag lots can be created where it can be shown that no other street access is possible to achieve the requested land division. The flag lot shall have a minimum street frontage of 15 feet for its accessway. The following dimensional requirements shall apply to flag lots:

A. Setbacks applicable to the underlying zoning district shall apply to the flag lot.

B. The access strip (pole) may not be counted toward the lot size requirements.

C. The accessway shall have a minimum paved width of 10 feet.

17.100.180 INTERSECTIONS

A. Intersections. Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two new streets at an angle of less than 75 degrees shall not be acceptable. No more than two streets shall intersect at any one point unless specifically approved by the City Engineer. The city engineer may require left turn lanes, signals, special

crosswalks, curb extensions and other intersection design elements justified by a traffic study or necessary to comply with the Development Code.

B. Curve Radius. All local and neighborhood collector streets shall have a minimum curve radius (at intersections of rights-of-way) of 20 feet, unless otherwise approved by the City Engineer. When a local or neighborhood collector enters on to a collector or arterial street, the curve radius shall be a minimum of 30 feet, unless otherwise approved by the City Engineer.

17.100.190 STREET SIGNS

The subdivider shall pay the cost of street signs prior to the issuance of a Certificate of Substantial Completion. The City shall install all street signs and upon completion will bill the developer for costs associated with installation. In addition, the subdivider may be required to pay for any traffic safety devices related to the development. The City Engineer shall specify the type and location of the street signs and/or traffic safety devices.

17.100.200 STREET SURFACING

Public streets, including alleys, within the development shall be improved in accordance with the requirements of the City or the standards of the Oregon State Highway Department. An overlay of asphalt concrete, or material approved by the City Engineer, shall be placed on all streets within the development. Where required, speed humps shall be constructed in conformance with the City's standards and specifications.

17.100.210 STREET LIGHTING

A complete lighting system (including, but not limited to: conduits, wiring, bases, poles, arms, and fixtures) shall be the financial responsibility of the subdivider on all cul-de-sacs, local streets, and neighborhood collector streets. The subdivider will be responsible for providing the arterial street lighting system in those cases where the subdivider is required to improve an arterial street. Standards and specifications for street lighting shall be coordinated with the utility and any lighting district, as appropriate.

17.100.220 LOT DESIGN

A. The lot arrangement shall be such that there will be no foreseeable difficulties, for reason of topography or other conditions, in securing building permits to build on all lots in compliance with the Development Code.

B. The lot dimensions shall comply with the minimum standards of the Development Code. When lots are more than double the minimum lot size required for the zoning district, the subdivider may be required to arrange such lots to allow further subdivision and the opening of future streets to serve such potential lots.

C. The lot or parcel width at the front building line shall meet the requirements of the Development Code and shall abut a public street other than an alley for a width of at least 20 feet. A street frontage of not less than 15 feet is acceptable in the case of a flag lot division resulting from the division of an unusually deep land parcel which is of a size to warrant

division into not more than two parcels.

D. Double frontage lots shall be avoided except where necessary to provide separation of residential developments from arterial streets or to overcome specific disadvantages of topography or orientation.

E. Lots shall avoid deriving access from major or minor arterials. When driveway access from major or minor arterials may be necessary for several adjoining lots, the Director or the Planning Commission may require that such lots be served by a common access drive in order to limit possible traffic hazards on such streets. Where possible, driveways should be designed and arranged to avoid requiring vehicles to back into traffic on minor or major arterials.

17.100.230 WATER FACILITIES

Water lines and fire hydrants serving the subdivision or partition, and connecting the development to City mains, shall be installed to provide adequate water pressure to serve present and future consumer demand. The materials, sizes, and locations of water mains, valves, service laterals, meter boxes and other required appurtenances shall be in accordance with the standards of the Fire District, the City, and the State.

If the city requires the subdivider to install water lines in excess of eight inches, the city may participate in the oversizing costs. Any oversizing agreements shall be approved by the city manager based upon council policy and dependent on budget constraints. If required water mains will directly serve property outside the subdivision, the city may enter into an agreement with the subdivider setting forth methods for reimbursement for the proportionate share of the cost.

17.100.240 SANITARY SEWERS

Sanitary sewers shall be installed to serve the subdivision and to connect the subdivision to existing mains. Design of sanitary sewers shall take into account the capacity and grade to allow for desirable extension beyond the subdivision.

If required sewer facilities will directly serve property outside the subdivision, the city may enter into an agreement with the subdivider setting forth methods for reimbursement by nonparticipating landowners for the proportionate share of the cost of construction.

17.100.250 SURFACE DRAINAGE AND STORM SEWER SYSTEM

A. Drainage facilities shall be provided within the subdivision and to connect with off-site drainage ways or storm sewers. Capacity, grade and materials shall be by a design approved by the city engineer. Design of drainage within the subdivision shall take into account the location, capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas.

B. In addition to normal drainage design and construction, provisions shall be taken to handle any drainage from preexisting subsurface drain tile. It shall be the design engineer's duty to investigate the location of drain tile and its relation to public improvements and building construction.

C. The roof and site drainage from each lot shall be discharged to either curb face outlets (if minor quantity), to a public storm drain or to a natural acceptable drainage way if adjacent to the lot.

17.100.260 UNDERGROUND UTILITIES

All subdivisions or major partitions shall be required to install underground utilities (including, but not limited to, electrical and telephone wiring). The utilities shall be installed pursuant to the requirements of the utility company.

17.100.270 SIDEWALKS

Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision.

COMMENT: Sidewalks are provided as part of this partition.

17.100.280 BICYCLE ROUTES

If appropriate to the extension of a system of bicycle routes, existing or planned, the Director or the Planning Commission may require the installation of bicycle lanes within streets. Separate bicycle access ways may be required to reduce walking or cycling distance when no feasible street connection is available.

17.100.290 STREET TREES

Where planting strips are provided in the public right-of-way, a master street tree plan shall be submitted and approved by the Director. The street tree plan shall provide street trees approximately every 30' on center for all lots.

COMMENT: Street trees will be provided as part of this partition.

17.100.300 EROSION CONTROL

Grass seed planting shall take place prior to September 30th on all lots upon which a dwelling has not been started but the ground cover has been disturbed. The seeds shall be of an annual rye grass variety and shall be sown at not less than four pounds to each 1000 square feet of land area.

17.100.310 REQUIRED IMPROVEMENTS

The following improvements shall be installed at no expense to the city, consistent with the design standards of Chapter 17.84, except as otherwise provided in relation to oversizing.

A. Drainage facilities
B. Lot, street and perimeter monumentation
C. Mailbox delivery units
D. Sanitary sewers
E. Sidewalks
F. Street lights
G. Street name signs

H. Street trees
I. Streets
J. Traffic signs
K. Underground communication lines, including broadband (fiber), telephone, and cable. Franchise agreements will dictate whether telephone and cable lines are required.
L. Underground power lines
M. Water distribution lines and fire hydrants

17.100.320 IMPROVEMENT PROCEDURES

Improvements installed by a land divider either as a requirement of these regulations or at his own option shall conform to the design standards of Chapter 17.84 and improvement standards and specifications adopted by the city. Improvements shall be installed in accordance with the following general procedure:

A. Improvement work shall not start until plans have been checked for adequacy and approved by the city engineer. To the extent necessary for evaluation of the proposal, improvement plans may be required before approval of the tentative plan of a partition or subdivision.

B. Improvement work shall not start until after the city is notified. If work is discontinued for any reason it shall not resume until the city is notified.

C. Improvements shall be constructed under the inspection and to the satisfaction of the city engineer.

D. All improvements installed by the subdivider shall be guaranteed as to workmanship and material for a period of one year following acceptance by the City Engineer. Such guarantee shall be secured by cash deposit in the amount of the value of the improvements as set by the City Engineer.

E. A map showing public improvements as built shall be filed with the city engineer upon completion of the improvements.

17.100.330 OPTIONS FOR IMPROVEMENTS

Before the signature of the City Engineer is obtained on the final partition or subdivision plat, the applicant shall install the required improvements, agree to install required improvements, or have gained approval to form an improvement district for installation of the improvements required with the tentative plat approval. These procedures are more fully described as follows:

A. Install Improvements. The applicant may install the required improvements for the subdivision prior to recording the final subdivision plat. If this procedure is to be used, the subdivision plat shall contain all the required certifications except the County Surveyor and the Board of County Commissioners. The City shall keep the subdivision plat until the improvements have been completed and approved by the City Engineer. Upon City Engineer's approval, the City shall forward the final subdivision plat for certification by the Board of County Commissioners and then to the County Clerk for recording; or

B. Agree to Install Improvement. The applicant may execute and file with the City an agreement

specifying the period within which required improvements shall be completed. The agreement shall state that if the work is not completed within the period specified, the City may complete the work and recover the full cost and expense from the applicant. A performance guarantee shall be required. The agreement may provide for the construction of the improvements in increments and for an extension of time under specified conditions; or

C. Form Improvement District. The applicant may have all or part of the public improvements constructed under an improvement district procedure. Under this procedure the applicant shall enter into an agreement with the City proposing establishment of the district for improvements to be constructed, setting forth a schedule for installing improvements, and specifying the extent of the plat to be improved. The City reserves the right under the improvement district procedure to limit the extent of improvements in a subdivision during a construction year and may limit the area of the final subdivision plat to the area to be improved. A performance guarantee shall be required under the improvement district procedure. The formation of a LID is entirely within the discretion of the city.

17.100.340 PERFORMANCE GUARANTEE

If the applicant chooses to utilize the opportunities provided under "A" or "B" above, the applicant shall provide a performance guarantee equal to 110% of the cost of the improvements to assure full and faithful performance thereof, in one of the following forms:

A. A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the City Attorney.

B. In lieu of the surety bond, the applicant may:
   1. Deposit with the City cash money to be released only upon authorization of the City Engineer;
   2. Supply certification by a bank or other reputable lending institution that money is being held to cover the cost of required improvements to be released only upon authorization of the City Engineer;
   3. Supply certification by a bank or other reputable lending institution that a line of credit has been established to cover the cost of required improvements, to be utilized only upon authorization of the City Engineer; or
   4. Provide bonds in a form approved by the City Attorney.

C. Such assurance of full and faithful performance shall be for a sum determined by the City Engineer as sufficient to cover the cost of required improvements, including related engineering and incidental expenses.

D. If the applicant fails to carry out provisions of the agreement and the City has expenses resulting from such failure, the City shall call on the performance guarantee for reimbursement. If the amount of the performance guarantee exceeds the expense incurred, the remainder shall be released. If the amount of the performance guarantee is less than the expense incurred, the applicant shall be liable to the City for the difference.

Exhibit S

FROELICH ENGINEERS

Structural and Civil Engineers
with Integrity, Flexibility & Creativity

Stormwater Narrative
Dutch Bros - Sandy

Prepared by: Evan Eykelbosch, PE
Froelich Engineers
17700 SW Upper Boones Ferry Rd, Suite 115
Portland, OR 97224

Project Number: 18-C023

Date: May 28, 2019

The proposed Dutch Bros project is located at 39625 Proctor Blvd in Sandy, Oregon. The project site is approximately 28,000 sf and is an L-shaped property abutting both Proctor and Pleasant. The proposed development will subdivide the southern portion of this lot for this development. The northern portion will remain undeveloped for the time being. The site is currently undeveloped but was previously used as a gas station. The proposed development is bound by a private residence and Pleasant Street to the north, a 7/11 convenience store to the east, Proctor Blvd (Highway 26) to the south, and commercial and residential properties to the west (see 'Vicinity Map').

The site topography generally slopes from south to north and east to west, with the low point of the site in the northwest corner. The site has documented residual contamination from past use as a gas station. Due to this contamination, development requires the oversight of an environmental engineer and stormwater infiltration will be prohibited. The proposed detention system will be wrapped in an impermeable liner to minimize onsite infiltration. It is essential that this liner be designed to hold up to the contaminants found in the soil. The final determination of liner material will be based on the results of the environmental study.

The proposed development will include an 834 sf Dutch Bro's with a drive-through, parking lot and pedestrian patio (see 'Utility Plan'). The site is divided into three drainage basins that collect runoff in catch basins and convey it to a central treatment manhole with filter cartridges (see 'Basin Map'). Runoff is then conveyed to an underground detention system for detention and flow control. Runoff will drain out of the detention facility and tie into a new 12" stormwater main in Pleasant Street. Along the north end of the site, there is a short retaining wall. The drain pipe behind this wall will tie into the onsite stormwater system, downstream of the flow control manhole.

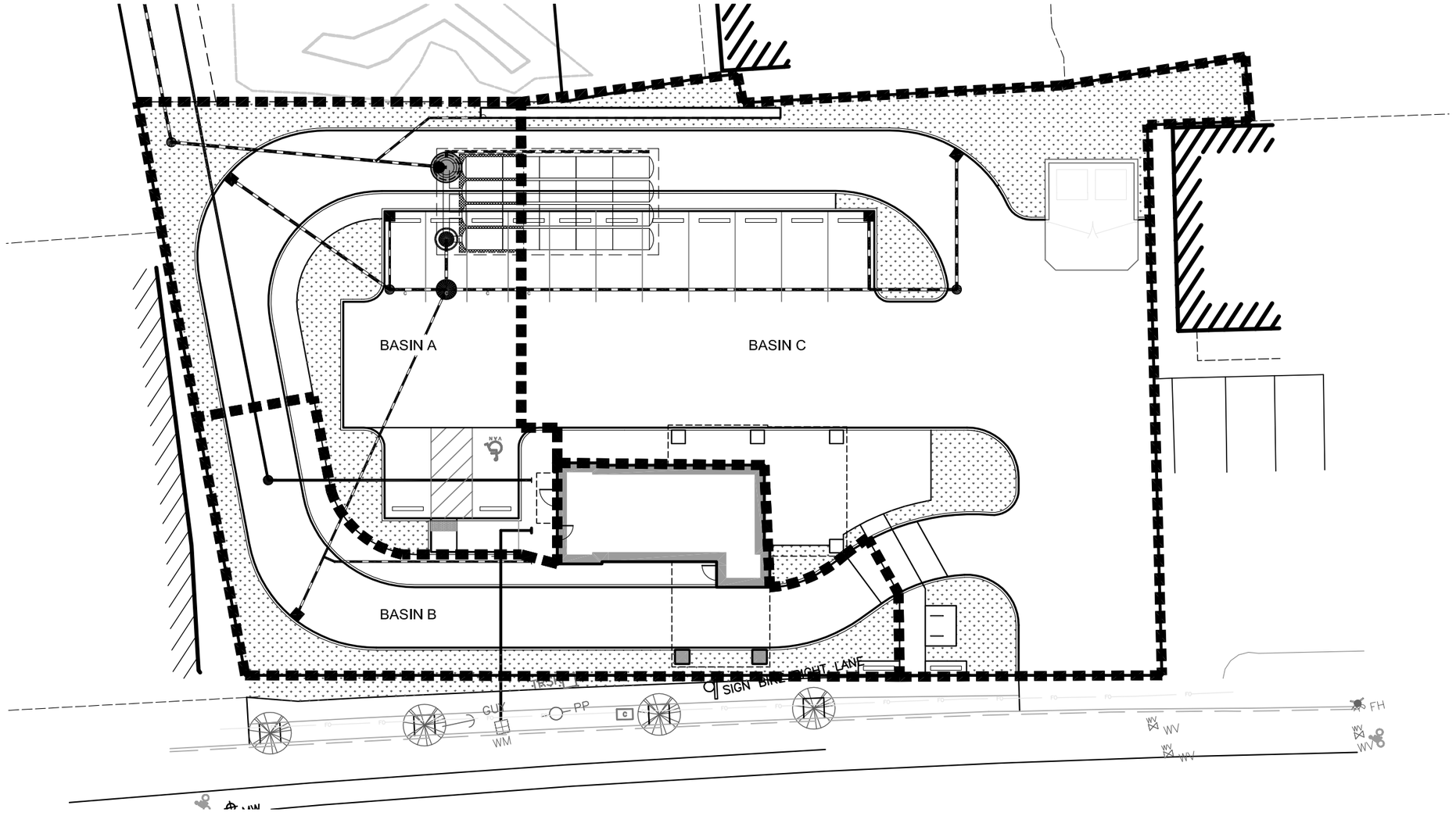
The City of Sandy has adopted the City of Portland Stormwater Management Manual (SWMM) with modified Santa Barbara Urban Hydrograph (SBUH) storm events (see attached 'Assumptions'). The treatment facility and detention systems were designed using the HydroCAD software (see 'HydroCAD Report'). The water quality manhole was designed using the SBUH water quality storm event as defined in the SWMM. The detention system was designed to reduce the post-development peak runoff rate to the predevelopment runoff rate for the 2-year, 5-year, 10-year and 25-year storm events per City of Sandy and SWMM requirements.

Per the conveyance requirements outlined in the SWMM, all pipes were designed to accommodate the 25-year peak flow using the SBUH Method in HydroCAD (see 'Conveyance Calculations').

Based on the requirements of the City of Sandy and the City of Portland Stormwater Management Manual, all facilities and conveyance components have sufficient capacity to manage site runoff and should be approved as designed.

Evan Eykelbosch, PE
Civil Department Manager

VICINITY MAP



FROELICH ENGINEERS INC

BASIN MAP

SCALE:1"=20'

0 20' 40'

MAP

1X17-EXHIBIT File: P:\2018\18-C023 (Dutch Bros - Sandy)\Engineering\PROJECT INFO\CALCULATIONS\Stormwater\18-C023_xBASIN.dwg TAB:MAP

Plotted: 5/23/19 at 4:04pm By: FCE-CIV-2

1 CB-1
N=635,855.18
E=7,750,953.36
RIM=1014.18
IE 4" OUT=1012.66 (NE)

2 WQHM-1
N=635,912.10
E=7,750,995.43
RIM=1013.67
IE 6" IN=1010.32 (E)
IE 6" IN=1010.32 (W)
IE 4" IN=1010.32 (SW)
IE 6" OUT=1008.00 (N)

3 CB-2
N=635,942.41
E=7,750,959.33
RIM=1014.02
IE 6" OUT=1011.52 (SE)

4 COTG-1
N=635,914.44
E=7,750,984.69
IE 6" OUT=1010.54 (E)

5 CB-3
N=635,928.66
E=7,750,987.80
RIM=1014.99
IE 4" OUT=1012.49 (S)

6 CB-4
N=635,917.14
E=7,751,097.85
RIM=1014.10
IE 6" OUT=1011.71 (S)

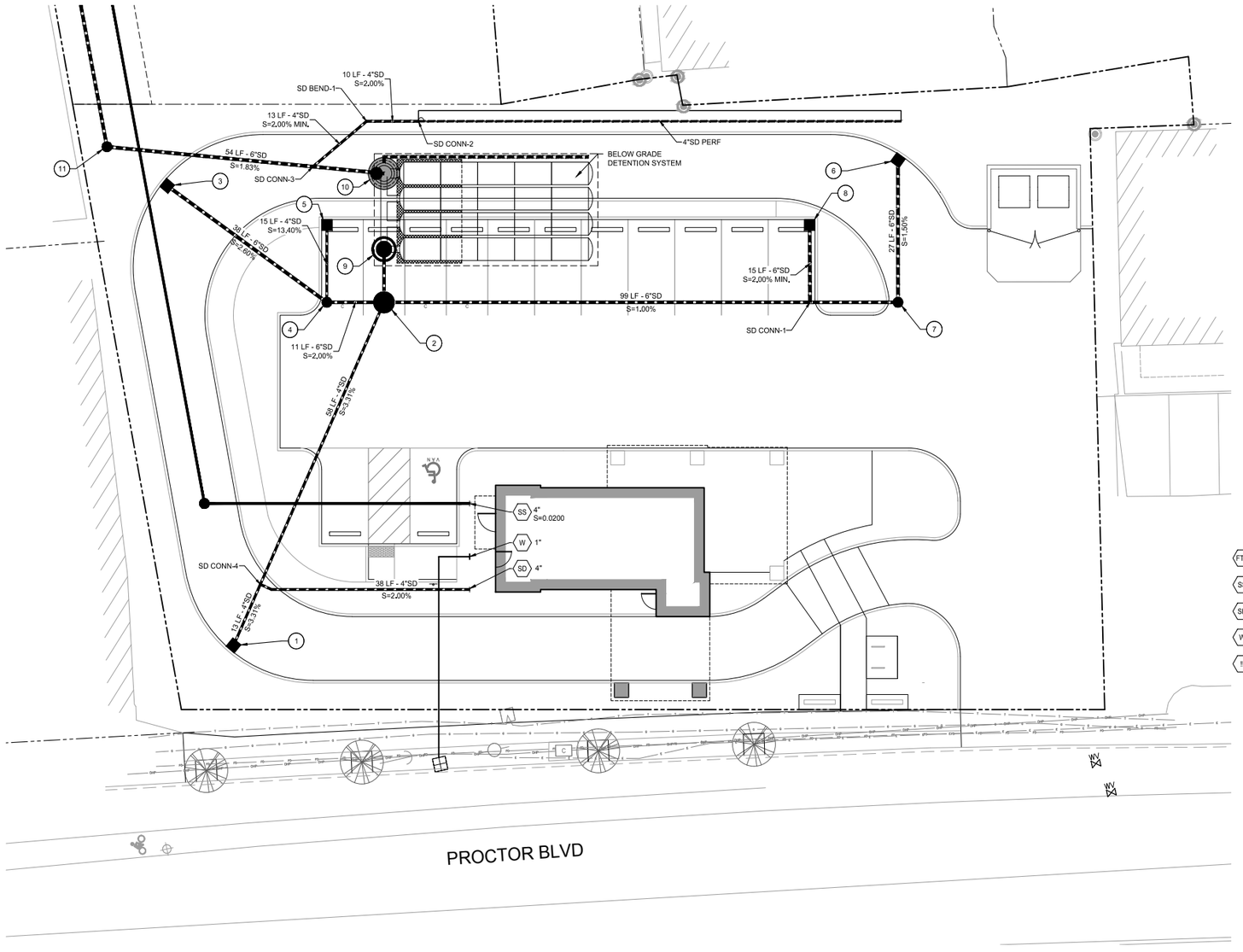
7 COTG-4
N=635,890.99
E=7,751,092.15
IE 6" OUT=1011.31 (W)

8 CB-5
N=635,908.84
E=7,751,078.63
RIM=1014.83
IE 6" OUT=1012.00 (S)

9 FSMH
N=635,921.87
E=7,750,997.56
RIM=1015.36
IE 6" IN=1007.80 (S)
IE 15" OUT=1007.60 (E)

10 FCMH
N=635,935.79
E=7,751,000.60
RIM=1015.08
IE 15" IN=1005.60 (E)
IE 4" IN=1005.10 (N)
IE 6" OUT=1005.00 (W)

11 COTG-6
N=635,952.07
E=7,750,949.54
IE 6" OUT=1004.02 (N)



SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE, SS=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX-XX-XX
X=XX.X RT X.X° — LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X — STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX

S=X.XX%
SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

SHEET LEGEND

FTP — STORMWATER FLOW-THROUGH PLANTER. ID AS SHOWN.
SS — CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
SD — CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.
W — CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
!! — UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O.

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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PORTLAND, OREGON 97223
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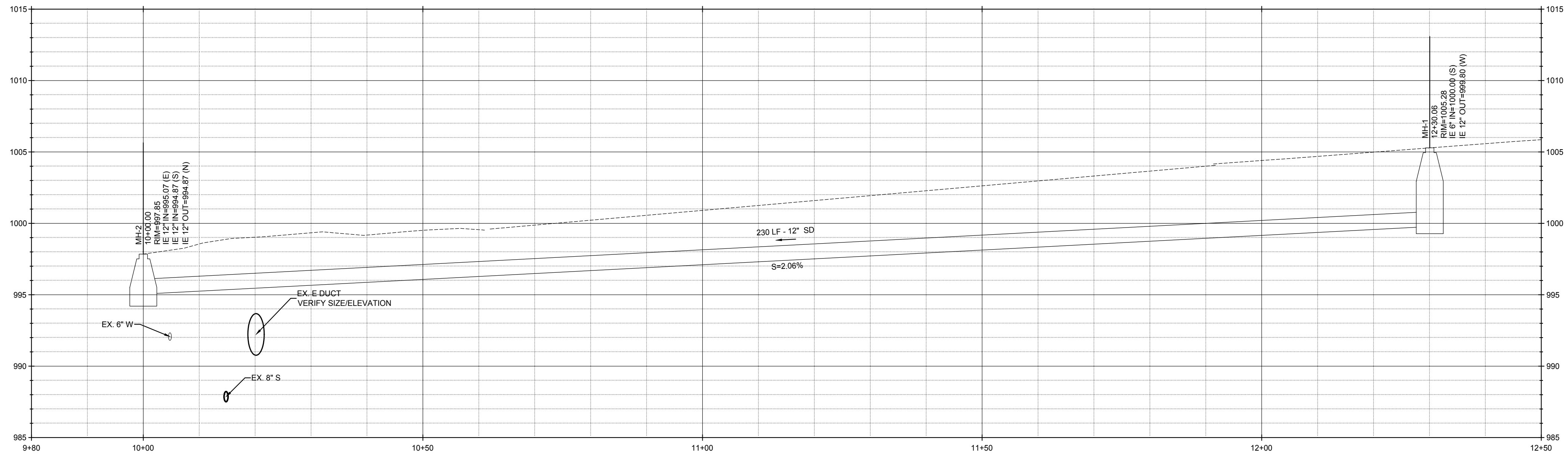
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.425.3410 phone
www.a23studios.com
a.23 studios

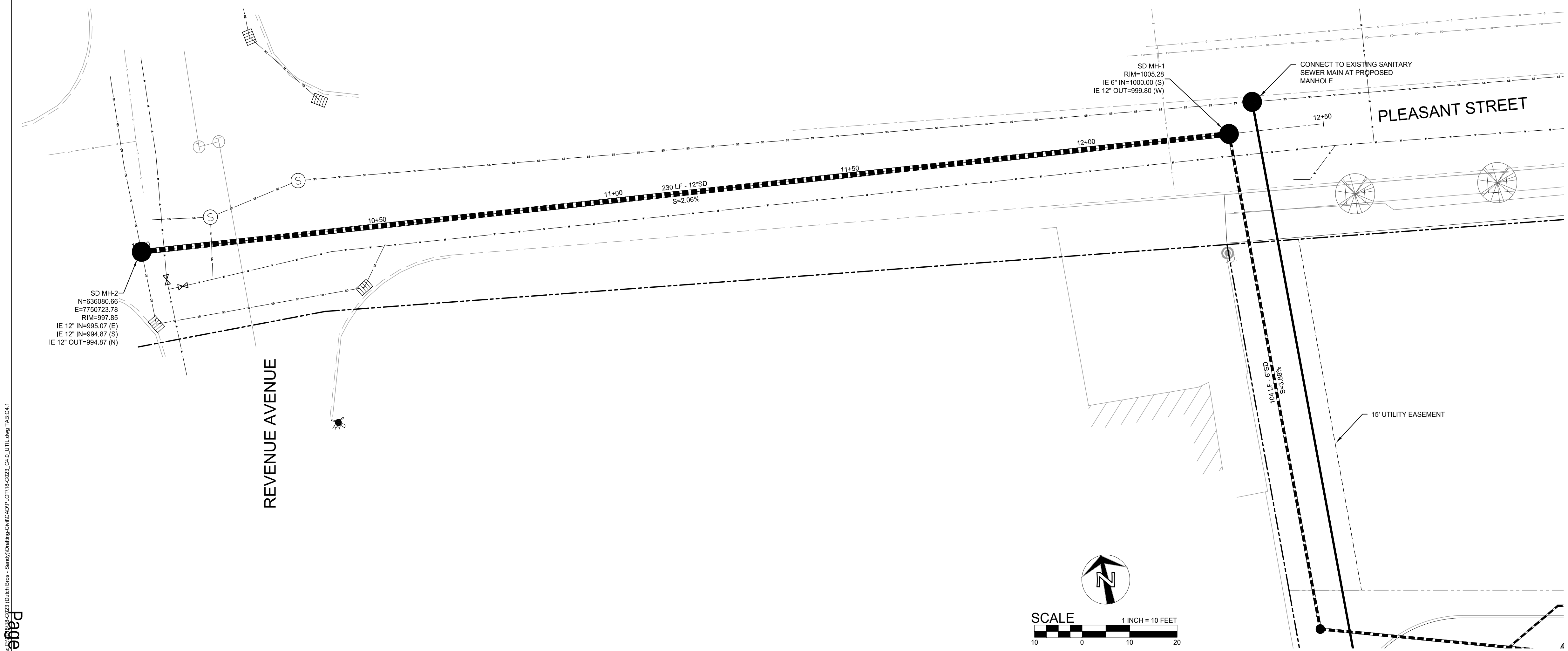
Project 18069
Date 11.28.18
Scale As Noted
Sheet C4.0

UTILITY PLAN - SOUTH



PROFILE - STORMWATER MAIN

SCALE: HORZ: 1" = 10'
VERT: 1" = 2'



Revisions

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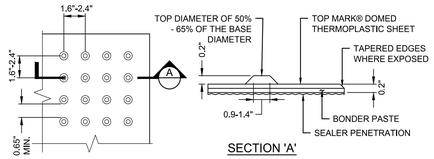
a.23 studios

Project 18069
Date 11.28.18
Scale As Noted
Sheet
C4.1

UTILITY PLAN - NORTH

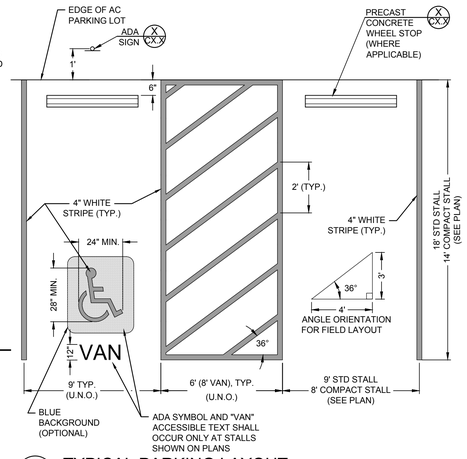
Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1



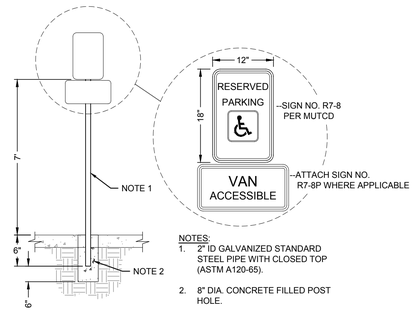
SECTION 'A'

NOTES:
1. THERMOPLASTIC DETECTABLE WARNINGS SHALL BE INSTALLED AS SHOWN IN PLANS AND DETAILS AND TO THE FULL WIDTH OF CURB RAMP OR FLUSH SURFACE. THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE OR OTHER POTENTIAL HAZARD.
2. THERMOPLASTIC DETECTABLE WARNING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. MANUFACTURER OF DETECTABLE WARNING:
   TOPMARK BY FLINT TRADING INC.
   PH: (336) 475-6600
   WWW.FLINTTRADING.COM
   OR APPROVED EQUAL

X DETECTABLE WARNING - TYPE 1
SCALE: NTS

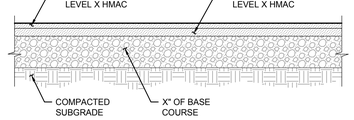


X TYPICAL PARKING LAYOUT
SCALE: NTS

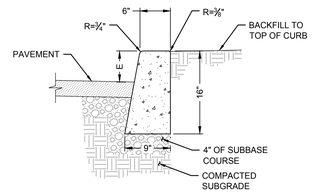


NOTES:
1. 2" ID GALVANIZED STANDARD STEEL PIPE WITH CLOSED TOP (ASTM A120-65).
2. 8" DIA. CONCRETE FILLED POST HOLE.

X ADA PARKING SIGN - TYPE 1
SCALE: NTS

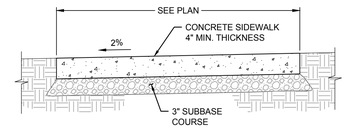


X ASPHALT PAVEMENT SECTION
SCALE: NTS



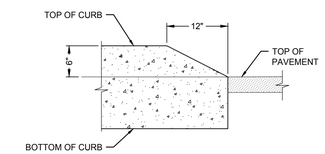
NOTES:
1. CURB EXPOSURE 'E' = 6", TYP. VARY AS SHOWN ON PLANS OR AS DIRECTED.
2. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY.
3. TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% UNLESS OTHERWISE SHOWN OR AS DIRECTED.
4. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM WITH CURB MACHINE AS APPROVED BY THE ENGINEER.

X STANDARD CONCRETE CURB
SCALE: NTS

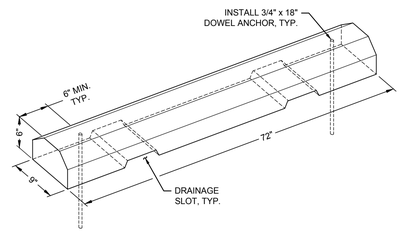


NOTES:
1. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING, AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY. UNLESS NOTED OTHERWISE.

X CONCRETE SIDEWALK
SCALE: NTS

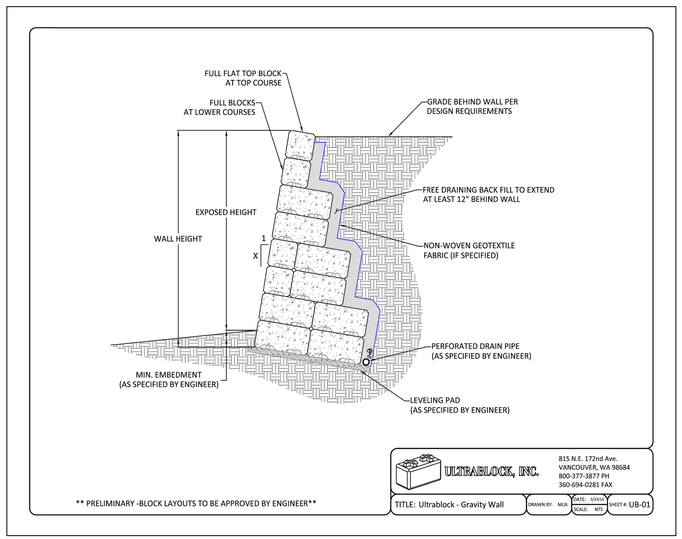


X CONCRETE CURB ENDING
SCALE: NTS



NOTES:
1. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM TO MANUFACTURER'S PRODUCTS APPROVED BY ENGINEER.

X PRECAST CONCRETE WHEEL STOP
SCALE: NTS



Revisions

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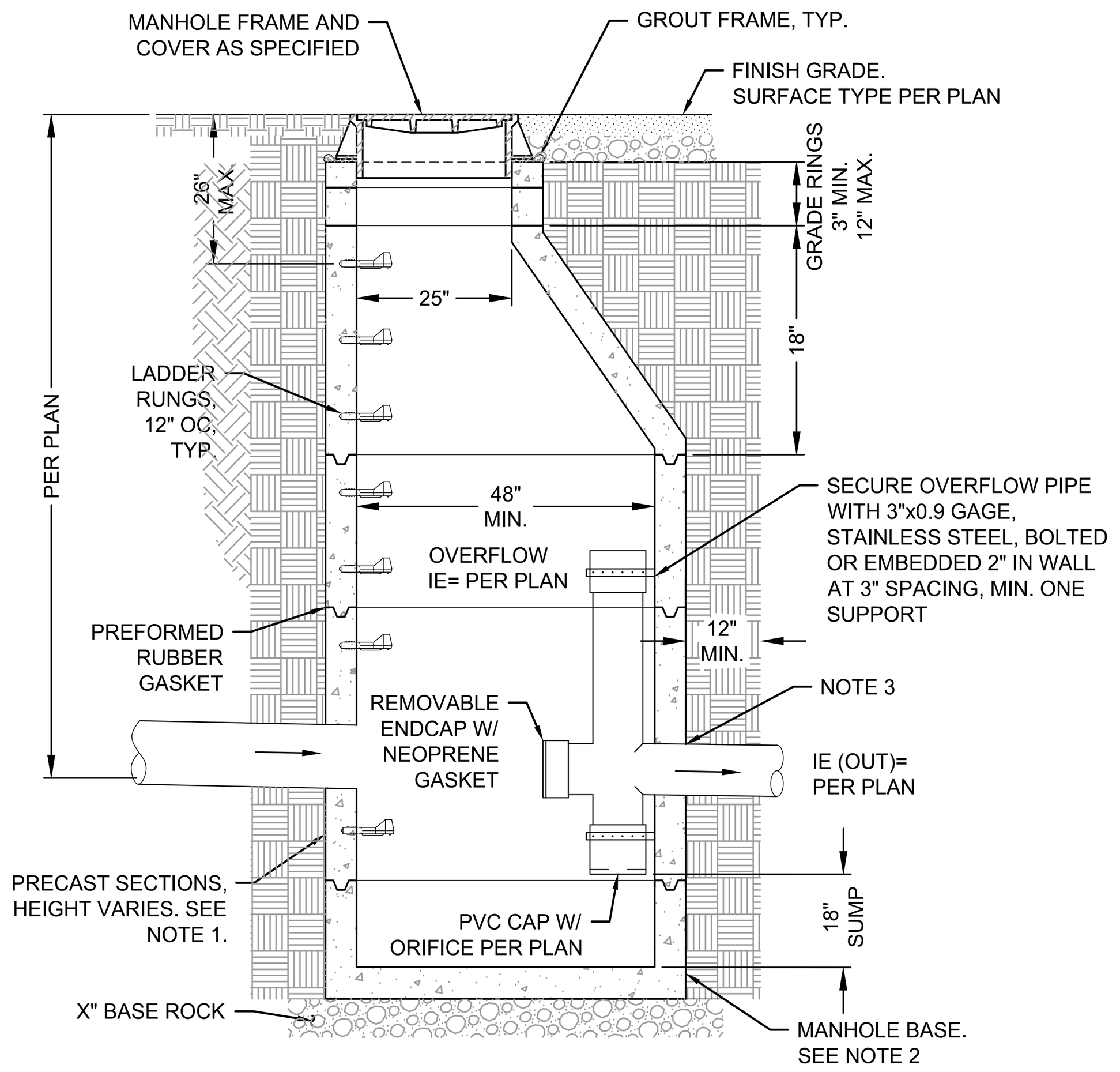
Project 18069
Date 11.28.18
Scale As Noted
Sheet C5.0

DETAILS

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1
File: P:\2018\18-0023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-0023_C5.0_DET1.dwg TAB:C5.0

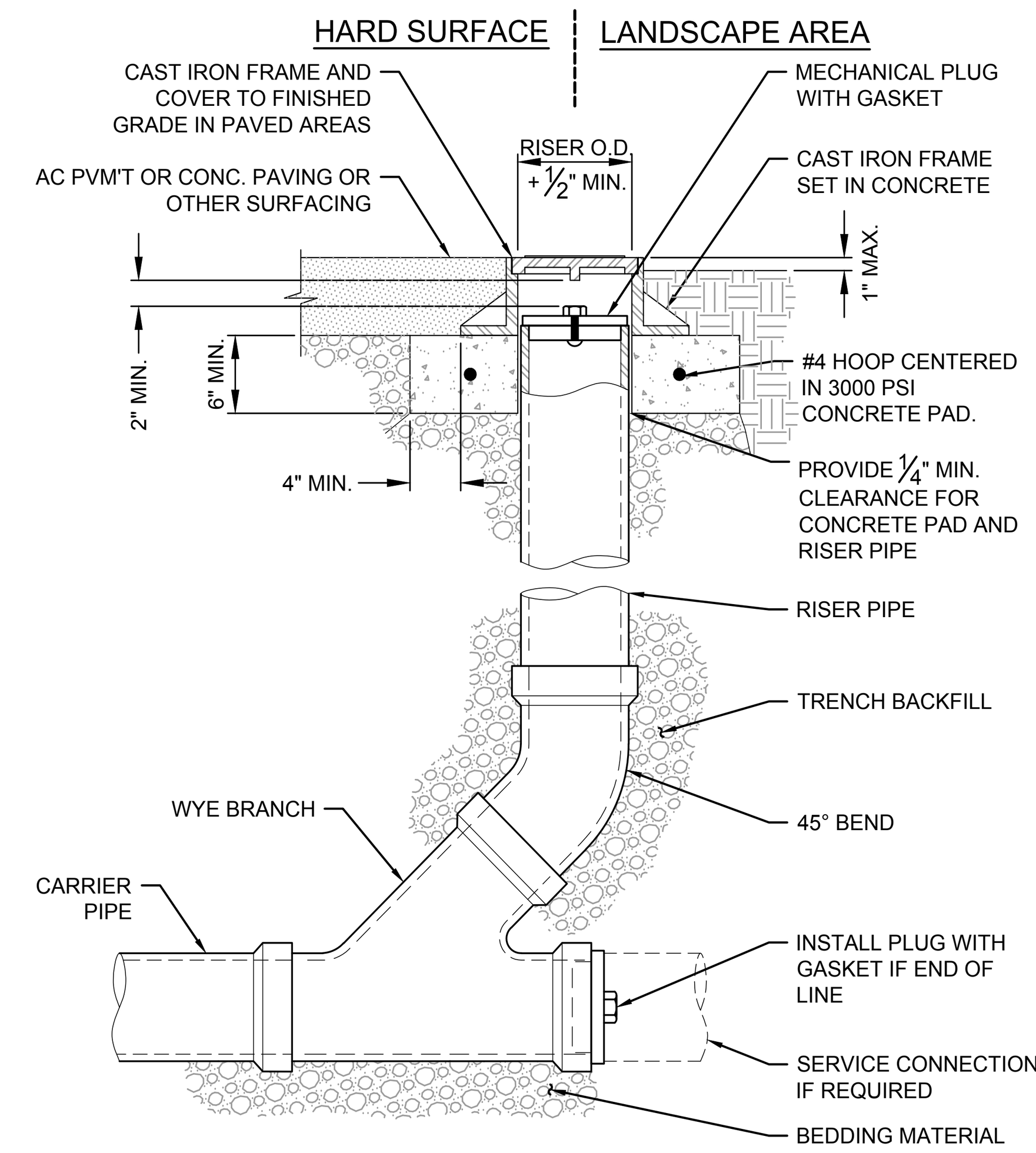


NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT. PIPE SIZES NOTED ON PLANS.

X FLOW CONTROL MANHOLE

SCALE: NTS

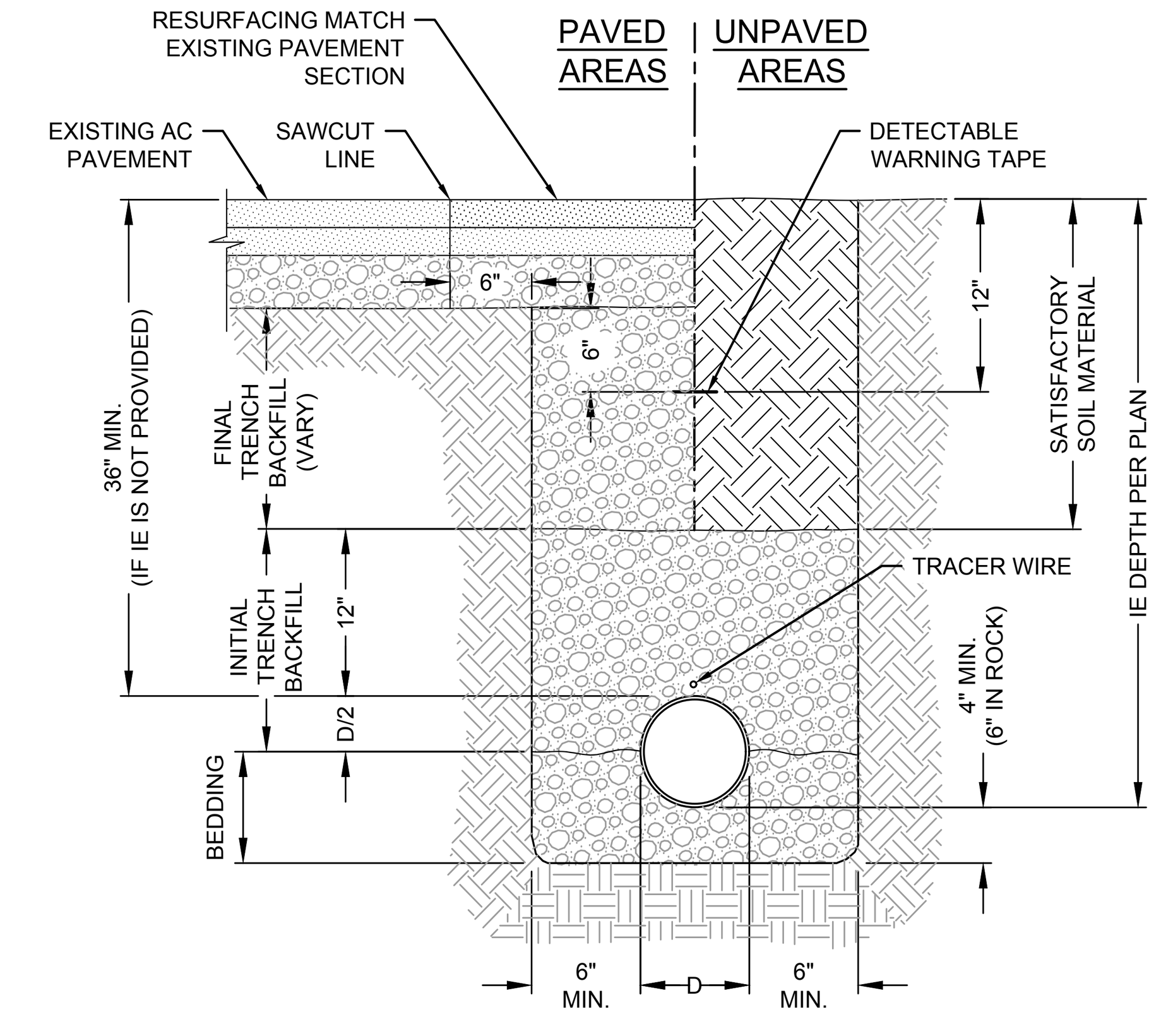


NOTES:

1. CAST IRON FRAME AND COVER SHALL MEET H-20 LOAD REQUIREMENT.
2. FOR CARRIER PIPE SIZE 6"Ø AND LESS, PROVIDE RISER PIPE SIZE TO MATCH CARRIER PIPE.
3. FOR CARRIER PIPE SIZE 8"Ø AND LARGER, RISER PIPE SHALL BE 6"Ø.
4. RISER PIPE MATERIAL TO MATCH CARRIER PIPE MATERIAL.

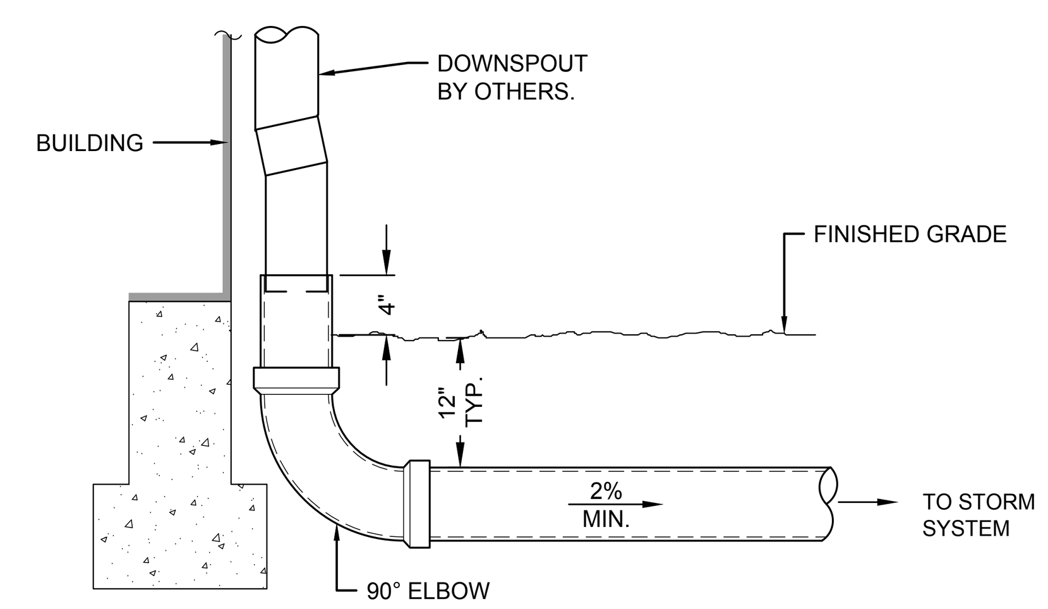
X STANDARD CLEANOUT (COTG)

SCALE: NTS



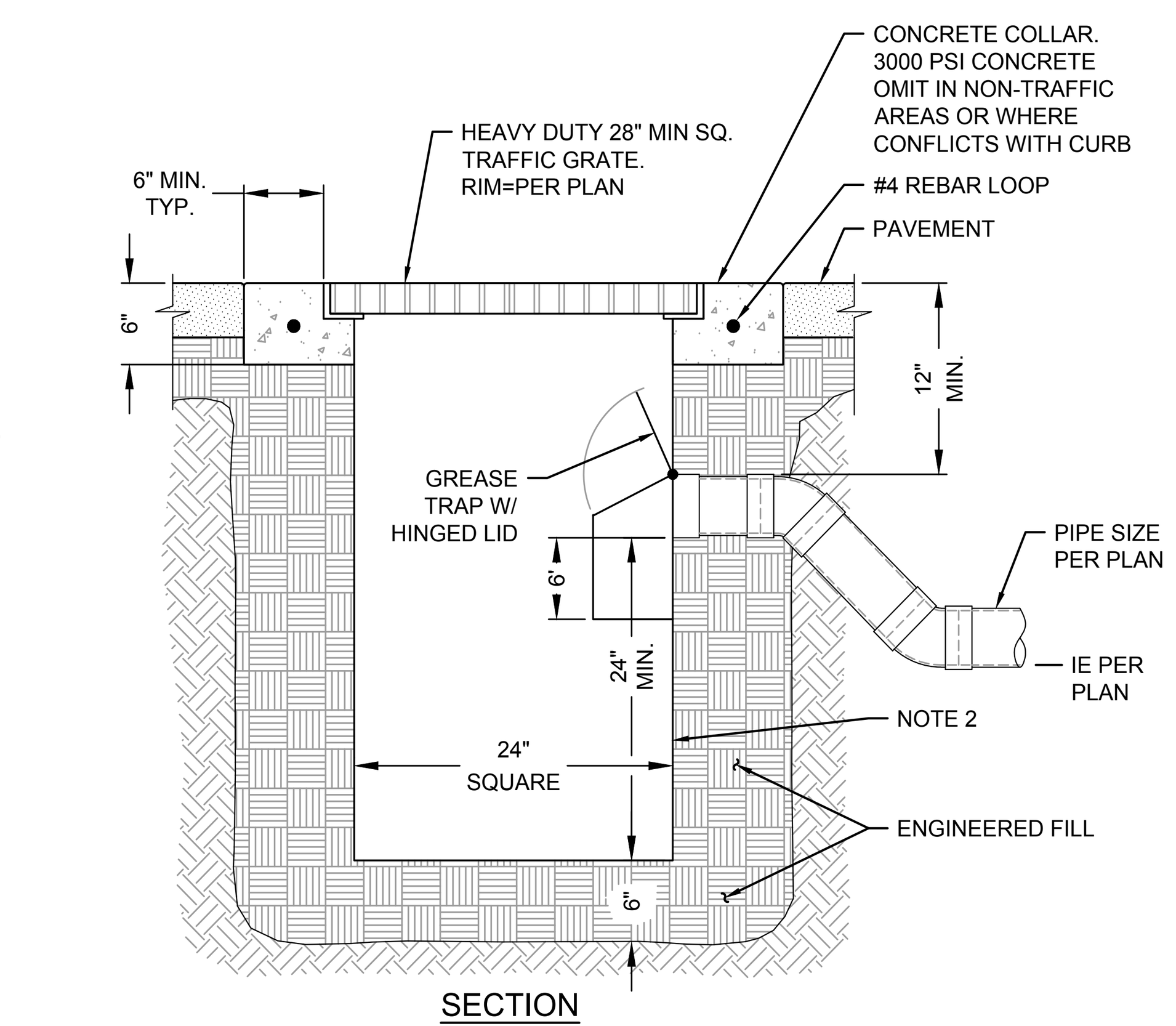
X TYPICAL PIPE BEDDING AND BACKFILL

SCALE: NTS



X DOWNSPOUT/STORM DRAIN CONNECTION

SCALE: NTS

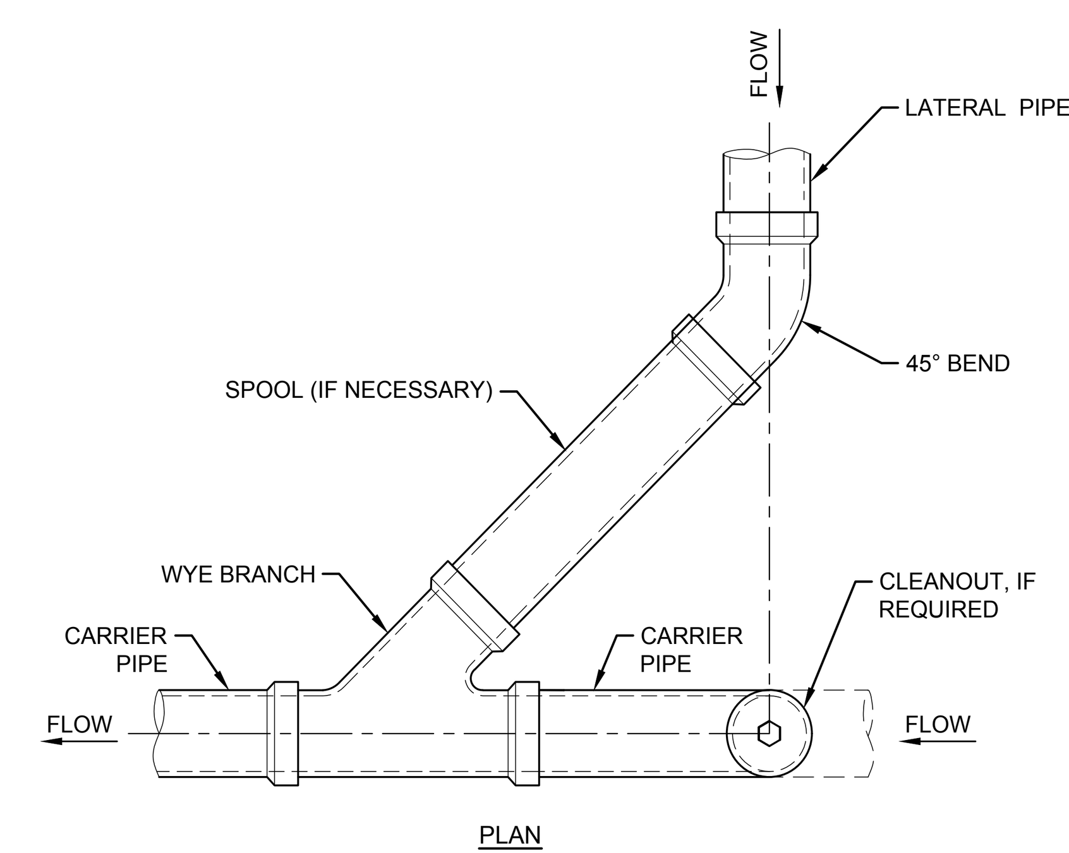


NOTES:

1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 1/4" STEEL PLATE, BITUMINOUS COATED. AS MANUFACTURED BY GIBSON STEEL BASINS OR APPROVED EQUAL.

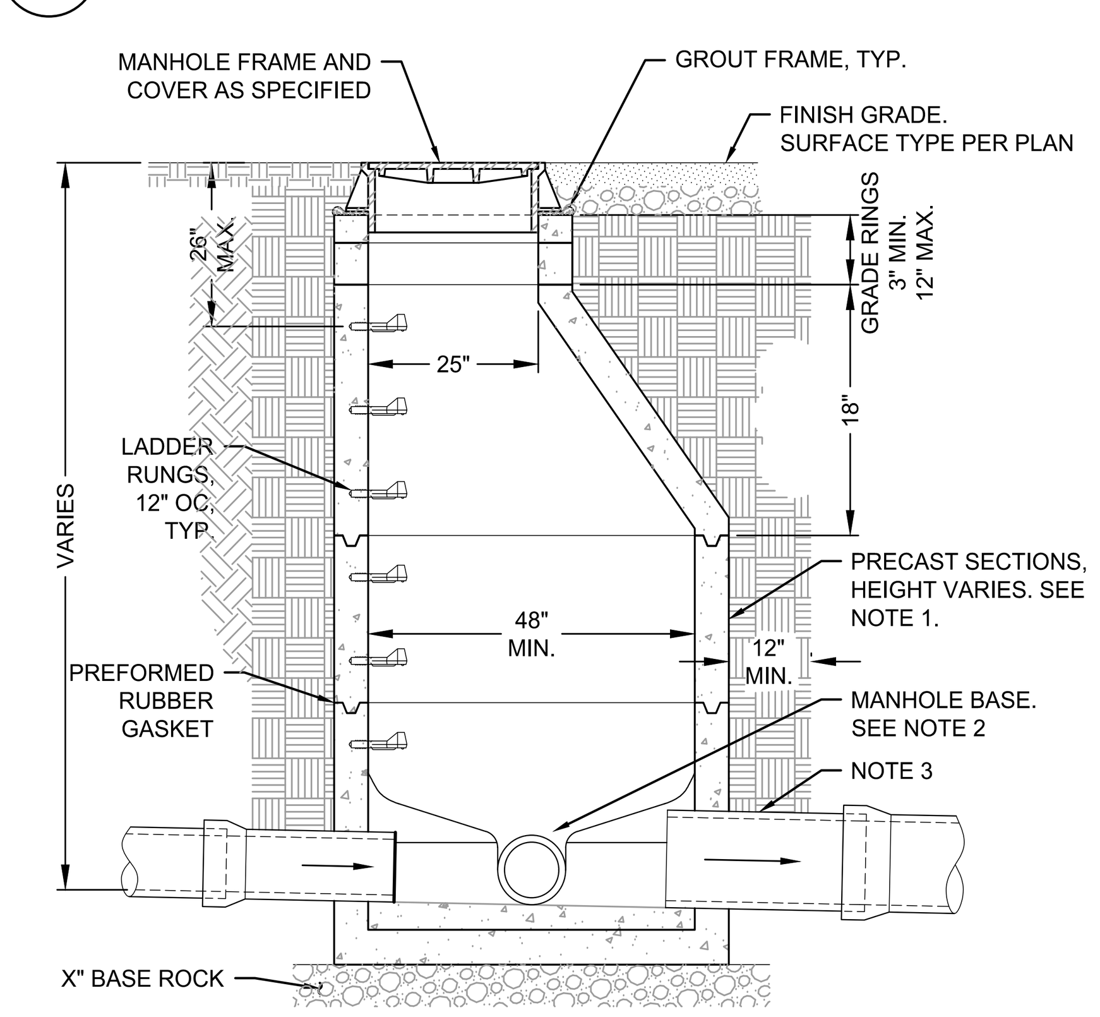
X TRAPPED CATCH BASIN

SCALE: NTS



3 STANDARD GRAVITY WYE CONNECTION

SCALE: NTS



NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT.

X STANDARD MANHOLE

SCALE: NTS

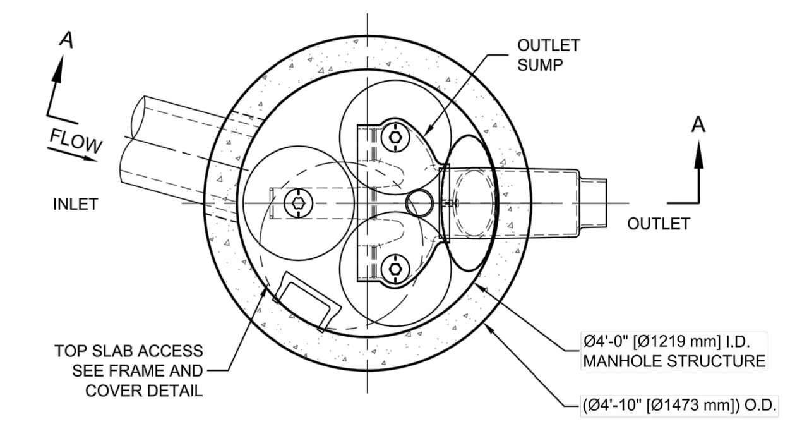
STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. Ø4 [1219 mm] MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS [28.3 L/s] . IF THE SITE CONDITIONS EXCEED 1.0 CFS [28.3 L/s] AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

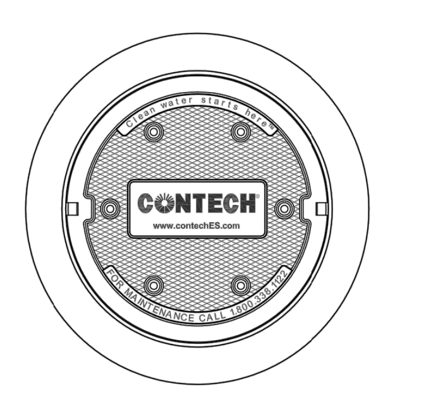
CARTRIDGE HEIGHT	27" [686 mm]			18" [458 mm]			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H)	3.05' [930 mm]			2.3' [700 mm]			1.8' [550 mm]		
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.44]	10 [0.63]	8.35 [0.54]	5 [0.32]

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



PLAN VIEW

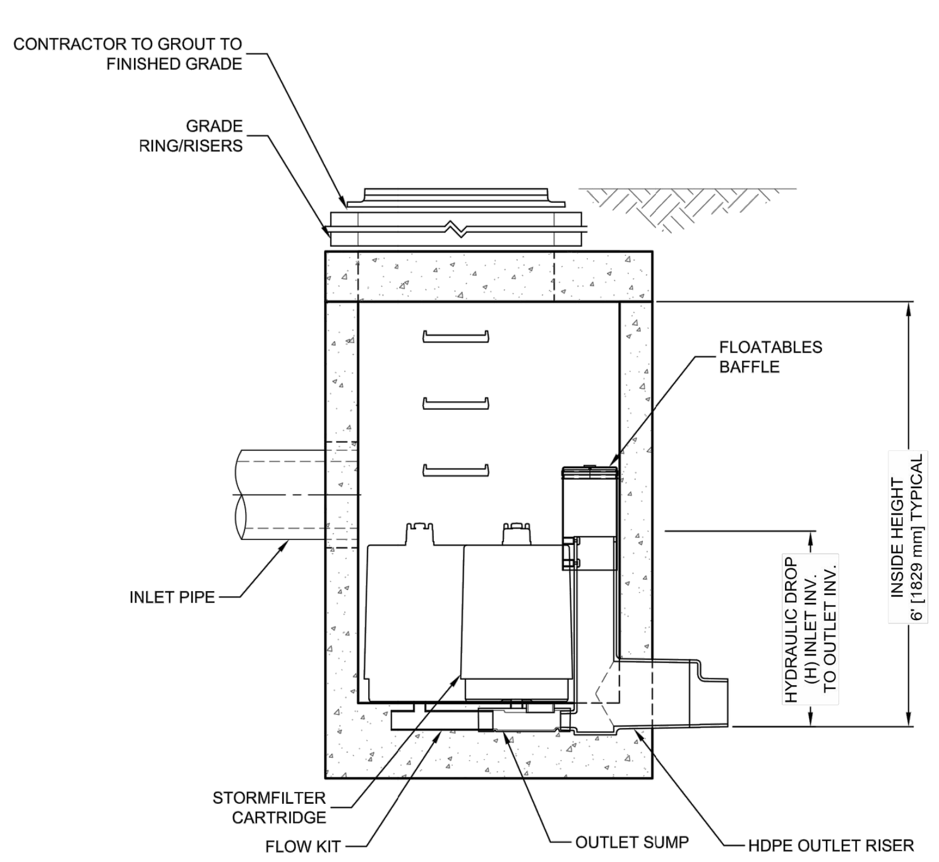
STANDARD OUTLET RISER
FLOWKIT: 40A



FRAME AND COVER

(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			*
WATER QUALITY FLOW RATE (cfs) [L/s]			*
PEAK FLOW RATE (cfs) [L/s]			*
RETURN PERIOD OF PEAK FLOW (yrs)			*
CARTRIDGE HEIGHT (SEE TABLE ABOVE)			*
NUMBER OF CARTRIDGES REQUIRED			*
CARTRIDGE FLOW RATE			*
MEDIA TYPE (PERLITE, ZPG, PSORB)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			



SECTION A-A

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524 mm] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

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STORMFILTER
STANDARD DETAIL

Revisions

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Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.1

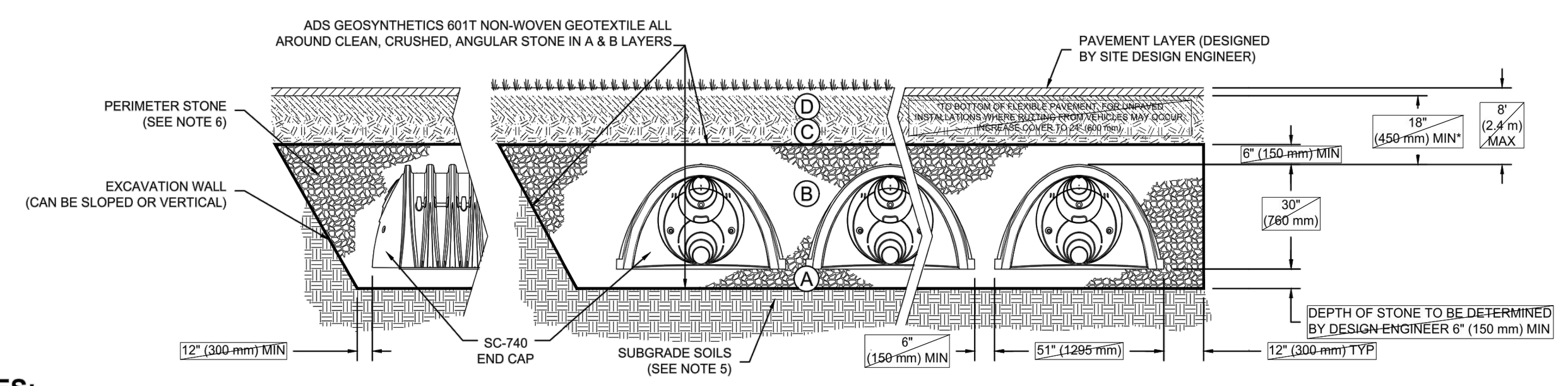
DETAILS

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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REV	DRW	CHK	DESCRIPTION

Dutch Bros - Sandy
Sandy

DATE: 09/13/2018 | DRAWN: EE
PROJECT #: Tool | CHECKED: ---

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 3 OF 5

ADVANCED DRAINAGE SYSTEMS, INC.

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Dutch Bros - Sandy

Sandy

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

Revisions

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DUTCH BROS
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SANDY, OR 97055

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520.245.4010 phone
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Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.2

DETAILS

File: P:\2018\18-C023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-C023_C5.0_DETL.dwg TAB:C5.2

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1

Santa Barbara Unit Hydrograph (SBUH) Assumptions:

(used for Conveyance and Flow Control)

Water Quality (WQ) Storm Event =	**0.83**	in/24-hours	BES
2-year Storm Event=	**3.5**	in/24-hours	Sandy
5-year Storm Event=	**4.5**	in/24-hours	Sandy
10-year Storm Event=	**4.8**	in/24-hours	Sandy
25-year Storm Event=	**5.5**	in/24-hours	Sandy
Time of Concentration	**5.0**	minutes	
Roughness Coefficient	**0.013**		

Curve Number Assumptions:

Impervious Area =	**98**		
Pervious Area =	**73**	Existing	Type C - Woods, Fair
	79	Proposed	Type C - 50% grass cover, Fair

Summary for Subcatchment 5S: Water Quality - Impervious Area only

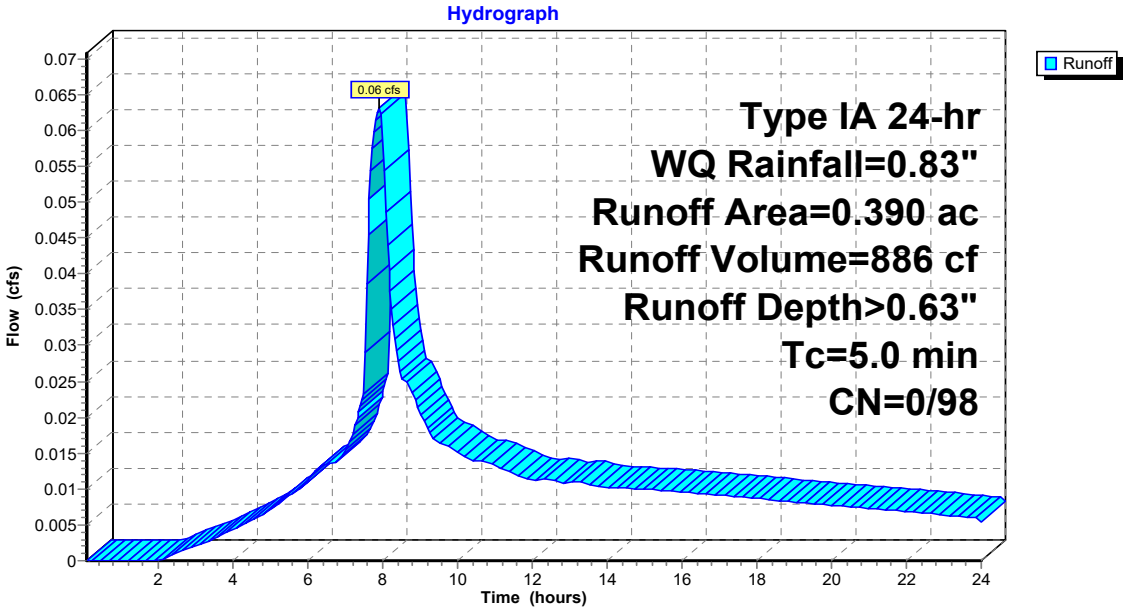
Runoff = 0.06 cfs @ 7.92 hrs, Volume= 886 cf, Depth> 0.63"

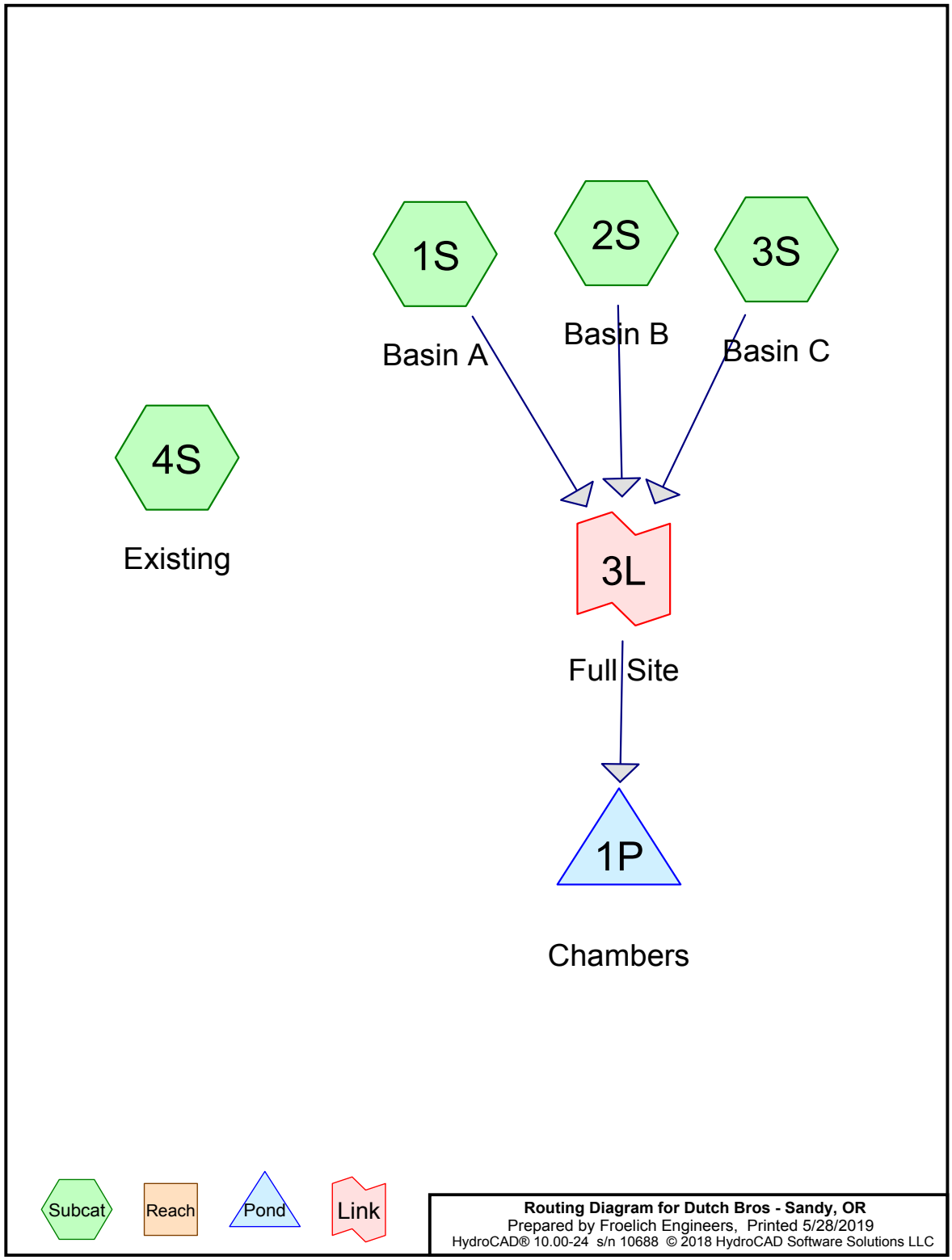
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr WQ Rainfall=0.83"

	Area (ac)	CN	Description
*	0.390	98	
	0.390	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Water Quality - Impervious Area only




1S
2S
3S
Basin A
Basin B
Basin C
4S
Existing
3L
Full Site
1P
Chambers
Subcat
Reach
Pond
Link
Routing Diagram for Dutch Bros - Sandy, OR
Prepared by Froelich Engineers, Printed 5/28/2019
HydroCAD® 10.00-24 s/n 10688 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: Basin A

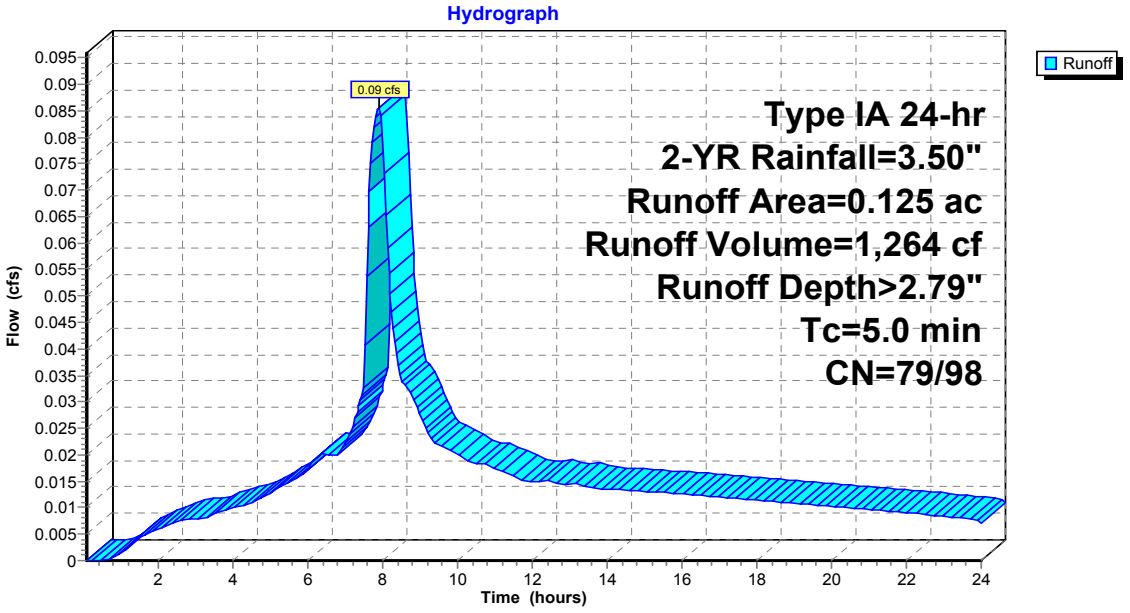
Runoff = 0.09 cfs @ 7.91 hrs, Volume= 1,264 cf, Depth> 2.79"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

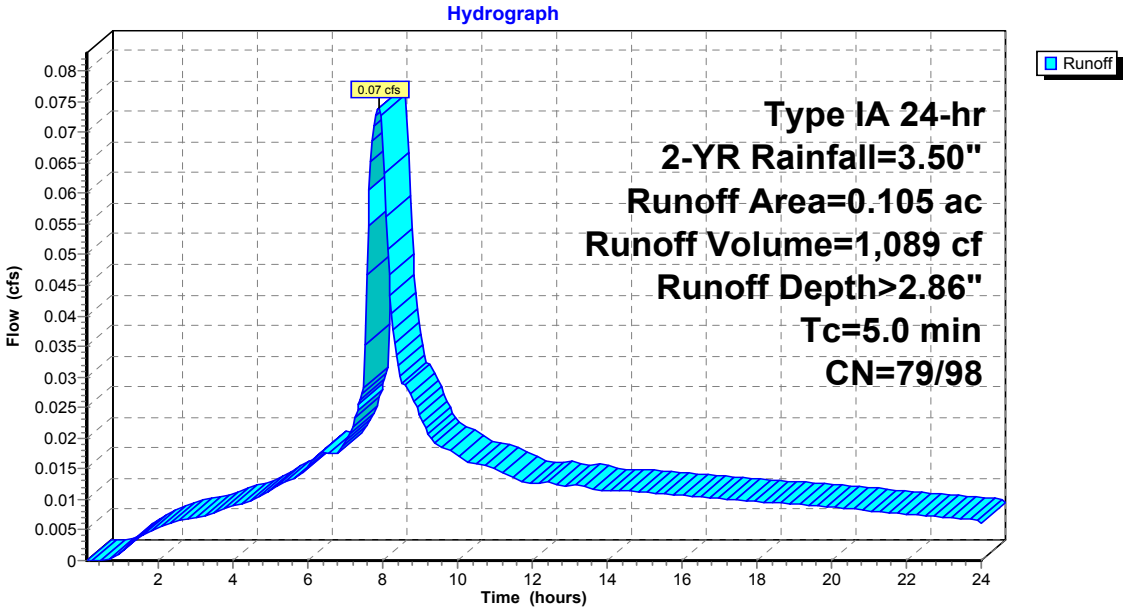
Runoff = 0.07 cfs @ 7.91 hrs, Volume= 1,089 cf, Depth> 2.86"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

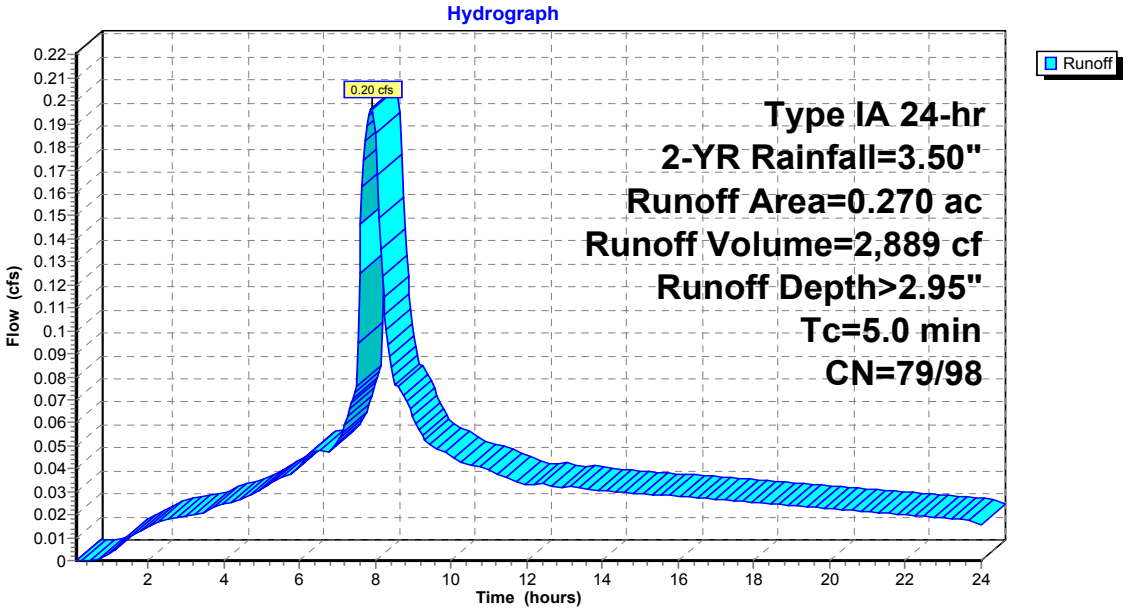
Runoff = 0.20 cfs @ 7.90 hrs, Volume= 2,889 cf, Depth> 2.95"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

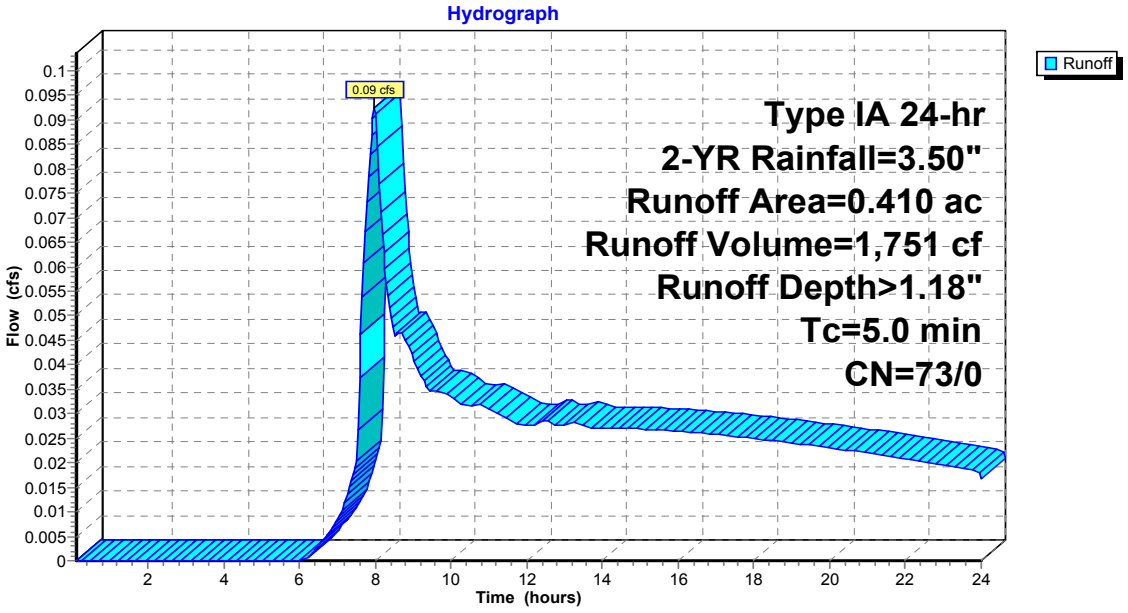
Runoff = 0.09 cfs @ 7.99 hrs, Volume= 1,751 cf, Depth> 1.18"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 2-YR PEAK FLOW TO 0.09 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 2.89" for 2-YR event
Inflow = 0.36 cfs @ 7.91 hrs, Volume= 5,242 cf
Outflow = 0.09 cfs @ 9.81 hrs, Volume= 4,945 cf, Atten= 76%, Lag= 114.2 min
Primary = 0.09 cfs @ 9.81 hrs, Volume= 4,945 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.14' @ 9.81 hrs Surf.Area= 0.021 ac Storage= 0.029 af

Plug-Flow detention time= 171.7 min calculated for 4,945 cf (94% of inflow)
Center-of-Mass det. time= 130.4 min (811.4 - 681.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.09 cfs @ 9.81 hrs HW=2.14' (Free Discharge)
└**1=Culvert** (Passes 0.09 cfs of 0.42 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.09 cfs @ 7.05 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

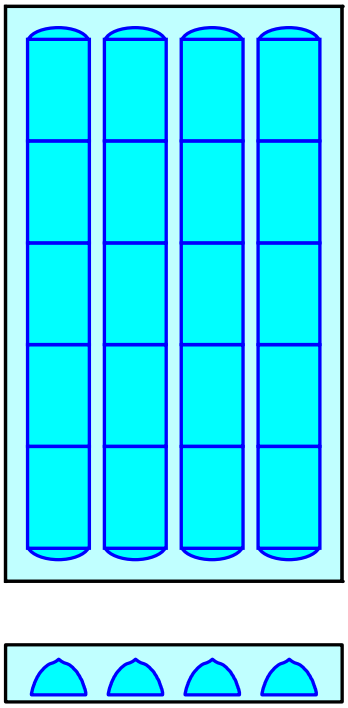
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

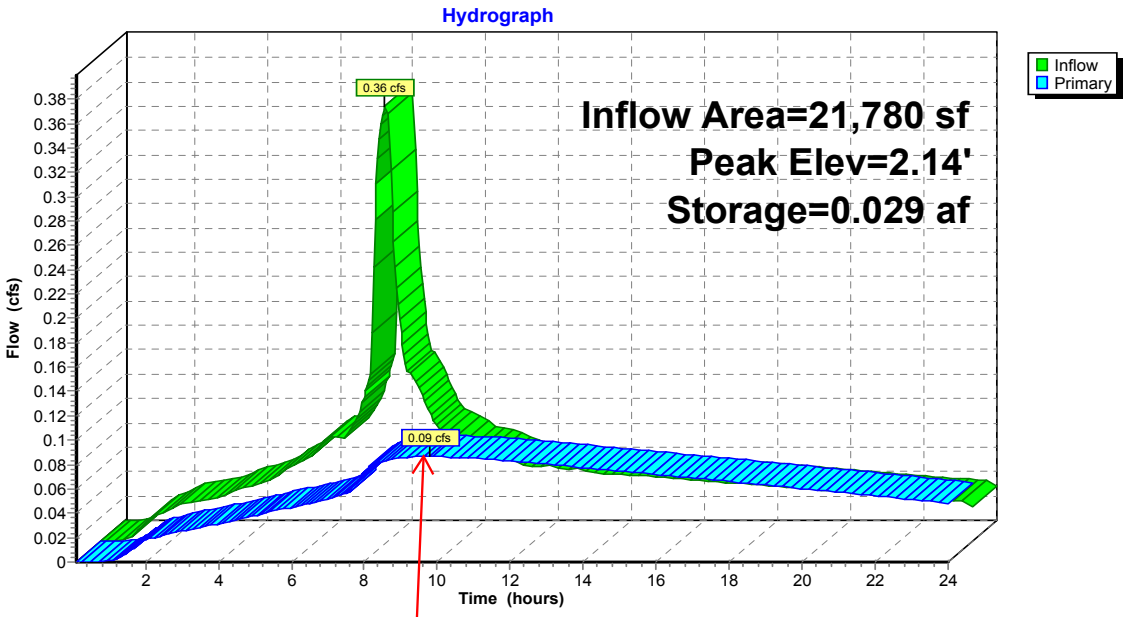
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.09 CFS

Summary for Subcatchment 1S: Basin A

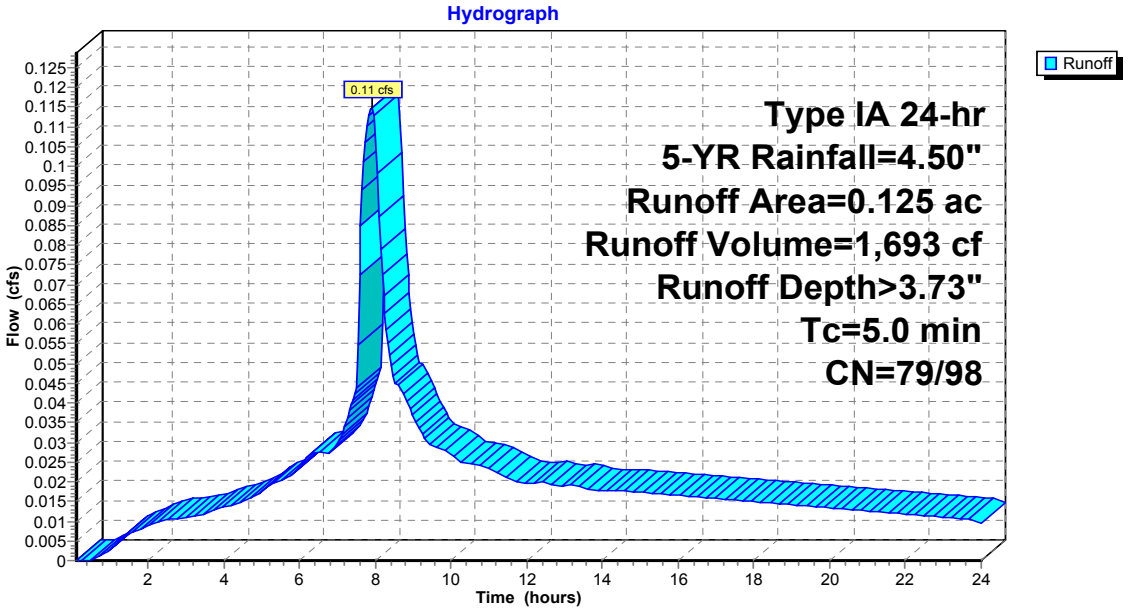
Runoff = 0.11 cfs @ 7.91 hrs, Volume= 1,693 cf, Depth> 3.73"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

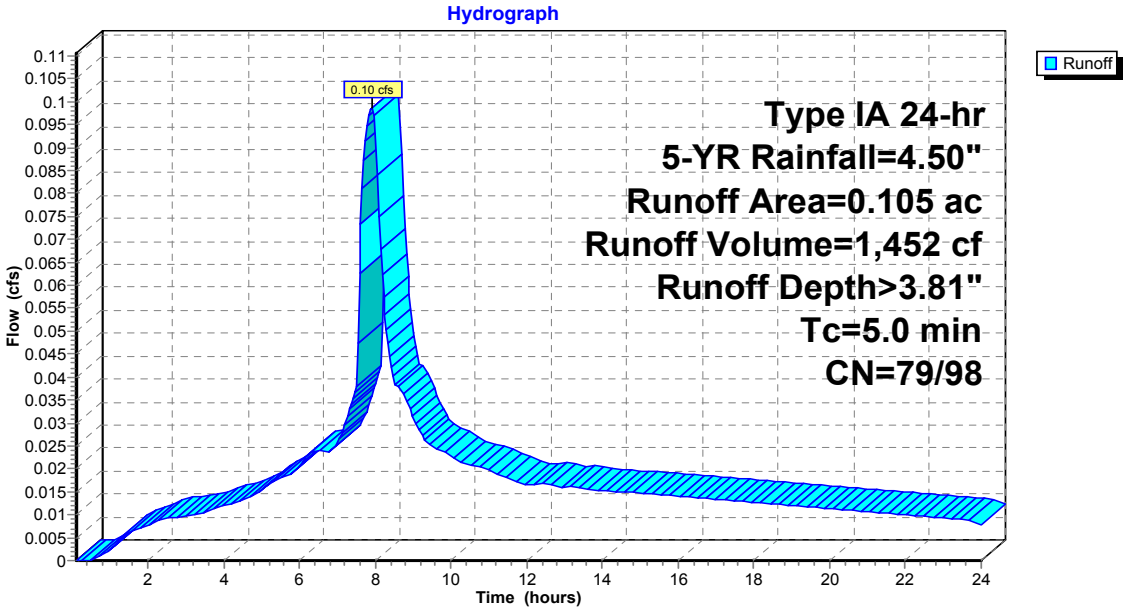
Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,452 cf, Depth> 3.81"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

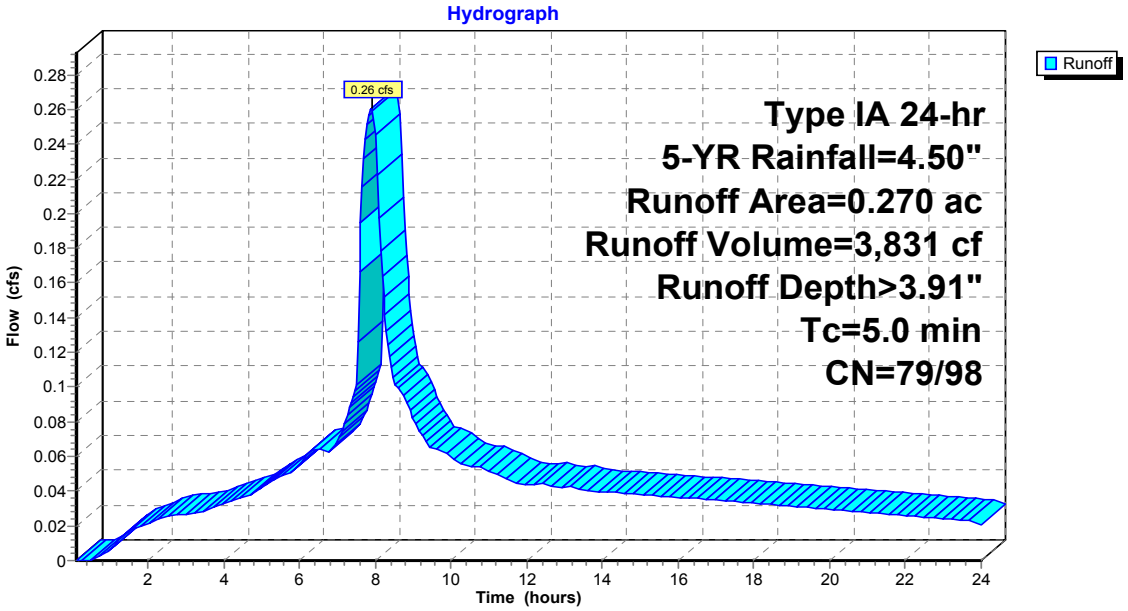
Runoff = 0.26 cfs @ 7.90 hrs, Volume= 3,831 cf, Depth> 3.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

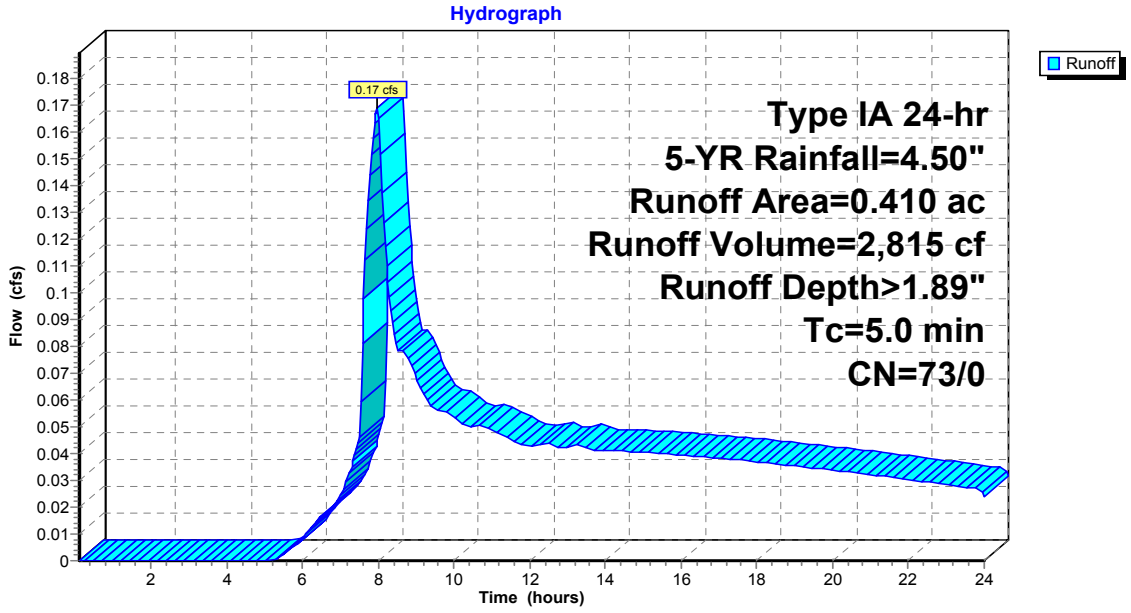
Runoff = 0.17 cfs @ 7.97 hrs, Volume= 2,815 cf, Depth> 1.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 5-YR PEAK FLOW TO 0.17 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 3.84" for 5-YR event
Inflow = 0.47 cfs @ 7.90 hrs, Volume= 6,976 cf
Outflow = 0.15 cfs @ 9.00 hrs, Volume= 6,387 cf, Atten= 68%, Lag= 65.6 min
Primary = 0.15 cfs @ 9.00 hrs, Volume= 6,387 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.93' @ 9.00 hrs Surf.Area= 0.021 ac Storage= 0.038 af

Plug-Flow detention time= 178.2 min calculated for 6,376 cf (91% of inflow)
Center-of-Mass det. time= 117.6 min (792.6 - 675.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.15 cfs @ 9.00 hrs HW=2.93' (Free Discharge)
└**1=Culvert** (Passes 0.15 cfs of 0.47 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.10 cfs @ 8.25 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 4.09 fps)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

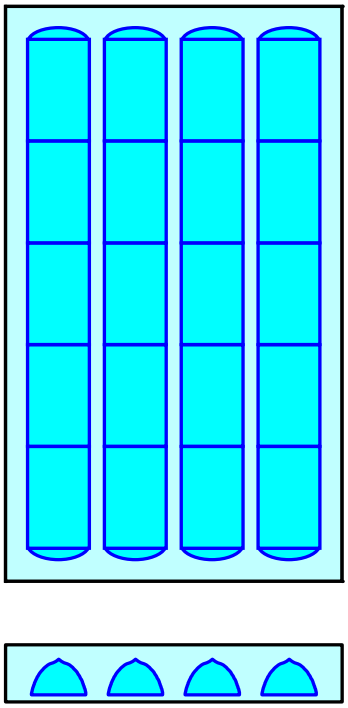
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

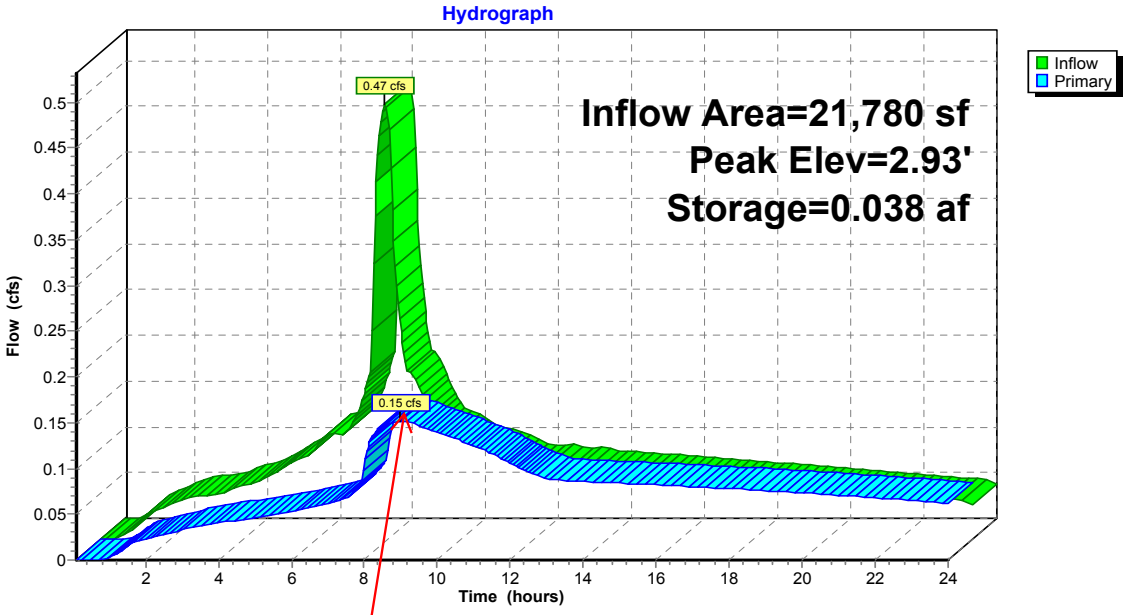
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.15 CFS

Summary for Subcatchment 1S: Basin A

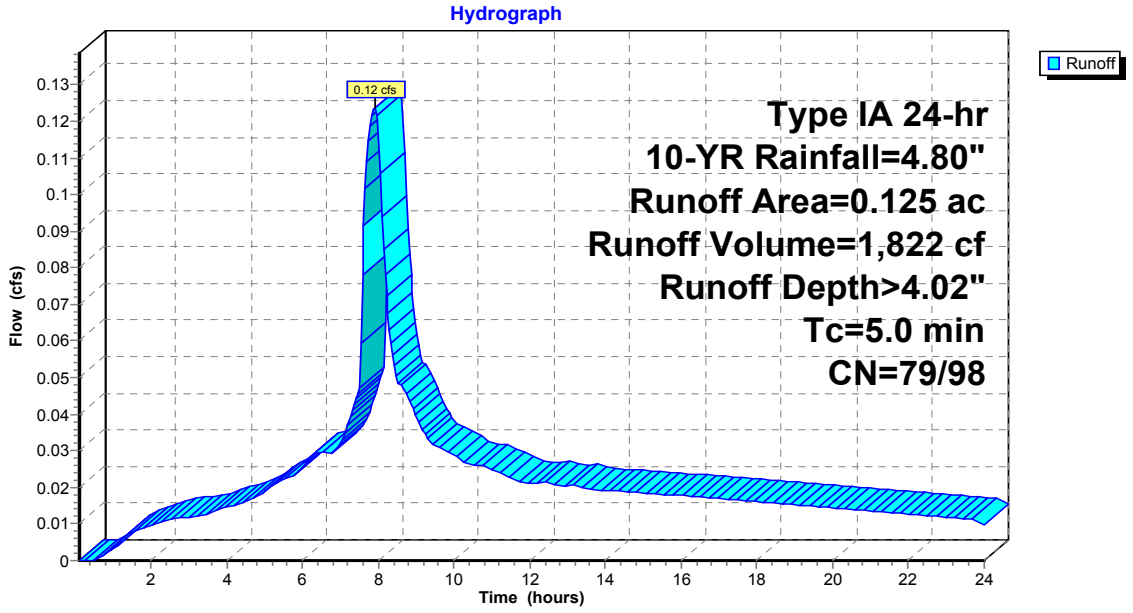
Runoff = 0.12 cfs @ 7.91 hrs, Volume= 1,822 cf, Depth> 4.02"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

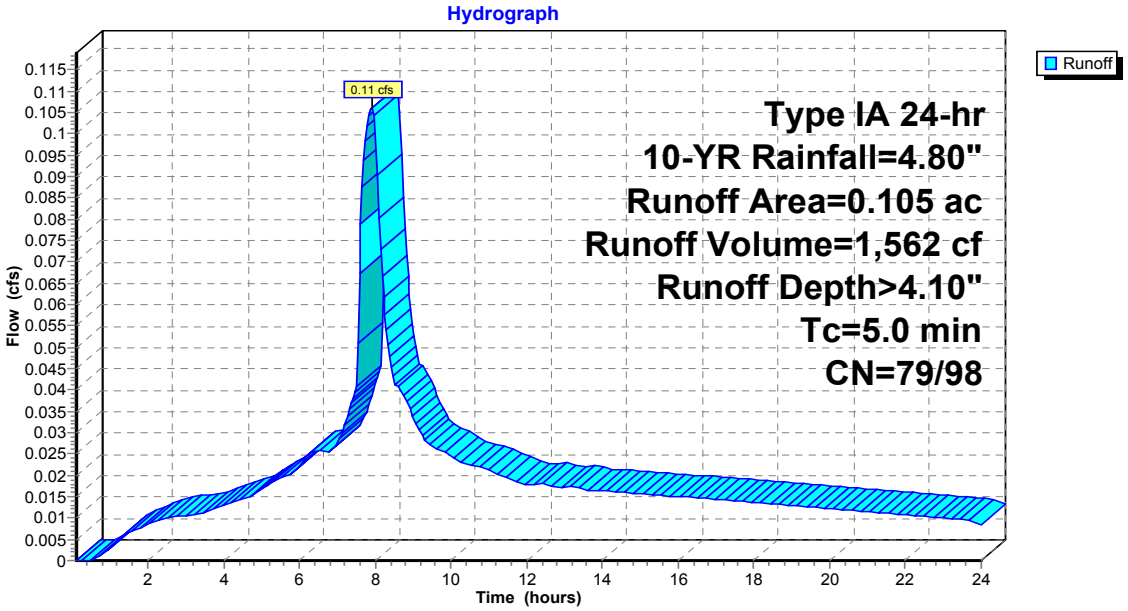
Runoff = 0.11 cfs @ 7.90 hrs, Volume= 1,562 cf, Depth> 4.10"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

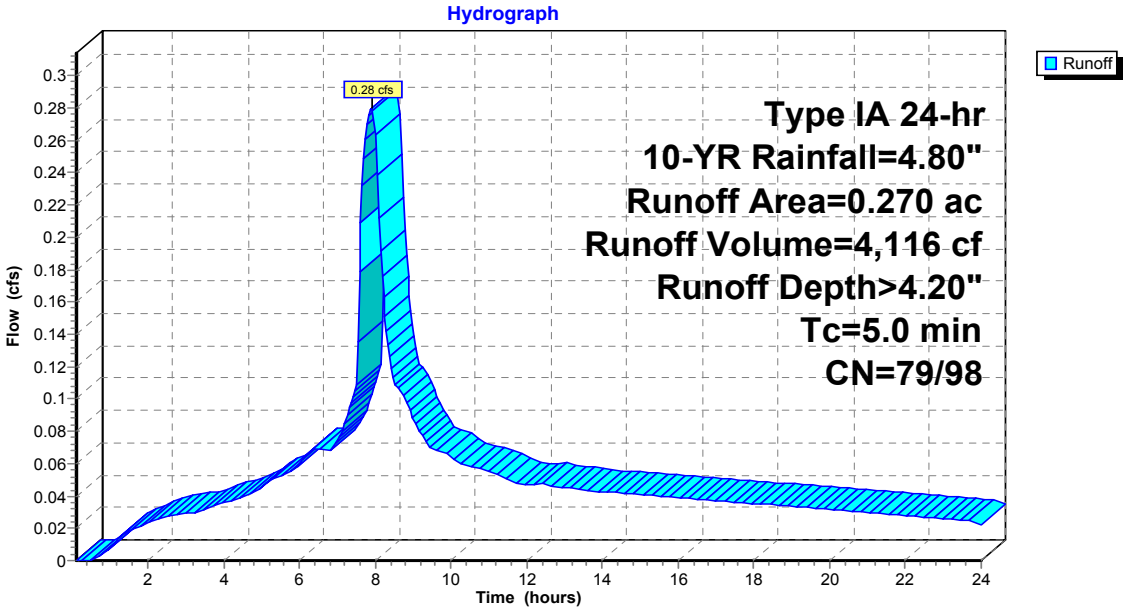
Runoff = 0.28 cfs @ 7.90 hrs, Volume= 4,116 cf, Depth> 4.20"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

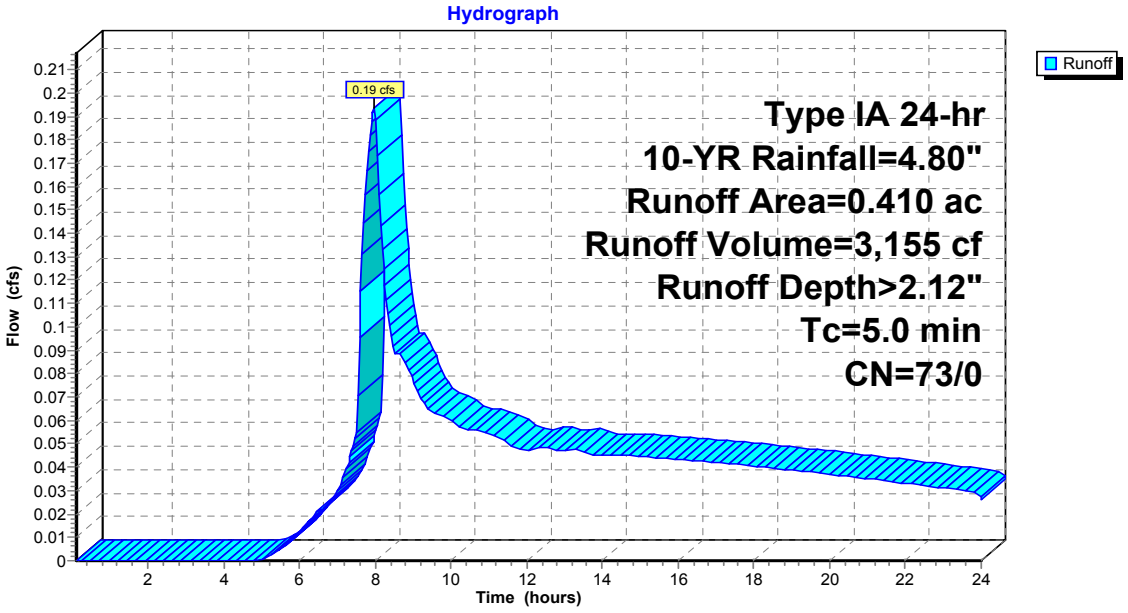
Runoff = 0.19 cfs @ 7.97 hrs, Volume= 3,155 cf, Depth> 2.12"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 10-YR PEAK FLOW TO 0.19 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 4.13" for 10-YR event
Inflow = 0.51 cfs @ 7.90 hrs, Volume= 7,500 cf
Outflow = 0.17 cfs @ 8.91 hrs, Volume= 6,827 cf, Atten= 66%, Lag= 60.2 min
Primary = 0.17 cfs @ 8.91 hrs, Volume= 6,827 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 3.27' @ 8.91 hrs Surf.Area= 0.021 ac Storage= 0.040 af

Plug-Flow detention time= 177.8 min calculated for 6,816 cf (91% of inflow)
Center-of-Mass det. time= 113.6 min (787.1 - 673.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.17 cfs @ 8.91 hrs HW=3.27' (Free Discharge)
↑—**1=Culvert** (Passes 0.17 cfs of 0.49 cfs potential flow)
  ↑—**2=Lower Orifice** (Orifice Controls 0.11 cfs @ 8.71 fps)
  —**3=Orifice/Grate** (Orifice Controls 0.06 cfs @ 4.95 fps)
  —**4=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.45 fps)
  —**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

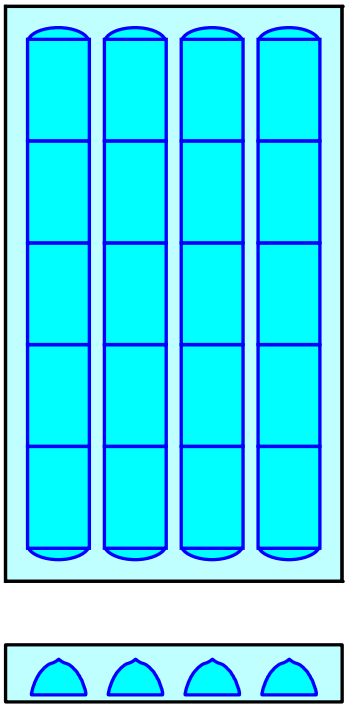
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

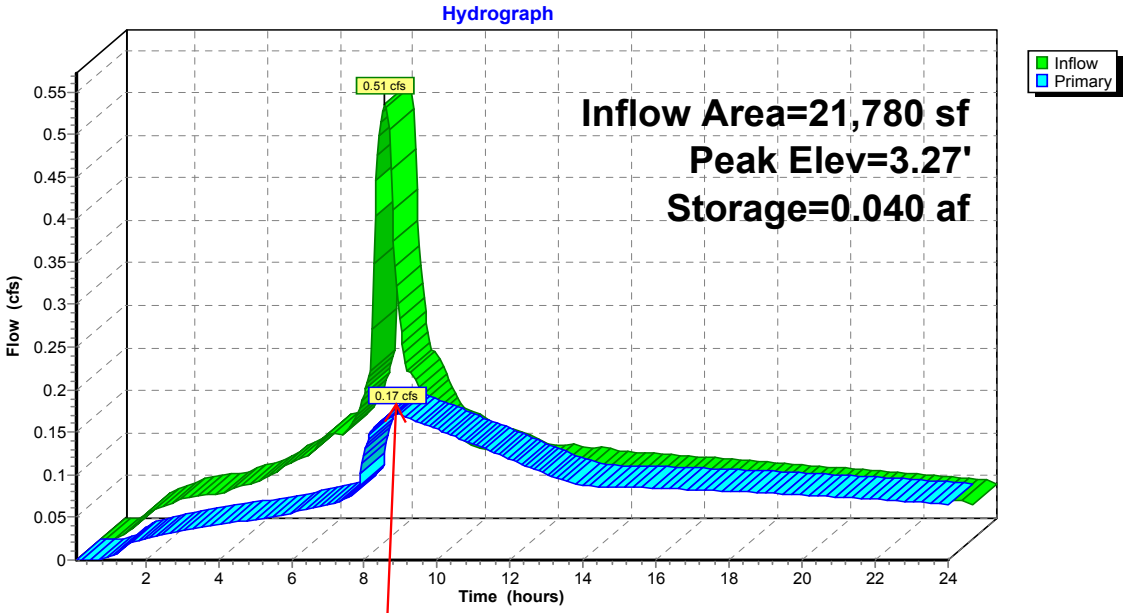
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.19 CFS

Summary for Subcatchment 1S: Basin A

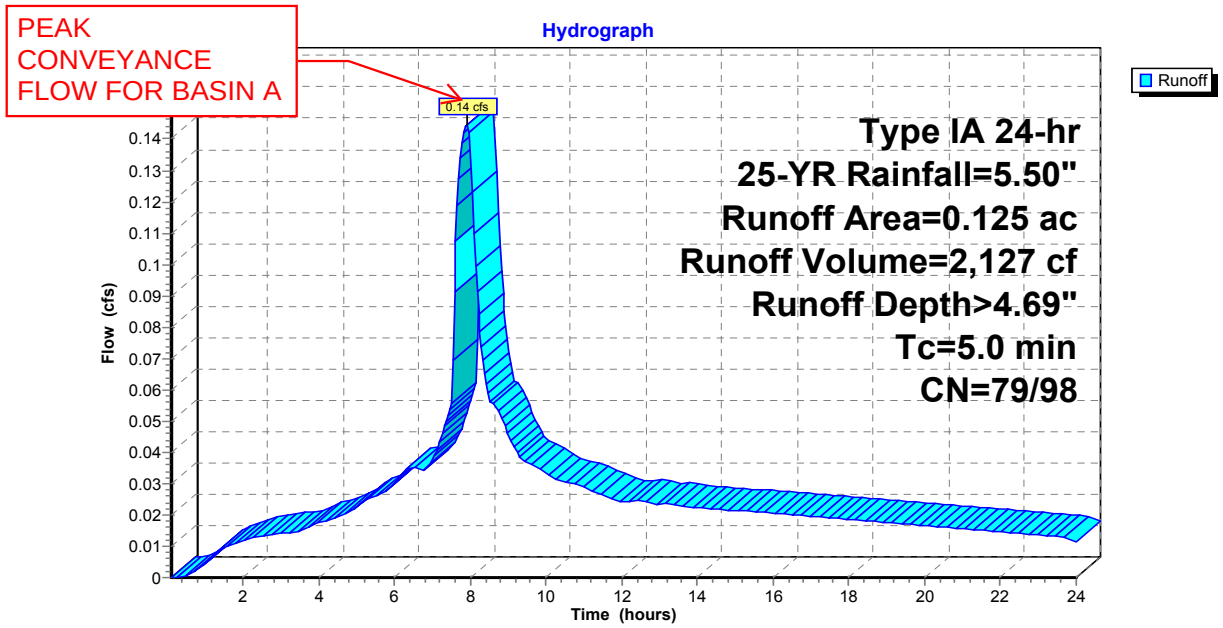
Runoff = 0.14 cfs @ 7.90 hrs, Volume= 2,127 cf, Depth> 4.69"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

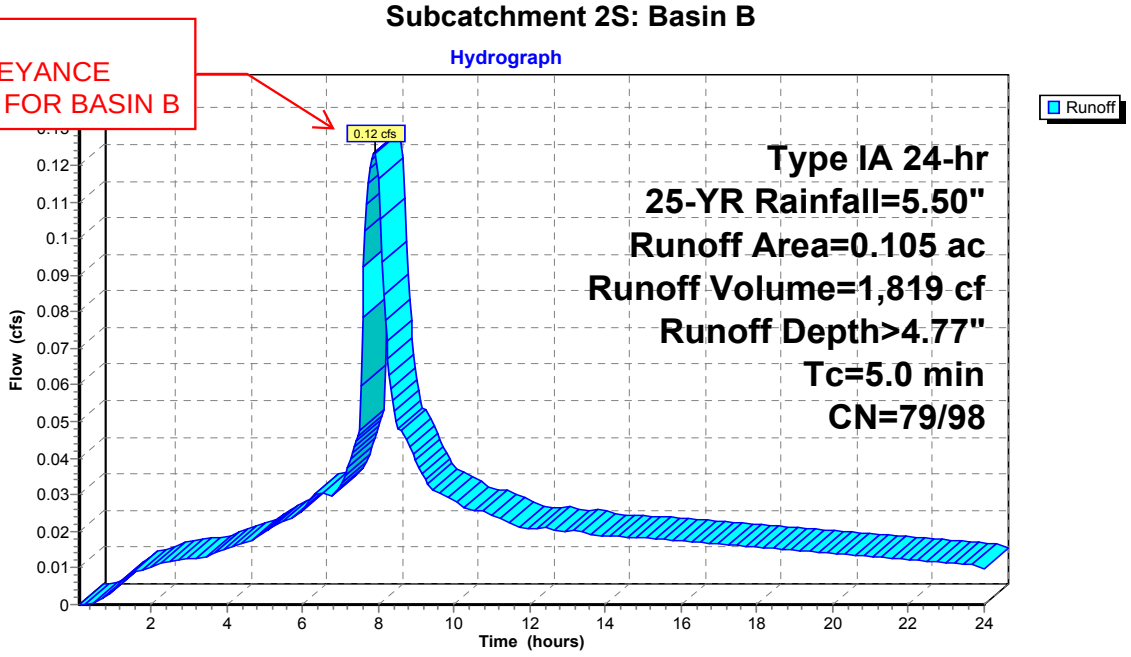
Runoff = 0.12 cfs @ 7.90 hrs, Volume= 1,819 cf, Depth> 4.77"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

PEAK CONVEYANCE FLOW FOR BASIN B



Summary for Subcatchment 3S: Basin C

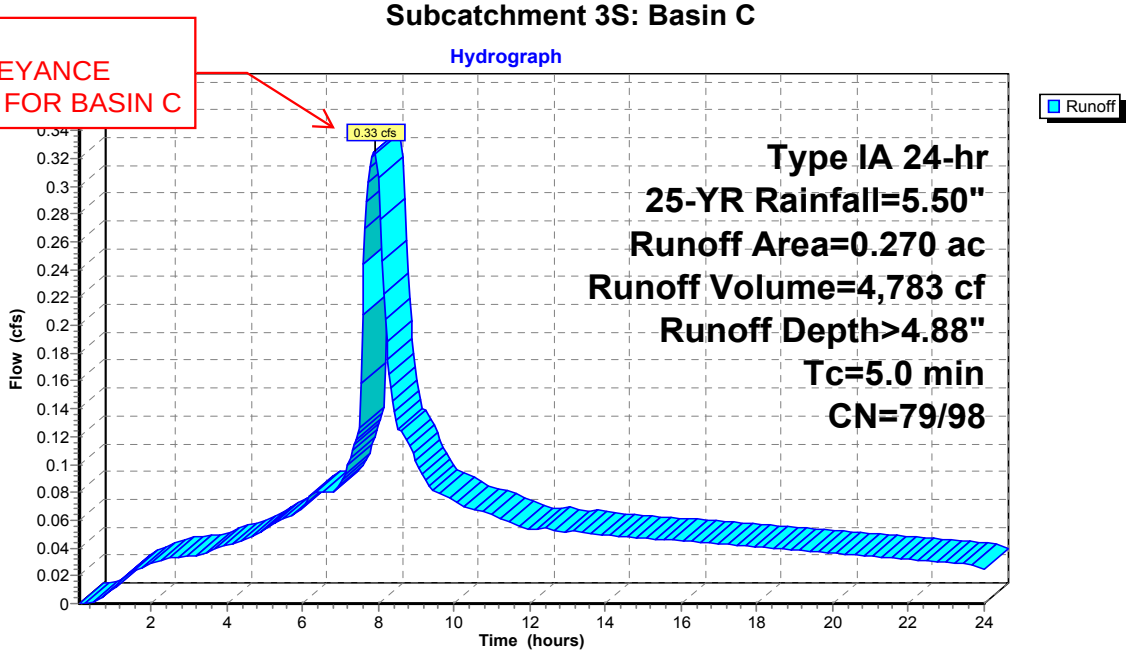
Runoff = 0.33 cfs @ 7.90 hrs, Volume= 4,783 cf, Depth> 4.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

PEAK CONVEYANCE FLOW FOR BASIN C



Summary for Subcatchment 4S: Existing

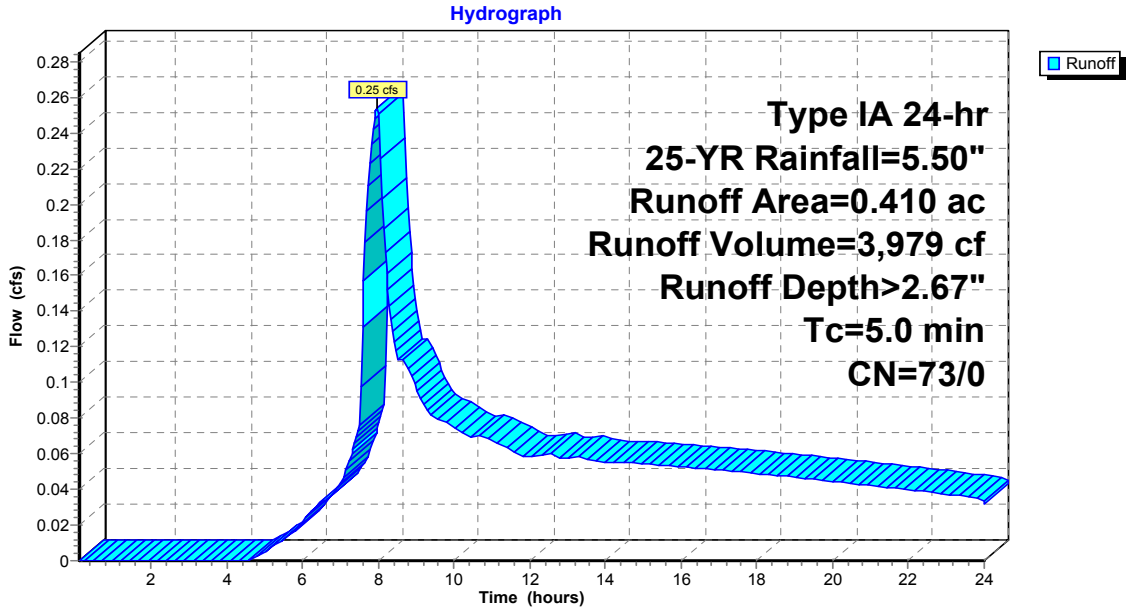
Runoff = 0.25 cfs @ 7.97 hrs, Volume= 3,979 cf, Depth> 2.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 25-YR PEAK FLOW TO 0.25 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 4.81" for 25-YR event
Inflow = 0.59 cfs @ 7.90 hrs, Volume= 8,730 cf
Outflow = 0.25 cfs @ 8.44 hrs, Volume= 7,877 cf, Atten= 58%, Lag= 32.1 min
Primary = 0.25 cfs @ 8.44 hrs, Volume= 7,877 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 3.86' @ 8.44 hrs Surf.Area= 0.021 ac Storage= 0.045 af

Plug-Flow detention time= 171.7 min calculated for 7,877 cf (90% of inflow)
Center-of-Mass det. time= 101.8 min (772.3 - 670.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 8.44 hrs HW=3.86' (Free Discharge)
↑—**1=Culvert** (Passes 0.25 cfs of 0.53 cfs potential flow)
  ↑—**2=Lower Orifice** (Orifice Controls 0.12 cfs @ 9.46 fps)
  —**3=Orifice/Grate** (Orifice Controls 0.08 cfs @ 6.19 fps)
  —**4=Orifice/Grate** (Orifice Controls 0.05 cfs @ 3.77 fps)
  —**5=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.71 fps)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

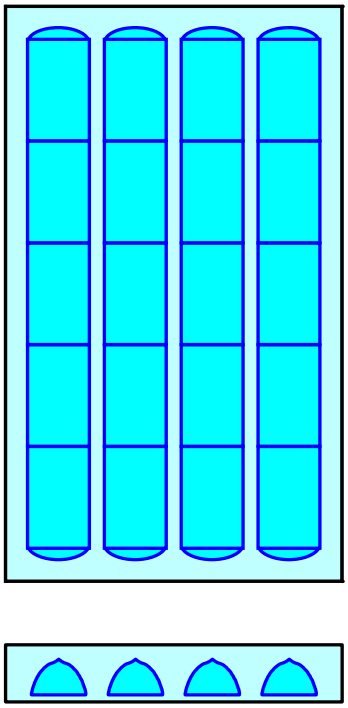
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

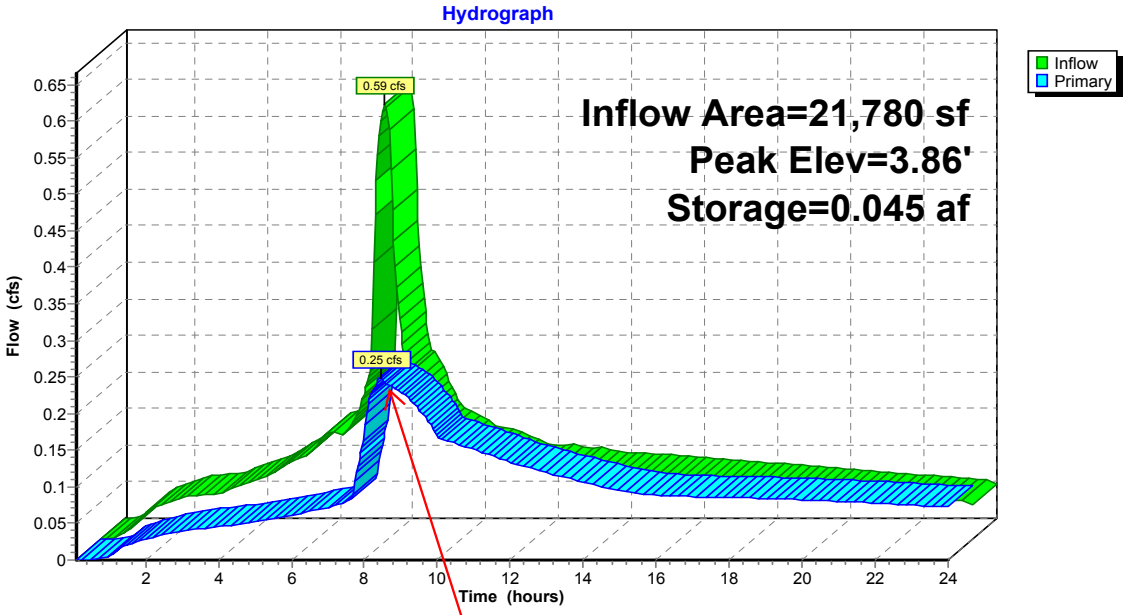
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



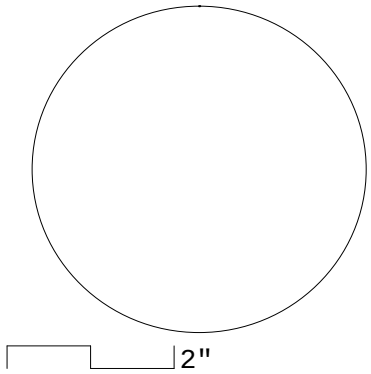
Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.25 CFS

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity

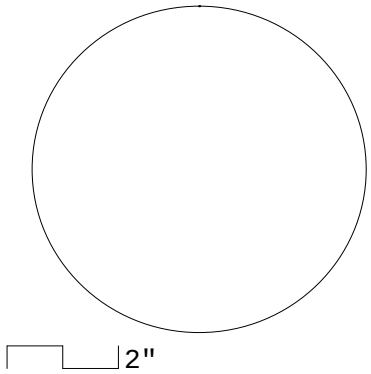


diameter = 4.0"
slope = 1.00%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.05'
area = 0.09 s.f.
hydraulic radius = 0.08'
velocity = 2.18 fps
flow = 0.19 cfs

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity

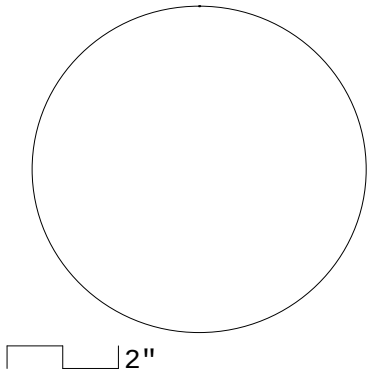


diameter = 6.0"
slope = 1.00%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.57'
area = 0.20 s.f.
hydraulic radius = 0.13'
velocity = 2.86 fps
flow = 0.56 cfs

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity



diameter = 6.0"
slope = 1.50%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.57'
area = 0.20 s.f.
hydraulic radius = 0.13'
velocity = 3.51 fps
flow = 0.69 cfs


Hydrologic Soil Group—Clackamas County Area, Oregon
122° 15' 25" W
122° 15' 19" W
45° 23' 52" N
45° 23' 49" N
558150
558160
558170
558180
558190
558200
558210
558220
558230
558240
558250
558260
558270
558280
5027430
5027420
5027410
5027400
5027390
5027380
5027370
5027360
5027350
5027340
Pleasant Ave
15B
Proctor Blvd
26
Soil Map may not be valid at this scale.
Map Scale: 1:641 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 5 10 20 30
Feet
0 30 60 120 180
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 14, Sep 18, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 2, 2015—Sep 21, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
15B	Cazadero silty clay loam, 0 to 7 percent slopes	C	1.4	100.0%
Totals for Area of Interest			**1.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table A-2. Curve Numbers for Urban Areas

Cover type and hydrological condition	Average percent impervious area	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Open Space (lawns, parks, golf courses, cemeteries, etc.):					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50-75%)		49	69	79	84
Good condition (grass cover >75%)		39	61	74	80
Impervious Area:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	93
Urban Districts:					
Commercial and business	85	85	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	82
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.

Table A-3. Runoff Curve Numbers for Other Agricultural Lands

Cover type and hydrological condition	Hydrologic Condition	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Pasture, grassland, or range-continuous forage for grazing:					
<50% ground cover or heavily grazed with no mulch	Poor	68	79	86	89
50 to 75% ground cover and not heavily grazed	Fair	49	69	79	84
>75% ground cover and lightly or only occasionally grazed	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay		30	58	71	78
Brush-weed-grass mixture with brush as the major element:					
<50% ground cover	Poor	48	67	77	83
50-75% ground cover	Fair	35	56	70	77
>75% ground cover	Good	30	48	65	73
Woods-grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods					
Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning	Poor	45	66	77	83
Woods are grazed by not burned, and some forest litter covers the soil	Fair	36	60	73	79
Woods are protected from grazing and litter and brush adequately cover the soil	Good	30	55	70	77

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.

Exhibit T

CERTIFIED ARBORIST REPORT

May 24, 2019

Braden Bernards
Core Valley Partners
3519 NE 15th ave., Suite 251
Portland, OR 97212

VIA Email: braden.bernards@cvpre.com

This report has been prepared to independently provide a professional opinion regarding the observed activities in the area of existing trees at the following property: 39625 Proctor Blvd., Sandy, OR 97055

As the techniques and terminology of the Arboriculture industry are continuously evolving, we have provided some brief descriptions to assist with the review and understanding of this report.

This report was completed, reviewed and approved by the undersigned Certified Arborist and owner of Earth Care Designs, LLC dba Oregon Tree Care.

Damien Carré
Certified Arborist, ISA# PN-6405A
Certified Tree Risk Assessor, CTRA 1717

PO Box 13068
Portland . OR 97213

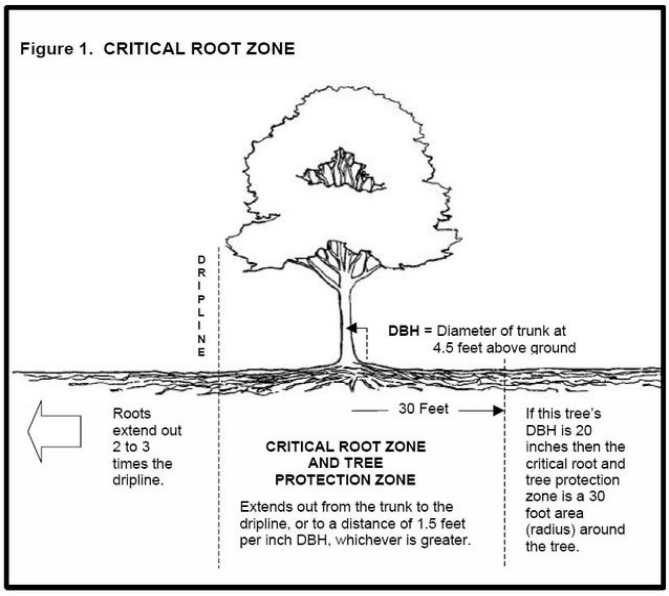
503.929.9437 o
503.905.0605 f

admin@oregontreecare.com
oregontreecare.com

Oregon CCB 176382
Certified Arborist PN-6405A
CTRA 1717

TERMINOLOGY

Critical root zone (CRZ): Portion of the root system that is the minimum necessary to maintain vitality or stability of the tree. Encroachment or damage to the critical root zone will put the tree at risk of failure.



Visual Tree Assessment (VTA): A method to evaluate tree health and structure. VTA is based on the outward indications of tree stress and growth, as indicated by the formation of new tree parts, the shape of the new wood and the amount of live tissue. Trees adapt to current and past stress by growing wood to support themselves in an upright condition. This type of assessment is facilitated by our personal knowledge of tree growth as it relates to structural integrity.

SITE REVIEW

A site visit was conducted on May 9, 2019 to inspect the existing trees in regard to planned construction activities. A Visual Tree Inspection (VTA) was conducted for the trees specified in the original request from the client. An inventory of those trees is included within this report.

Based on the details provided regarding the planned construction activities, trees #1,2,3,4,8 and 13 will be removed to accommodate the planned construction for the site. Trees #9,10,11 and 12 will be removed to accommodate the planned curb work along Pleasant ave. The following tree was noted as having poor vigor, and the recommendation is for removal:

ID Number	Tree Common Name	Tree Species	Size in Inches (DBH)	Condition rating
5	cottonwood	*Populus deltoides*	14	Poor

Based on the information provided, the planned construction should not interfere with the Critical Root Zones (CRZ) of the remaining trees (Trees#6 and 7) as they are located 10-15' from the excavation activities. Tree protection fencing should be placed as far from retention trees as is practical on the South side as indicated on the attached map/site plans. The supply and erection of this fencing should be planned as the first priority of operation and should be processed before any other work takes place on the site. **The removal of the Tree Protection Fencing should be one of the last operations undertaken on the site.**

ROOT PRUNING: If, during construction, root pruning is required due to exposed or severed roots, the following process should be followed to prevent further damage. It is highly recommended that a Certified Arborist supervise and/or complete the root pruning. Additionally, pruning of the tree branches may be necessary to help compensate for any root loss.

- Tree pruning to compensate for potential root loss may be recommended before root pruning
- Do not use an excavator to pull or cut roots
- Air spading is a less invasive option available
- By hand, dig out and around the exposed or severed root prior to cutting
- Only use a chainsaw with sharpened blades and/or approved tree pruning equipment to provide a clean cut

PROACTIVE PRUNING: It is recommended the trees be proactively pruned to compensate for the activities and changes to the landscape environment. Pruning prior to commencing the activities is best but can be done as soon as possible following completion.

ANNUAL MONITORING: All preserved trees should be monitored annually for changes and/or signs of stress after construction activities are completed.

CERTIFIED ARBORIST ON SITE: It is highly recommended to have a Certified Arborist on site to inspect any exposed roots and if excavation is needed to expose roots that may interfere with the installation.

- END -

OREGON TREE CARE . TREE INVENTORY

LOCATION: 39625 Proctor Blvd. Sandy, OR 97055

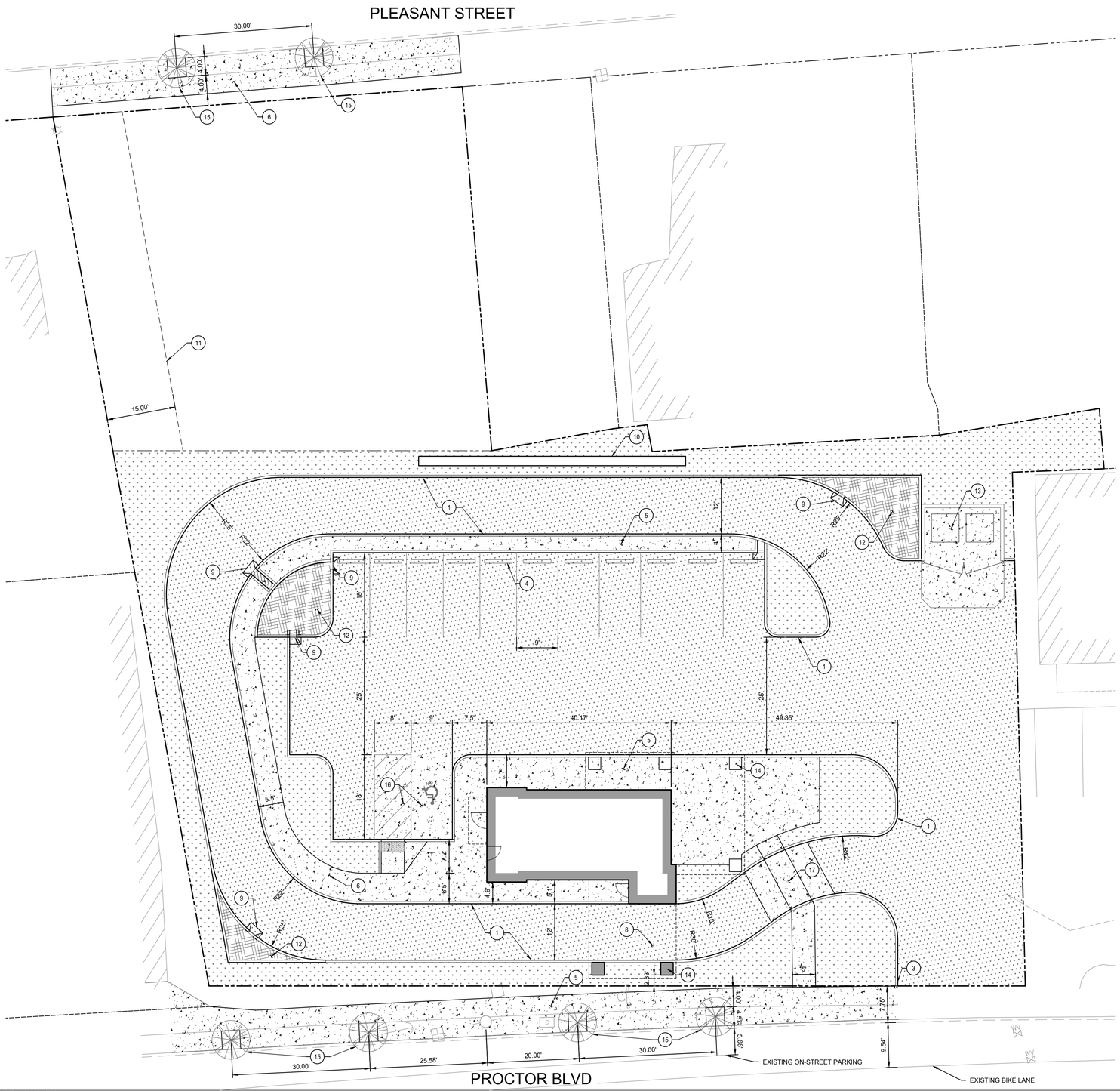
SITE VISIT DATE: 9-May-19

CERTIFIED ARBORIST: Damien Carre . PN-6405A

OREGON TREE CARE
CARING FOR OUR ENVIRONMENT

ID Number	Tree Common Name	Tree Genus Species	Size in inches (DBH)	Vigor	Single or Multistem	Remove or Retain
1	arborvitae	*Thuja*	10	Average	multi	Remove
2	big leaf maple	*Acer macrophyllum*	7	Average	single	Remove
3	big leaf maple	*Acer macrophyllum*	7	Average	multi	Remove
4	cottonwood	*Populus*	9	Average	single	Remove
5	cottonwood	*Populus*	14	Poor	single	Remove
6	Douglas fir	*Pseudotsuga menziesii*	14	Average	single	Retain
7	big leaf maple	*Acer macrophyllum*	9	Average	multi	Retain
8	cottonwood	*Populus*	7	Average	single	Remove
9	alder	*Alnus*	8	Poor	single	Remove
10	apple	*Malus*	6	Average	single	Remove
11	Douglas fir	*Pseudotsuga menziesii*	9	Average	single	Remove
12	alder	*Alnus rubra*	8	Poor	multi	Remove
13	cottonwood	*Populus*	9	Average	single	Remove


ant St
Pleasant St
9
10
11
12
Tree Protection fencing
7
6
8
5
4
3
2
1
All County Survey
& Planners
7-Eleven
Mattress World
Northwest Sandy
13



SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. ALL SIDEWALK PAVEMENT JOINTS SHALL BE CONSTRUCTED PER DETAIL X/C5.X.

(X) KEY NOTES

1	SAWCUT LINE
2	STANDARD CURB
3	CURB ENDING
4	WHEEL STOP
5	CONCRETE SIDEWALK - PER PLEASANT STREET MAST PLAN DETAIL
6	CONCRETE SIDEWALK - PER MID-BLOCK SURFACING DETAIL
7	CURB RAMP
8	OVERHEAD CANOPY
9	CURB SPILLWAY
10	ULTRA BLOCK RETAINING WALL
11	15' UTILITY EASEMENT
12	FLOW-THROUGH-PLANTER
13	TRASH ENCLOSURE
14	CANOPY COLUMN
15	FRONTAGE TREE WITH GRATE
16	ADA PARKING STALLS
17	PEDESTRIAN CROSSING

SHEET LEGEND

- PROPERTY LINE
- CONCRETE SIDEWALK
- STANDARD ASPHALT PAVEMENT
- STORMWATER FLOW-THROUGH-PLANTER
- LANDSCAPING, SEE LANDSCAPE PLANS

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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Date 11.28.18
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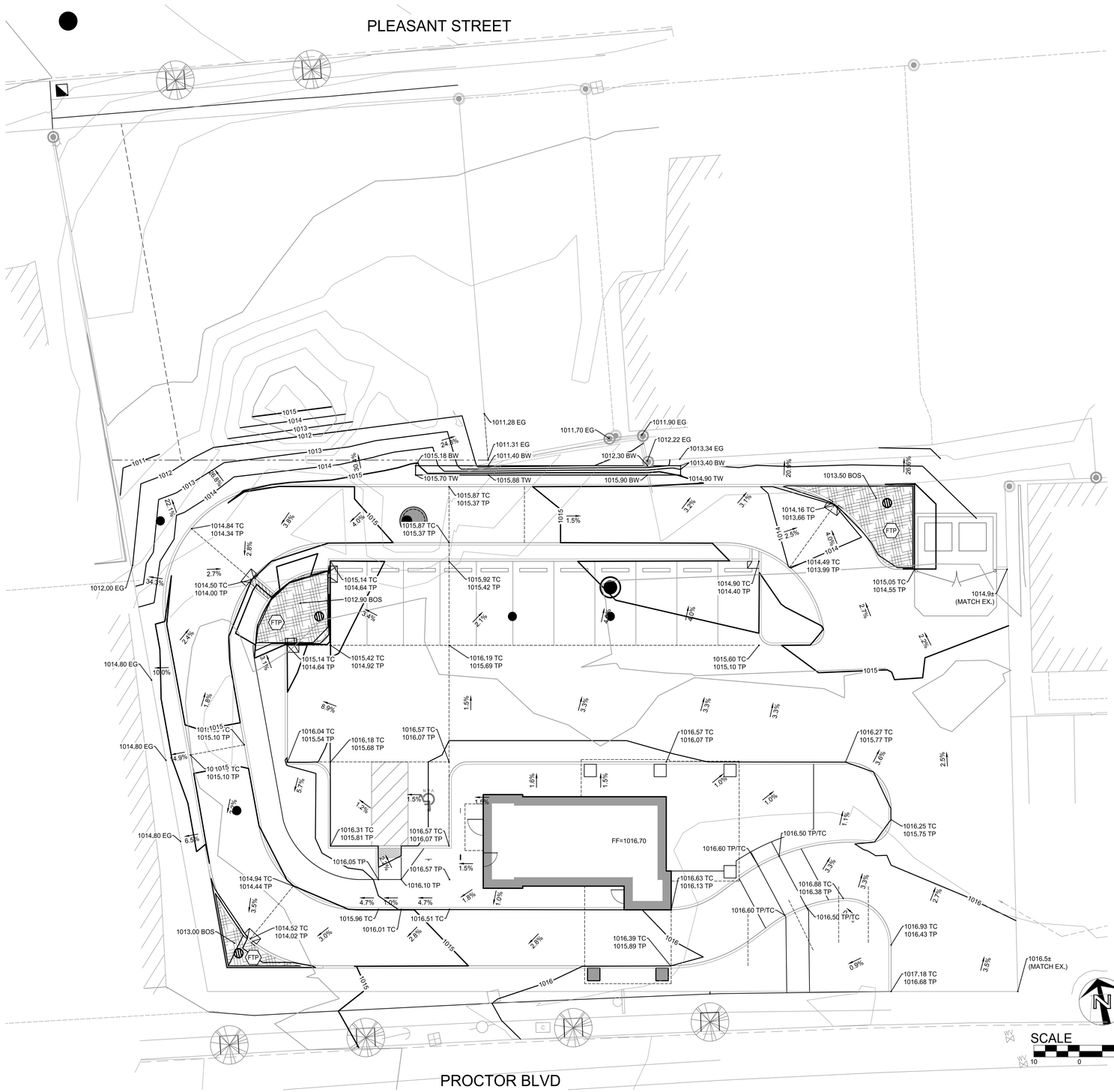
Sheet C2.0

SITE PLAN

Plotted: 1/28/19 at 9:45am By: FCE-CIV-1
File: P:\2018\18-0023 (Dutch Bros - Sandy)\Drafting\Civil\CAD\PLOT\18-0023_C2.0_SITE.dwg TAB:C2.0



SHEET NOTES

1. SLOPES PROVIDED ON SLOPE ARROW ARE FOR REFERENCE ONLY.
2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
4. ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
5. BLDG PORCH/PATIO CONCRETE PAD. TYP. GRADING IS: TOP OF CONCRETE OUTSIDE DOOR = FF ELEV. MINUS 0.02' SLOPE PORCH/PATIO 2.0% AWAY FROM BLDG (SEE ARCH. PLANS).

(X) KEY NOTES

GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X% →	GRADING SLOPE AND DIRECTION (DOWNHILL)

SPOT ELEVATION
DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
XX.XX XX

BOS	BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RIM	RIM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL

SHEET LEGEND

- FTP — FLOW-THROUGH PLANTER
- DRAINAGE FLOW DIRECTION
- GRADE BREAK
- 49 — EX. CONTOUR MINOR
- 50 — EX. CONTOUR MAJOR
- 49 — CONTOUR MINOR (FG)
- 50 — CONTOUR MAJOR (FG)

Revisions

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GRADING PLAN

Plotted: 1/28/19 at 9:45am By: FCE-CIV-1
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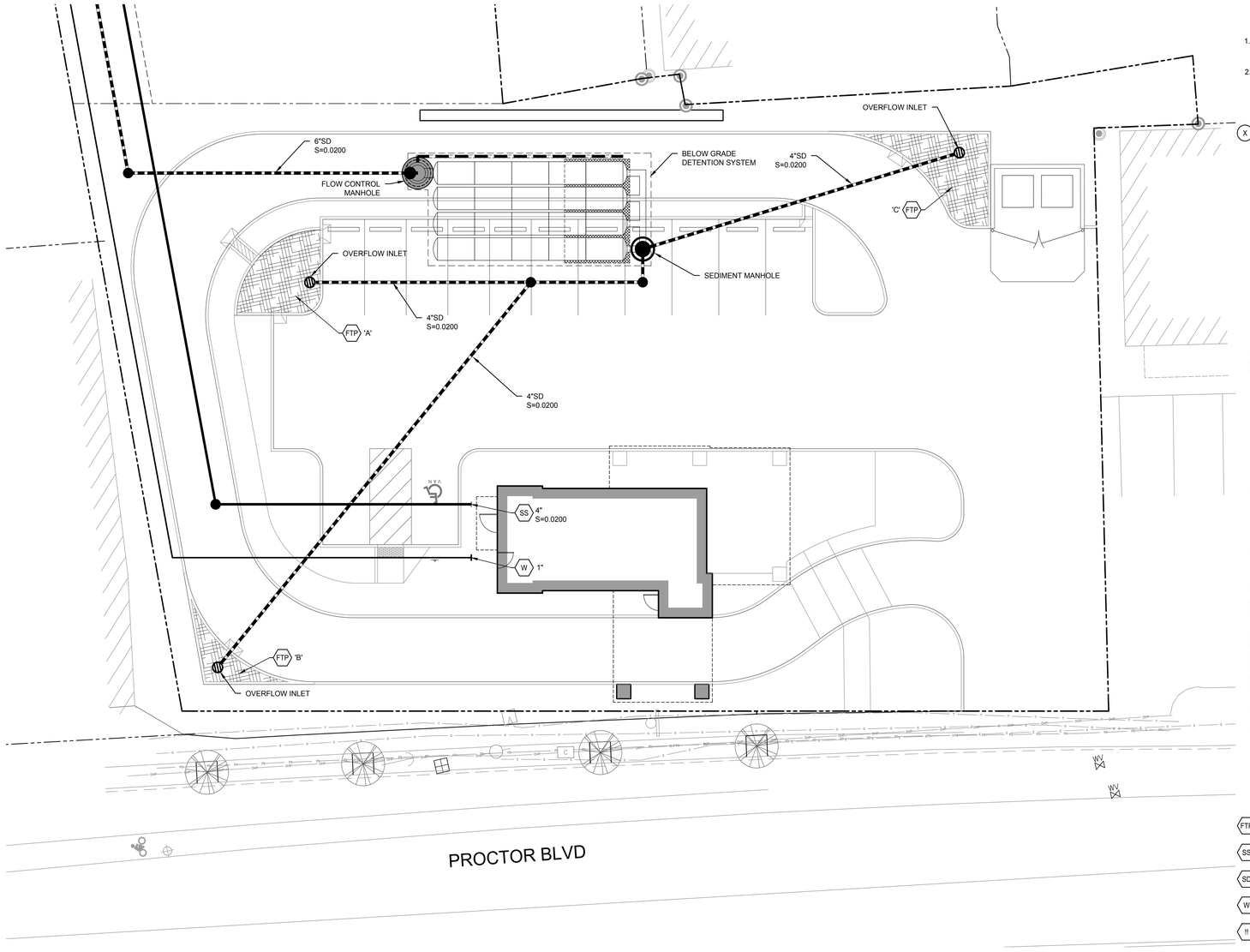

SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE, SS=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX XX-XX
X+XX.X RT X.X' ← LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X ← STRUCTURE INFO (WHERE APPLICABLE)
IE OUT = XX.X

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX

S=X.XX% ← SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

SHEET LEGEND

- FTP — STORMWATER FLOW-THROUGH PLANTER. ID AS SHOWN.
- SS — CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- SD — CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.
- W — CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- !! — UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O.

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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UTILITY PLAN - SOUTH

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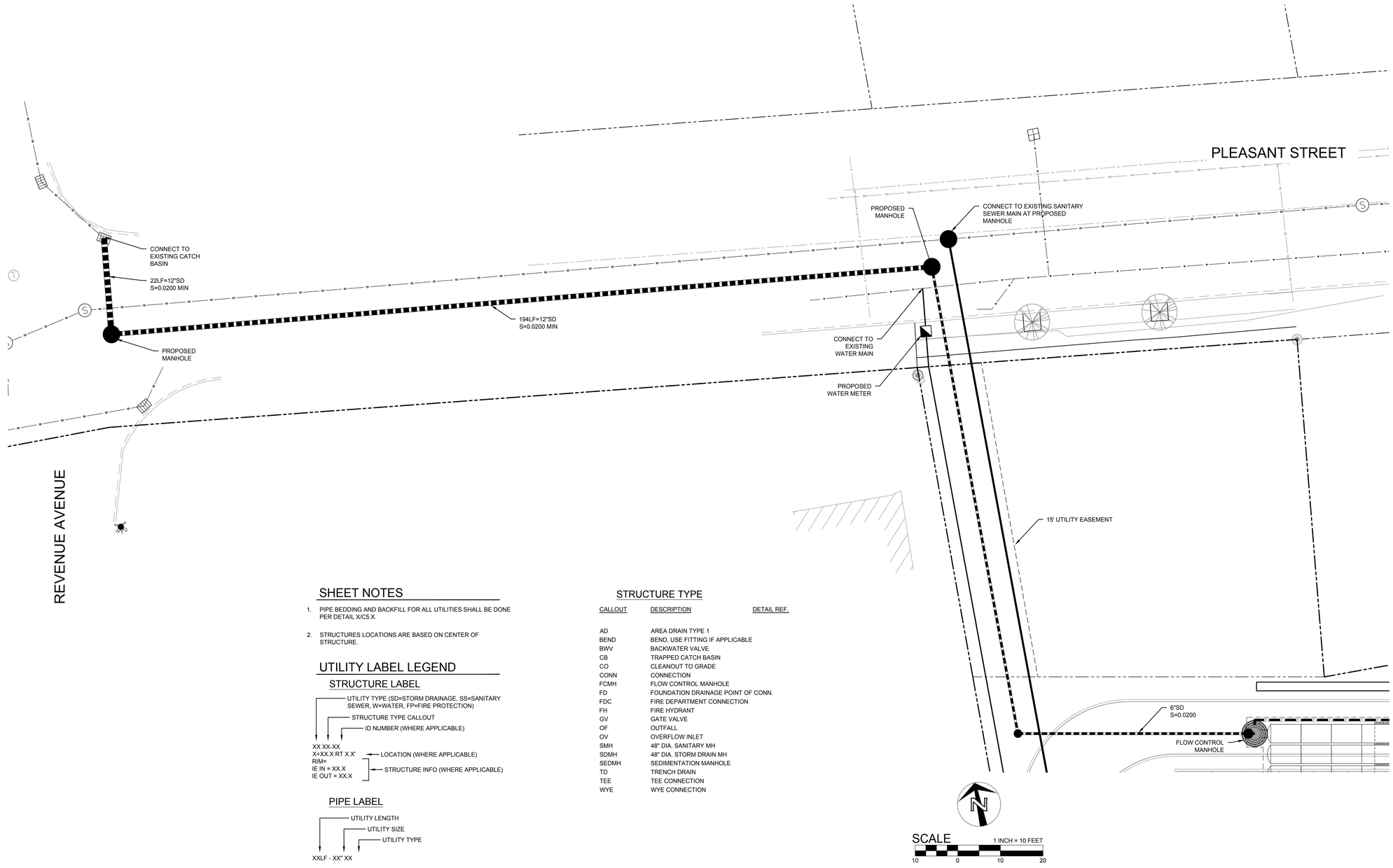


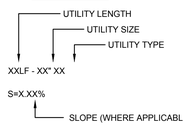
SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

UTILITY LABEL LEGEND

STRUCTURE LABEL

PIPE LABEL



STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

Revisions

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Date 11.28.18
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Sheet C4.1

UTILITY PLAN - NORTH

File: P:\2018\18-0323 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-0323_C4.0_UTIL.dwg TAB:C4.1
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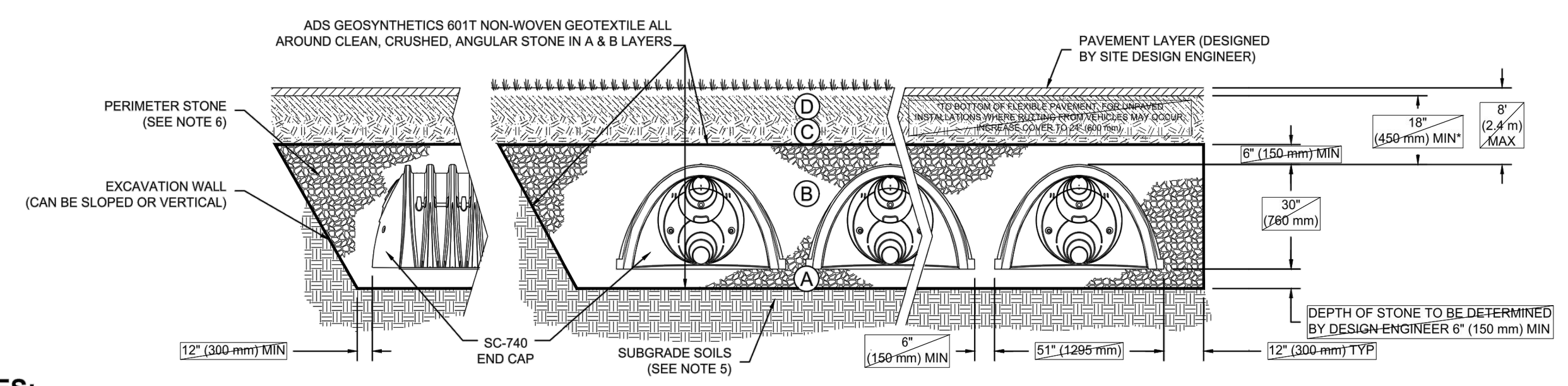
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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SHEET 3 OF 5

ADVANCED DRAINAGE SYSTEMS, INC.

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STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

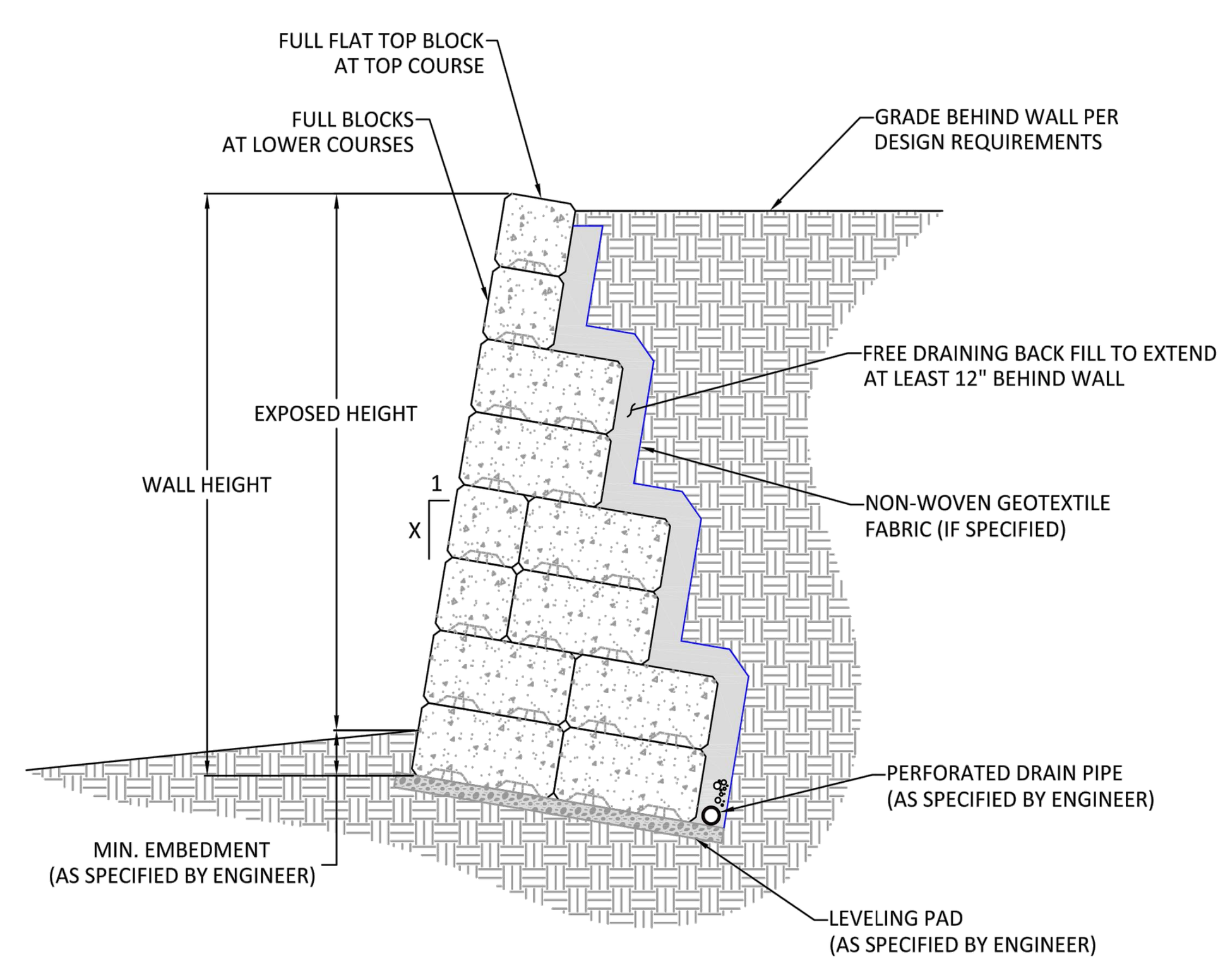
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



ULTRABLOCK, INC.
815 N.E. 172nd Ave.
VANCOUVER, WA 98684
800-377-3877 PH
360-694-0281 FAX

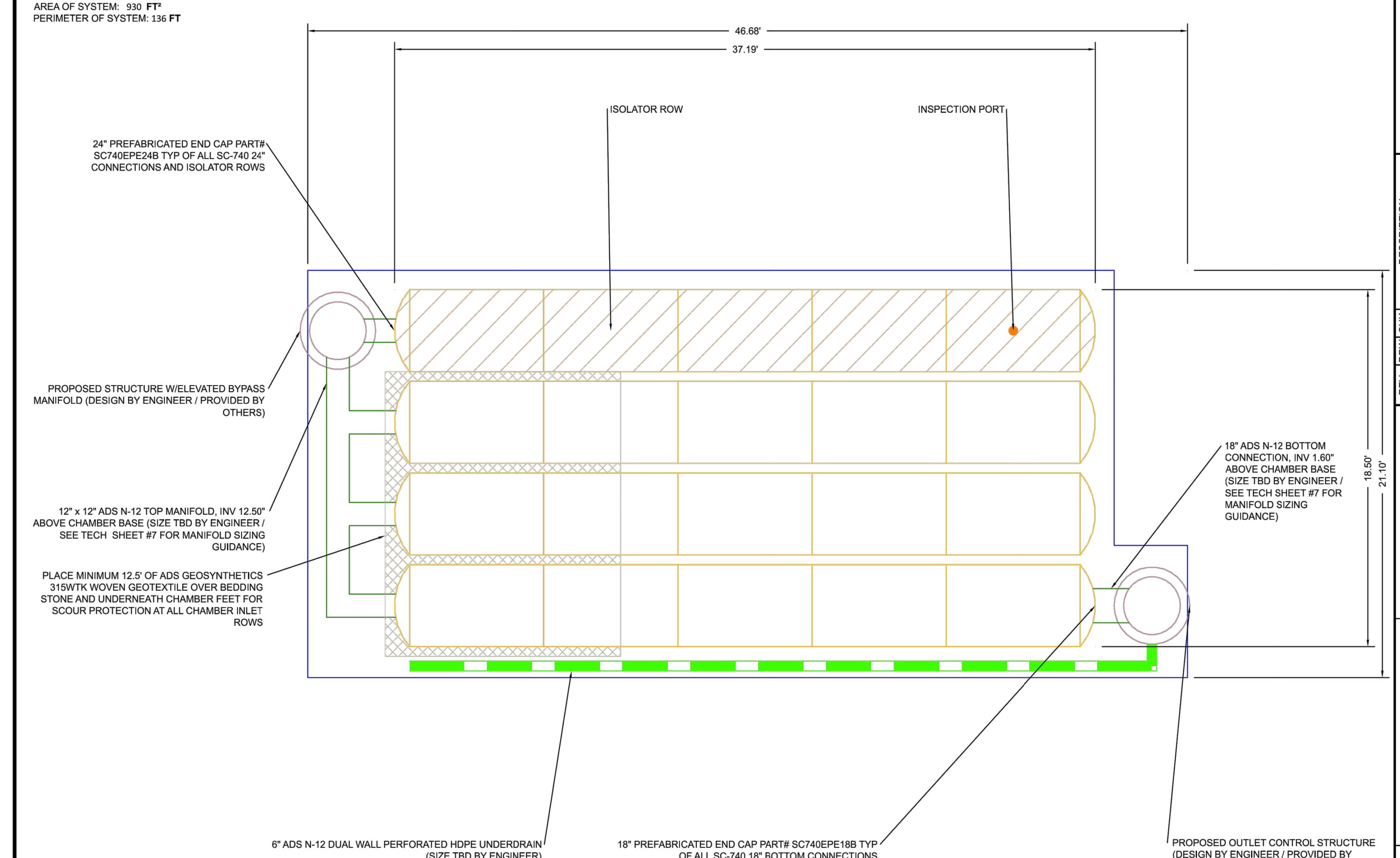
TITLE: Ultrablock - Gravity Wall | SHEET #: UB-01

** PRELIMINARY -BLOCK LAYOUTS TO BE APPROVED BY ENGINEER**

CONCEPTUAL LAYOUT

(20) STORMTECH SC-740 CHAMBERS
(8) STORMTECH SC-740 END CAPS
INSTALLED WITH 8 " COVER STONE, 6 " BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 1915 CF
AREA OF SYSTEM: 930 **FT²**
PERIMETER OF SYSTEM: 136 **FT**

COMPUTER GENERATED CONCEPTUAL LAYOUT - NOT FOR CONSTRUCTION



Dutch Bros - Sandy
Sandy

NOT TO SCALE

SHEET 2 OF 5

Revisions

FROELICH ENGINEERS
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com

Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.0

DETAILS

Plotted: 1/28/19 at 9:46am By: FCE-CIV-1

Limits of Assignment
Unless stated otherwise: 1) Information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) The inspection is limited to visual examination of the subject trees without dissection, probing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Methods
We used a Visual Tree Assessment (VTA) method to evaluate tree health and structure. VTA is based on the outward indications of tree stress and growth, as indicated by the formation of new tree parts, the shape of the new wood and the amount of live tissue. Trees adapt to current and past stress by growing wood to support themselves in an upright condition. This type of assessment is facilitated by our personal knowledge of tree growth as it relates to structural integrity.

Assumptions & Limiting Conditions
1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.

2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.

3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.

4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services.

5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.

6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant‘s prior express written consent.

7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant’s fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.

8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination

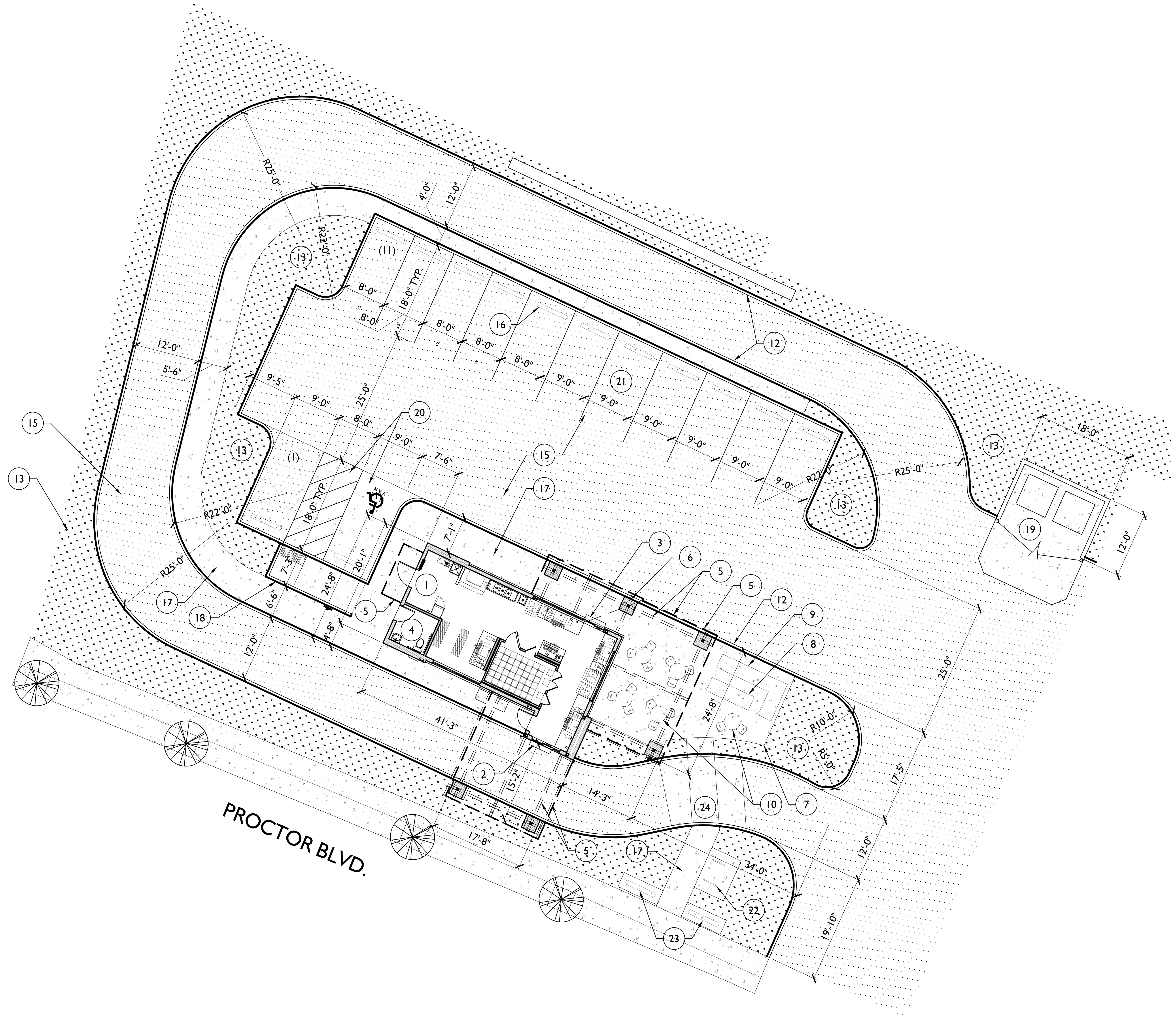
and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.

9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.

10. Loss or alteration of any part of this Agreement invalidates the entire report.

- END -

Exhibit U



REFERENCE ONLY SITE PLAN

SCALE: 3/32"=1'-0"

NORTH

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

Site Plan Keynotes

1. PRIMARY BUILDING ENTRANCE (EMPLOYEE).
2. DRIVE-THRU SERVICE WINDOW AND COUNTER.
3. WALK-UP SERVICE WINDOW AND COUNTER.
4. ACCESSIBLE RESTROOM PER FLOOR PLAN.
5. DASHED LINE INDICATES BUILDING / PORCH OVERHANG AND FRAMING ABOVE. SEE ROOF PLAN FOR ADDITIONAL INFORMATION.
6. PORCH COLUMN AND PEDESTAL PER STRUCTURAL PLAN, TYP.
7. CONCRETE PATIO PER FLOOR PLAN.
8. BUILT-IN FIRE PIT.
9. BUILT-IN SEATING AT FIRE PIT AREA.
10. OUTDOOR TABLE AND SEATING PER OWNER, TYP.
11. ~~TRAFFIC STRIPING PER DEVELOPMENT PLANS.~~
12. CONCRETE CURB. CONNECT TO EXISTING CURB WHERE OCCURS PER DEVELOPMENT PLAN DETAILS.
13. LANDSCAPE AREA PER LANDSCAPE PLAN / DEVELOPMENT PLAN.
14. NOT USED.
15. ASPHALT PAVEMENT PER DEVELOPMENT PLAN.
16. PARKING BUMPER PER DEVELOPMENT PLAN, TYP.
17. CONCRETE SIDEWALK PER DEVELOPMENT PLAN.
18. CONCRETE CURB ACCESS RAMP PER DEVELOPMENT PLAN.
19. TRASH ENCLOSURE LOCATION PER DEVELOPMENT PLAN. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION.
20. HANDICAP ACCESSIBLE PARKING SPOT AND AISLE PER DEVELOPMENT PLAN.
21. PARKING SPACE PER DEVELOPMENT PLAN, TYP.
22. BICYCLE PARKING (4) / LOCATION PER DEVELOPMENT PLAN.
23. PEDESTRIAN BENCHES (2) / LOCATION PER DEVELOPMENT PLAN.
24. RAISED / PEDESTRIAN CROSSING PER DEVELOPMENT PLAN.
25. ~~SIDEWALK SCUPPER PER DEVELOPMENT PLAN.~~
26. ~~LOCATION DRIVE-THRU SIGN PER SEPARATE PERMIT. SHOWN FOR REFERENCE ONLY. COORDINATE REQUIREMENTS.~~
27. ~~LOCATION MONUMENT SIGN PER SEPARATE PERMIT. SHOWN FOR REFERENCE ONLY. COORDINATE REQUIREMENTS.~~
28. ~~PROPERTY LINE PER DEVELOPMENT PLAN. VERIFY LOCATION / DIMENSIONS.~~
29. ~~SIGHT VISIBILITY TRIANGLES PER DEVELOPMENT PLAN.~~
30. ~~GREASE INTERCEPTOR PER PLUMBING PLAN.~~
31. ~~WATER METER AND BACK FLOW PREVENTER PER PLUMBING PLAN.~~
32. ~~ELECTRICAL SERVICE ENTRANCE AND METER PER ELECTRICAL PLAN.~~
33. ~~GAS SERVICE ENTRANCE AND METER PER PLUMBING PLAN.~~

Parking Calculations

BUILDING SQUARE FOOTAGES	
BUILDING CORE	834 SF
CANOPY / COVERED PATIO	906 SF
GROSS FLOOR AREA (GFA)	1740 SF
AUTOMOBILE PARKING SPACES REQUIRED	
17.98.20.8 EATING OR DRINKING ESTABLISHMENTS = 1/250 GFA + 1 PER 2 EMPLOYEES	
AUTOMOBILE PARKING SPACES REQUIRED	
1740 SF / 250 = 6.96 (7)	7 SPACES
10 EMPLOYEES / 2 = 5	5 SPACES
TOTAL	12 SPACES REQUIRED
MAXIMUM PARKING ALLOWED (17.98.10.Q) = +30% REQUIRED	
12 SPACES X 1.3 = 15.6 (16)	16 SPACES MAXIMUM
AUTOMOBILE PARKING PROVIDED	13 SPACES / OK
BICYCLE PARKING REQUIRED	
5% OR 2 / WHICHEVER GREATER	
13 X .05 = .65 SPACES / 2 IS GREATER	2 SPACES
BICYCLE PARKING PROVIDED	4 SPACES / OK

pricing only not for construction

Revisions

REFERENCE ONLY SITE PLAN

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

a.23 studios
340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com

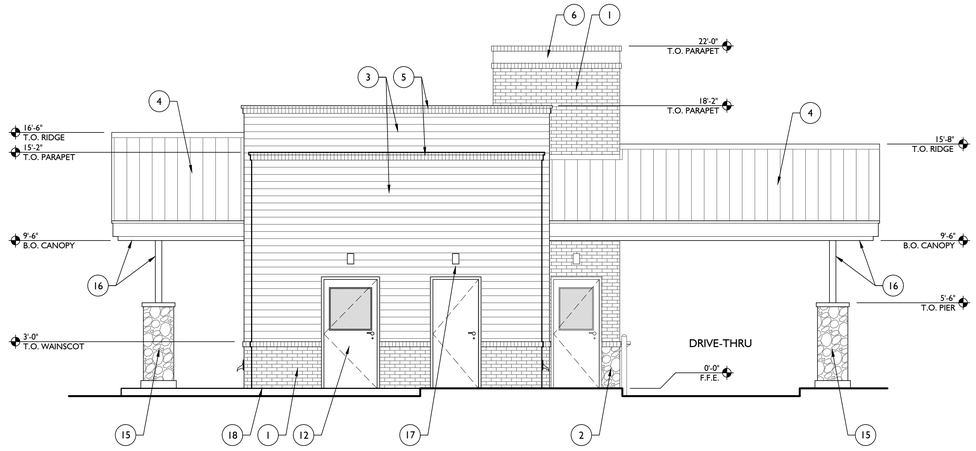
Project 18069

Date 5.28.19

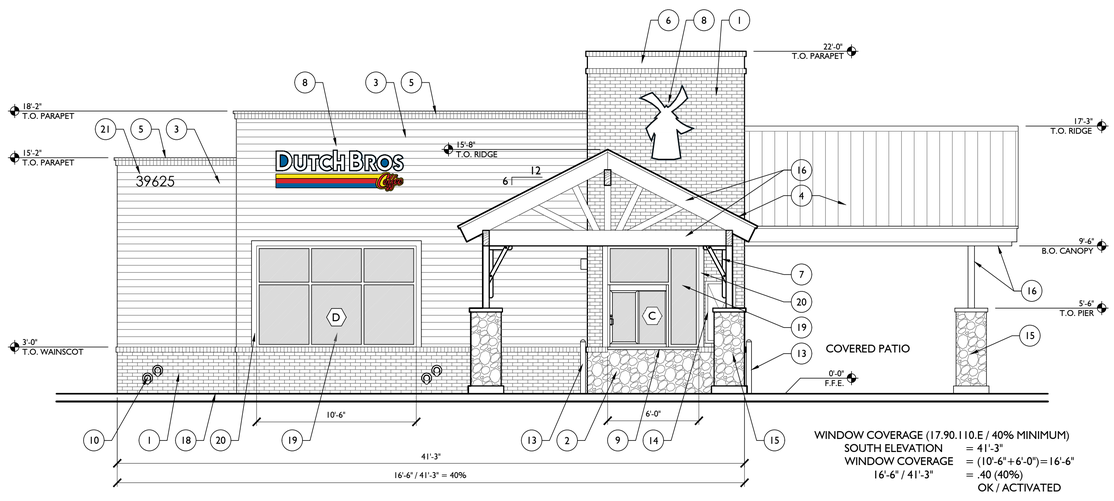
Scale As Noted

Sheet

A1.1



1 WEST ELEVATION
Scale: 1/4" = 1'-0"



2 SOUTH ELEVATION
Scale: 1/4" = 1'-0"

WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
SOUTH ELEVATION = 41'-3"
WINDOW COVERAGE = (10'-6"+6'-0") = 16'-6"
16'-6" / 41'-3" = .40 (40%)
OK / ACTIVATED

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

ELEVATION KEYNOTES:

1. THIN BRICK VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
   *MUTUAL MATERIALS 'WESTPORT USED' (TUMBLED) OR EQUAL.
2. MANUFACTURED STONE VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
   *ELDORADO STONE / CLIFFSTONE 'WHITEBARK' OR EQUAL.
3. MANUFACTURED COMPOSITE SIDING W/ HORIZONTAL ORIENTATION.
   *NEWTECHWOOD 'WESTMINSTER GRAY' OR EQUAL.
4. PRE-FINISHED STANDING SEAM METAL ROOF PER ROOF PLAN.
   *METALLION INDUSTRIES 'DARK BLUE' OR EQUAL.
5. 6" BRICK CORNICE TYP AT COMPOSITE SIDING PARAPET.
6. 16" BRICK CORNICE TYP AT BRICK PARAPET. SEE DETAILS.
7. NATURAL STAIN WOOD KNEE BRACE / BRACKET PER DETAILS.
   *SHERWIN WILLIAMS 'BLUE SHADOW' SEMI-TRANSPARENT WOOD STAIN OR EQUAL.
8. LIGHTED SIGN. INSTALLED BY SIGN CONTRACTOR, COORDINATE ELECTRICAL J-BOX AND BLOCKING REQUIREMENTS.
9. STAINLESS STEEL SERVICE TRAY, OWNER FURNISHED, CONTRACTOR INSTALLED.
10. ROOF DRAIN MAIN AND OVERFLOW ROOF DRAIN OUTLET, COLOR: AS SELECTED BY OWNER.
11. NOT USED.
12. EXTERIOR DOOR, PAINTED, FINISH DUTCH BROS GREY.
13. 6" STEEL PIPE BOLLARD WITH PLASTIC SLEEVE, COLOR: DUTCH BROS BLUE, SEE: STRUCTURAL. SLEEVE PROVIDED BY OWNER.
14. BACKLIT MENU BOARD, OWNER FURNISHED CONTRACTOR INSTALLED, APPROX. SIZE 30"Wx42"H.
15. PIER W/ MANUFACTURED STONE VENEER FINISH AND SOLID CAP PER DETAILS, STRUCTURAL PLANS.
16. WOOD FRAMED CANOPY: GABLE ROOF AS SHOWN, NATURAL COLOR HEAVY TIMBER POSTS AND BEAMS W/ EXPOSED HEAVY STEEL BRACKETS. SEE DETAIL SHEETS, STRUCTURAL AND ROOF PLANS FOR ADDITIONAL INFORMATION.
17. LIGHT FIXTURE PER RCP, ELECTRIC PLAN. B.O. FIXTURE TO BE AT 8' - 0" A.F.F., U.N.O.
18. CONCRETE SIDEWALK AT BUILDING BEYOND.
    ** NOTE - BUILDING / SIDING MATERIAL DOWN TO SIDEWALK ALL AROUND / NO EXPOSED FOUNDATION.
19. CLEAR ANODIZED STOREFRONT WINDOW SYSTEM PER WINDOW ELEVATIONS / TOWN CODE SECTION 17.90.110.E.2.
    ** NOTE - CLEAR GLASS ALL AROUND TYP PER 17.90.110.E.2.A.
20. 4" COMPOSITE WOOD TRIM AT WINDOWS PER TOWN CODE SECTION 17.90.110.E.2.D.
21. BUILDING NUMBERS - 8" ARIAL FONT.

*NOTE - ALL MATERIALS AND COLORS PROPOSED ARE TO MEET SANDY CODE REQUIREMENTS INCLUDING APPENDIX 'C' / BUILDING COLOR PALETTE AND APPENDIX 'D' / METAL ROOF COLOR PALETTE.

pricing only not for construction

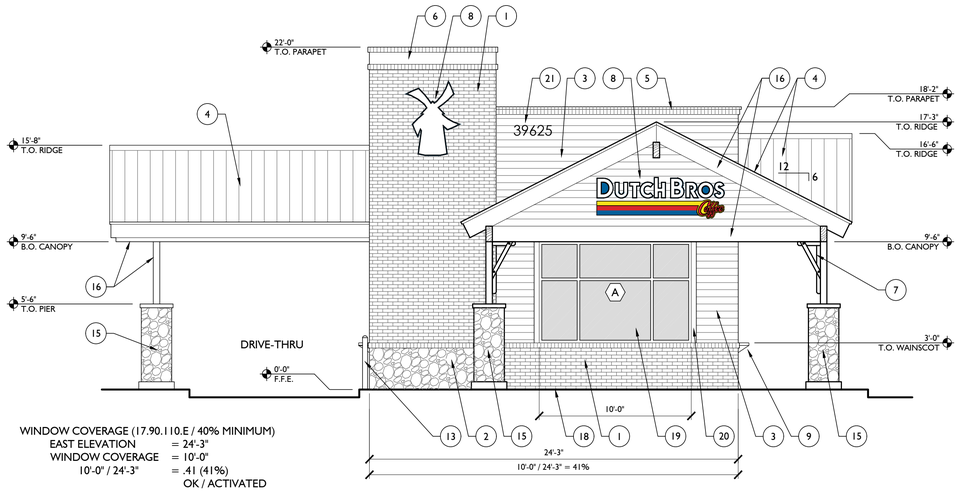
Revisions

BUILDING ELEVATIONS

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

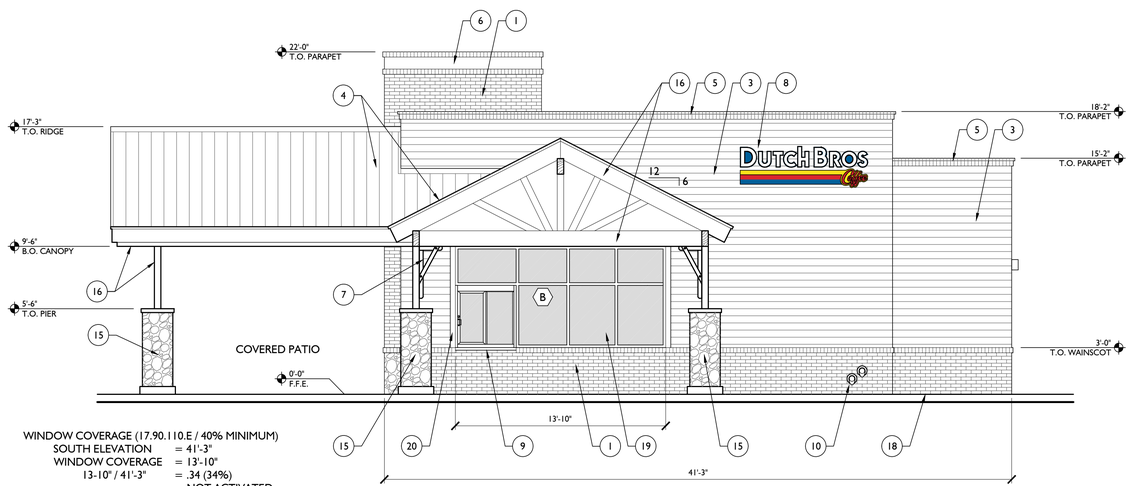
340 South Convent Ave
Tucson, Arizona 85701
520.245.4500 phone
www.a23studios.com
a.23 studios

Project 18069
Date 5.28.19
Scale As Noted
Sheet
A5.0



WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
EAST ELEVATION = 24'-3"
WINDOW COVERAGE = 10'-0"
10'-0" / 24'-3" = .41 (41%)
OK / ACTIVATED

3 EAST ELEVATION
Scale: 1/4" = 1'-0"



WINDOW COVERAGE (17.90.110.E / 40% MINIMUM)
SOUTH ELEVATION = 41'-3"
WINDOW COVERAGE = 13'-10"
13-10" / 41'-3" = .34 (34%)
NOT ACTIVATED

4 NORTH ELEVATION
Scale: 1/4" = 1'-0"

NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.

ELEVATION KEYNOTES:

1. THIN BRICK VENEER WAINSCOT W/ BRICK SILL AT TRANSITION.
   *MUTUAL MATERIALS 'WESTPORT USED' (TUMBLED) OR EQUAL.
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    ** NOTE - CLEAR GLASS ALL AROUND TYP PER 17.90.110.E.2.A.
20. 4" COMPOSITE WOOD TRIM AT WINDOWS PER TOWN CODE SECTION 17.90.110.E.2.D.
21. BUILDING NUMBERS - 8" ARIAL FONT.

*NOTE - ALL MATERIALS AND COLORS PROPOSED ARE TO MEET SANDY CODE REQUIREMENTS INCLUDING APPENDIX 'C' / BUILDING COLOR PALETTE AND APPENDIX 'D' / METAL ROOF COLOR PALETTE.

pricing only not for construction

Revisions

BUILDING ELEVATIONS

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

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Tucson, Arizona 85701
(520) 545-0161 phone
www.a23studios.com
a.23studios

Project 18069
Date 5.28.19
Scale As Noted
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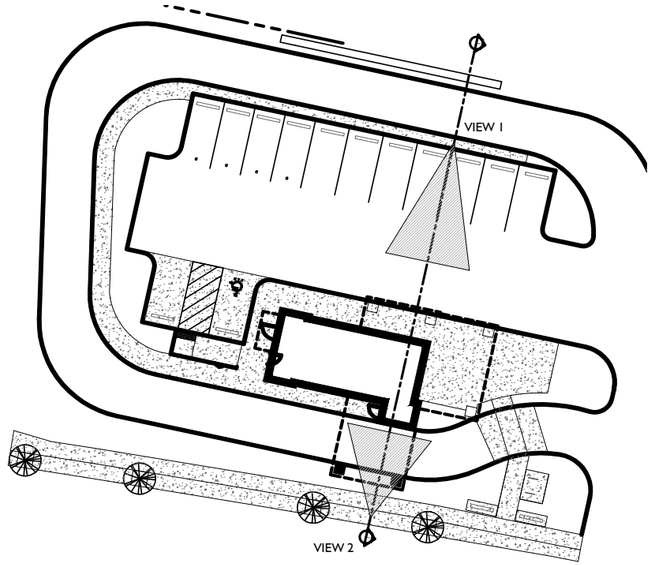
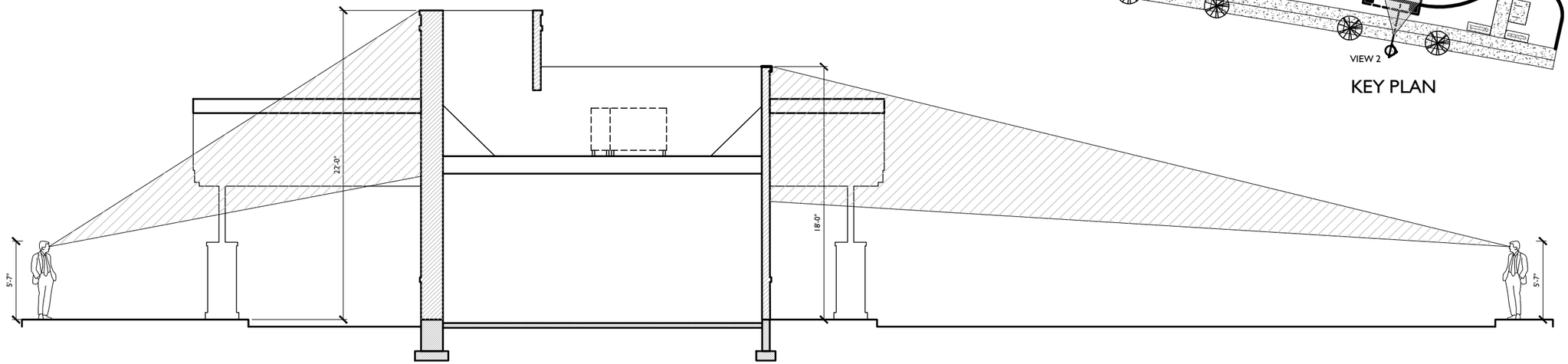
A5.1



KEY PLAN



SIGHT LINE ANALYSIS

DUTCH BROS. 39625 PROCTOR BLVD, SANDY, OR 97055

N.T.S. DATE: 05.20.19 IOB#18069

a.23 studios
340 S Convent Ave
Tucson, Arizona 85701
520.245.4010 phone

NOTE: THIS IS A SCHEMATIC ONLY SITE PLAN AND SUBJECT TO MUNICIPALITY APPROVALS. ALL DIMENSIONS REFERENCE USE ONLY.

SUMMARY DRAWING

SHOP DRAWING #:
28181

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

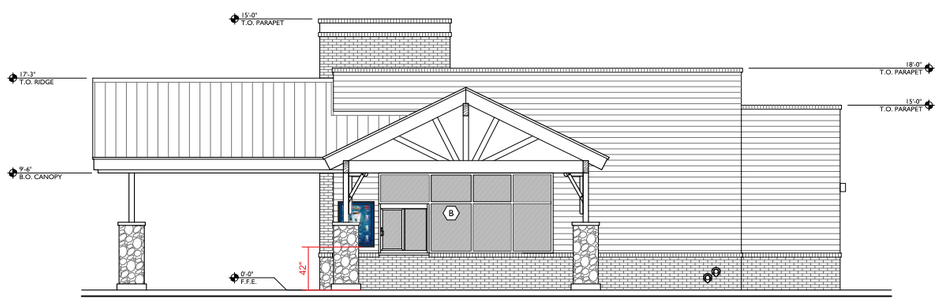
SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

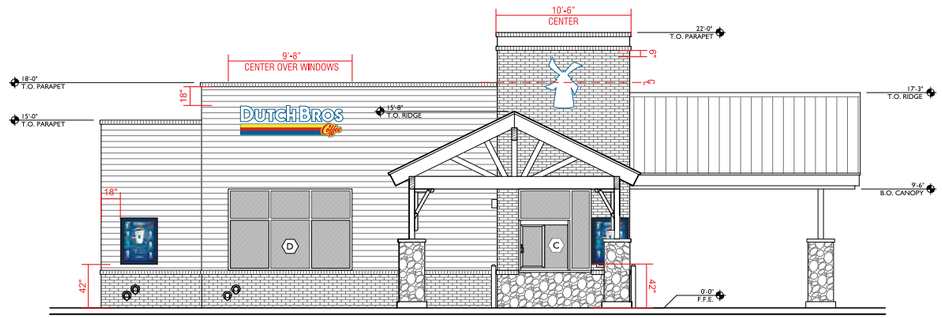
ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SUMMARY - BUILDING SIGNS & WALL-MOUNTED MENU SIGNS

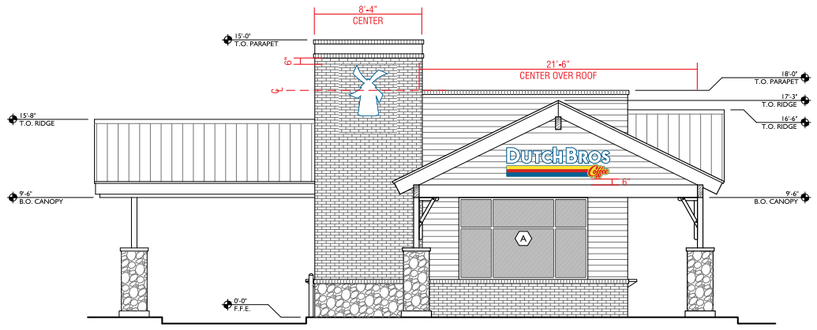
Exhibit V



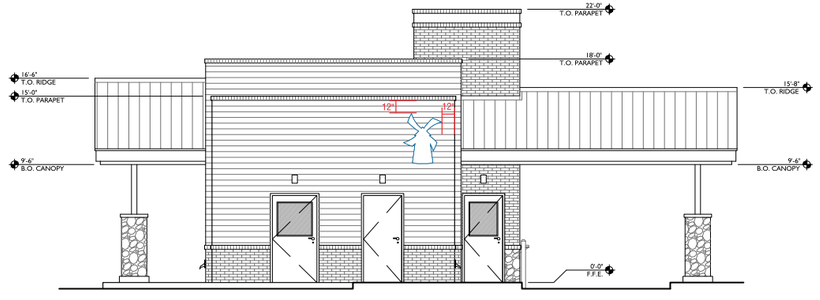
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

SUMMARY DRAWING

SHOP DRAWING #:
28181

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

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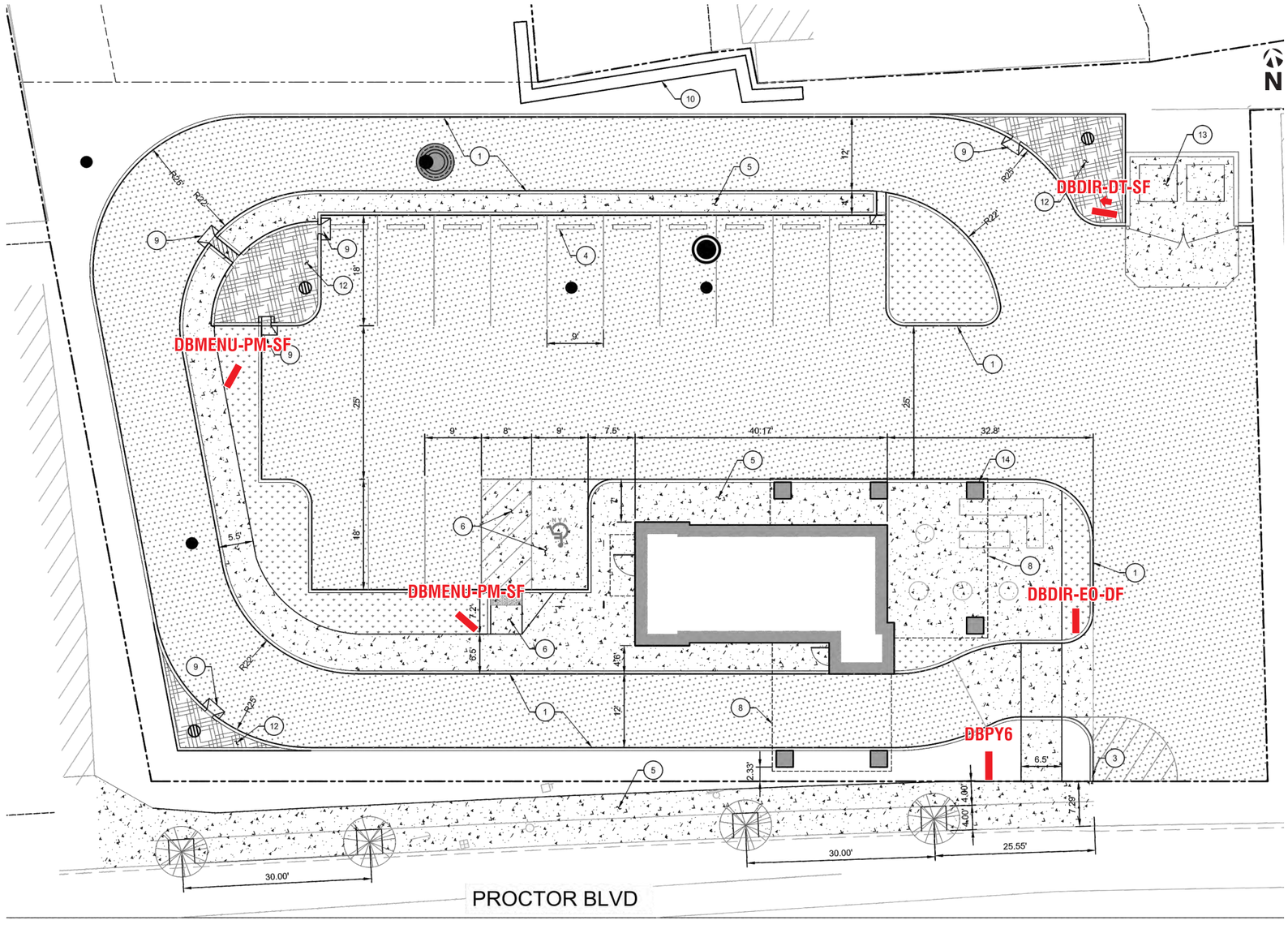
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SUMMARY - PYLON SIGN, DIRECTIONAL SIGNS & PLATE-MOUNTED MENU SIGNS



FACTORY DRAWING

SHOP DRAWING #:
28181A

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 3

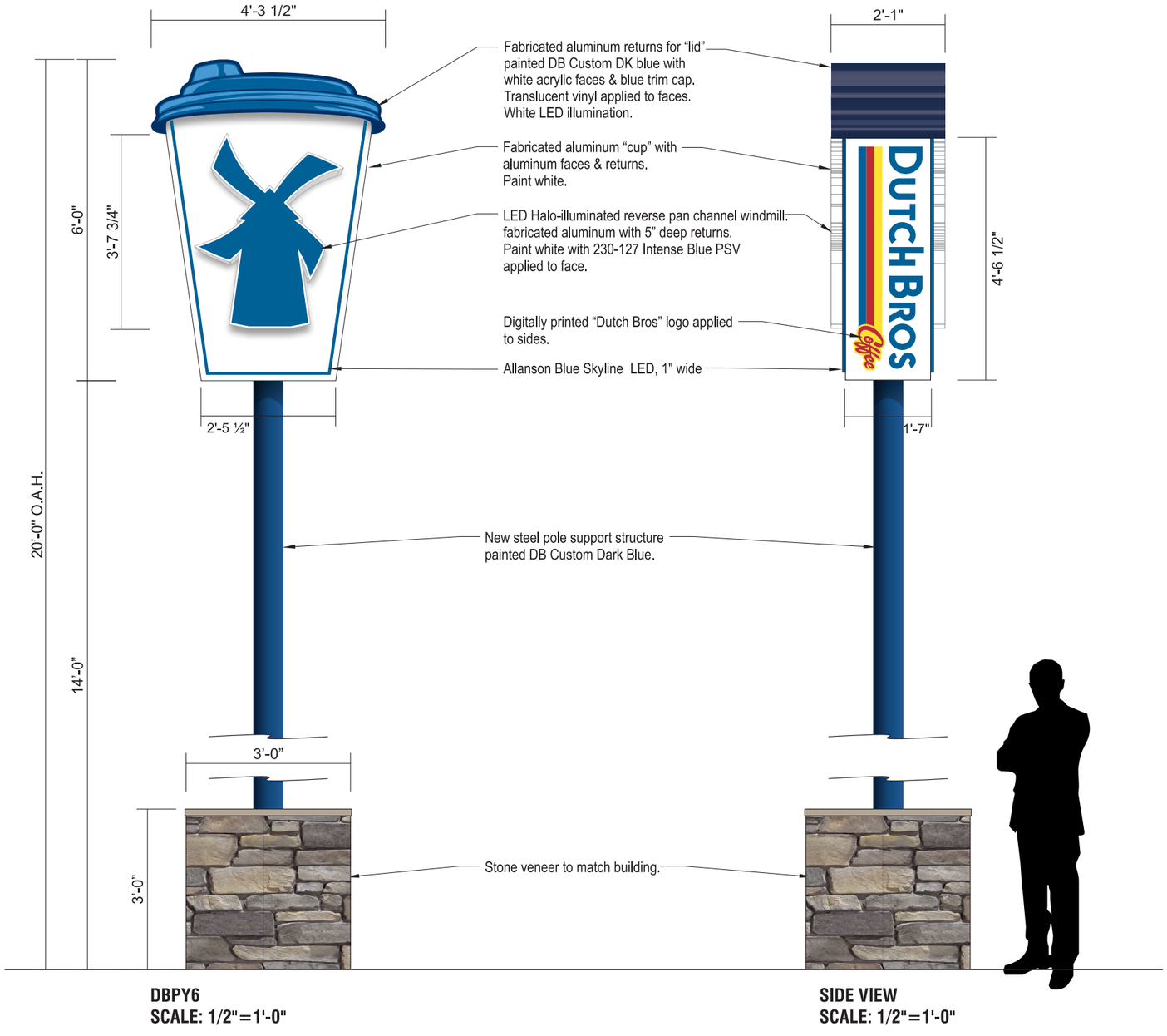
ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

COLOR CODE

- PANTONE 107 C YELLOW
- PANTONE 1795 C RED
- PANTONE 7691 C BLUE
- DB CUSTOM DK BLUE (POLE)
- WHITE
- 230-36 DARK BLUE (LID)
- 230-127 INTENSE BLUE (LID)
- 230-147 DEEP SKY BLUE (LID)

SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F INTERNALLY ILLUMINATED MONUMENT CUP SIGN

LEVEL A FINISH



DBPY6
SCALE: 1/2"=1'-0"

SIDE VIEW
SCALE: 1/2"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181A

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 3

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P 541.485.5546 | F 541.485.5813

CONCEPTUAL NIGHT VIEW
NOT TO SCALE

FACTORY DRAWING

SHOP DRAWING #:
28181A

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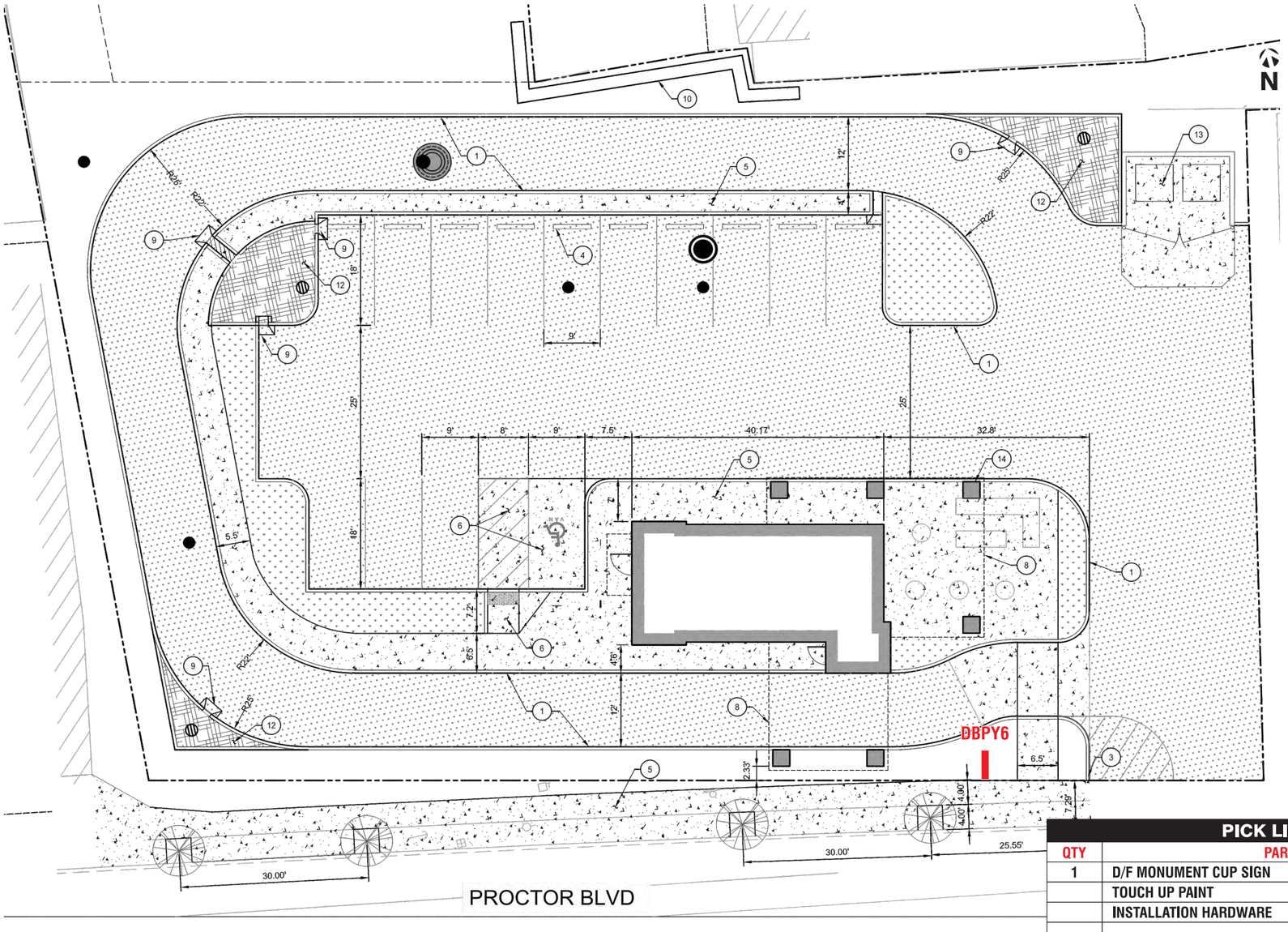
NJ	CH	CH	3 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW POLE SIGN AS SHOWN.

PICK LIST		
QTY	PART	✓
1	D/F MONUMENT CUP SIGN	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

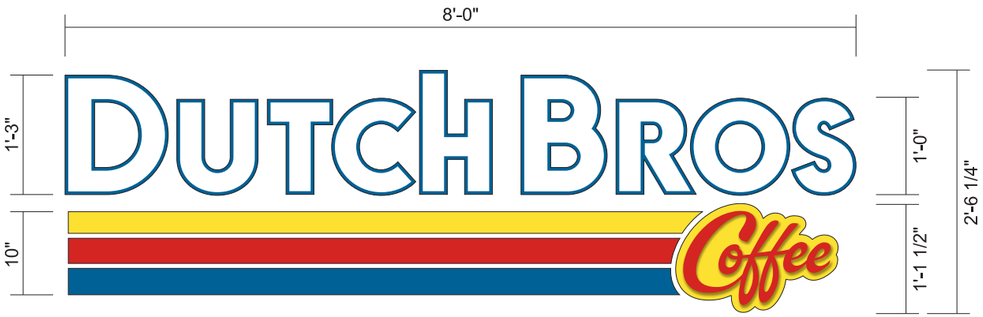
COLOR CODE

- 230-015 YELLOW PSV
- 230-33 RED PSV
- 230-127 INTENSE BLUE PSV
- WHITE

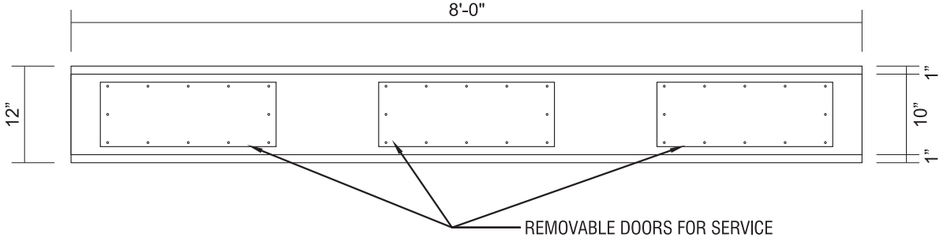
SCOPE OF WORK: MANUFACTURE & INSTALL (2) SETS OF HALO-ILLUMINATED CHANNEL LETTERS WITH REMOTE RACEWAYS

LEVEL A FINISH

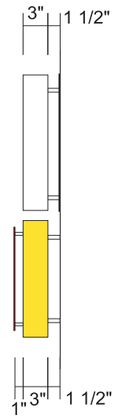
DBCL8-HALO
SCALE: 3/4"=1'-0"



FABRICATED REMOTE RACEWAY
.040 PRE-COAT WHITE ALUMINUM



SIDE VIEW

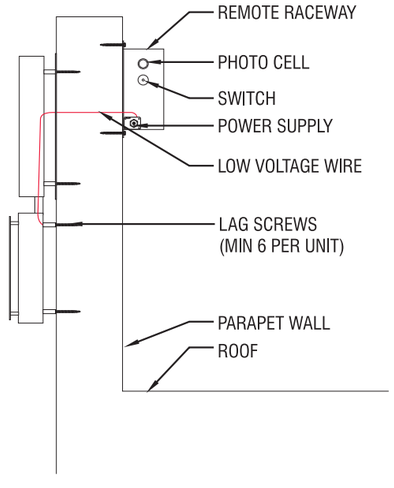


DUTCH BROS:
3" DEEP REVERSE PAN FABRICATED ALUMINUM CHANNEL LETTERS. PAINT WHITE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACKS WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.
1/8" ALUMINUM OVERSIZED BACKERS. PAINT TO MATCH PMS 7691 C BLUE. FLUSH MOUNT BACKERS TO BUILDING.

3 STRIPES:
3" DEEP REVERSE PAN FABRICATED ALUMINUM PAINTED YELLOW, RED & BLUE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACKS WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

COFFEE:
YELLOW AREA TO BE 3" DEEP REVERSE PAN FABRICATED ALUMINUM PAINTED YELLOW
RED "COFFEE" TO BE 1/8" ALUMINUM PAINTED RED. SPACE OF 1" FROM ROUTED OUT LETTERS IN YELLOW BACKGROUND.
BACK UP ROUTED LETTERS WITH WHITE LEXAN IN BACKGROUND AND BACK LIT WITH WHITE LED'S TO ALLOW A HALO-LIT "COFFEE".
YELLOW BACKGROUND SHAPE TO HAVE CLEAR ACRYLIC BACK WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

ATTACHMENT DETAIL
CHANNEL LETTERS WITH
REMOTE RACEWAY



FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

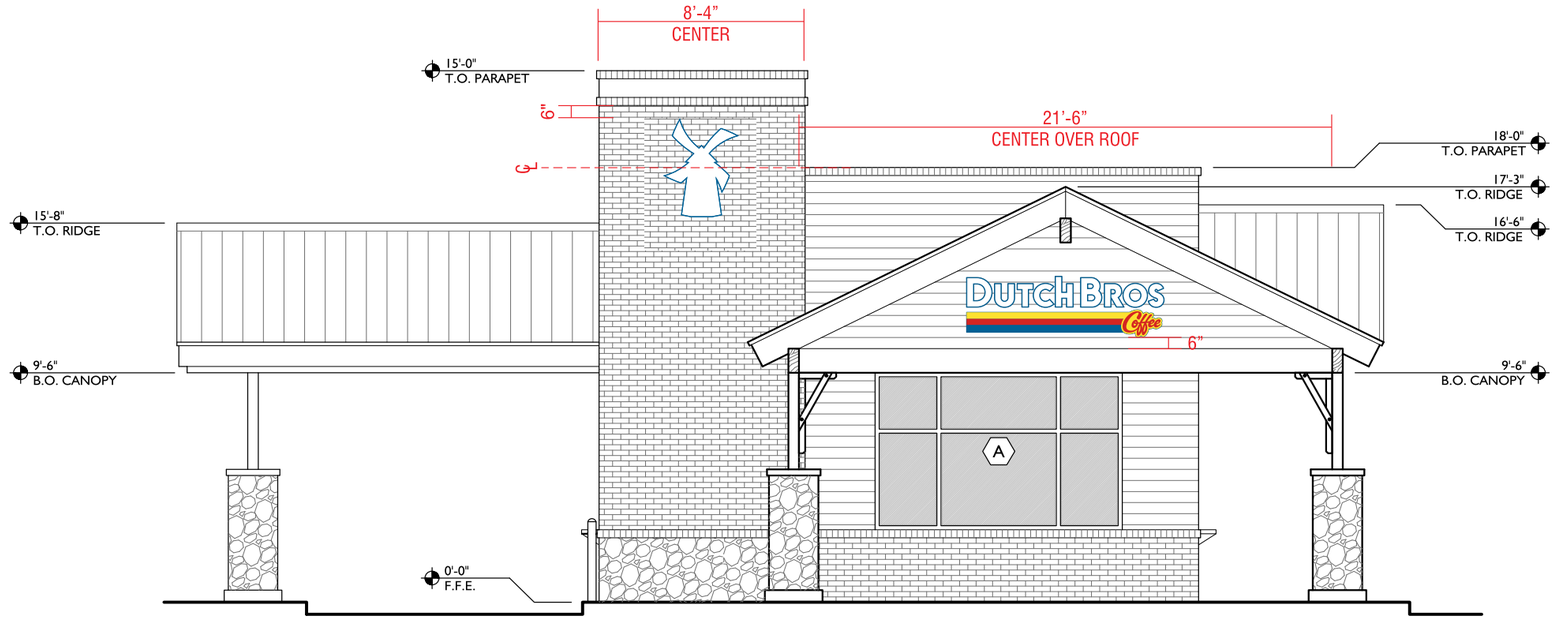
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



EAST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
2	CHANNEL LETTERS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181B

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

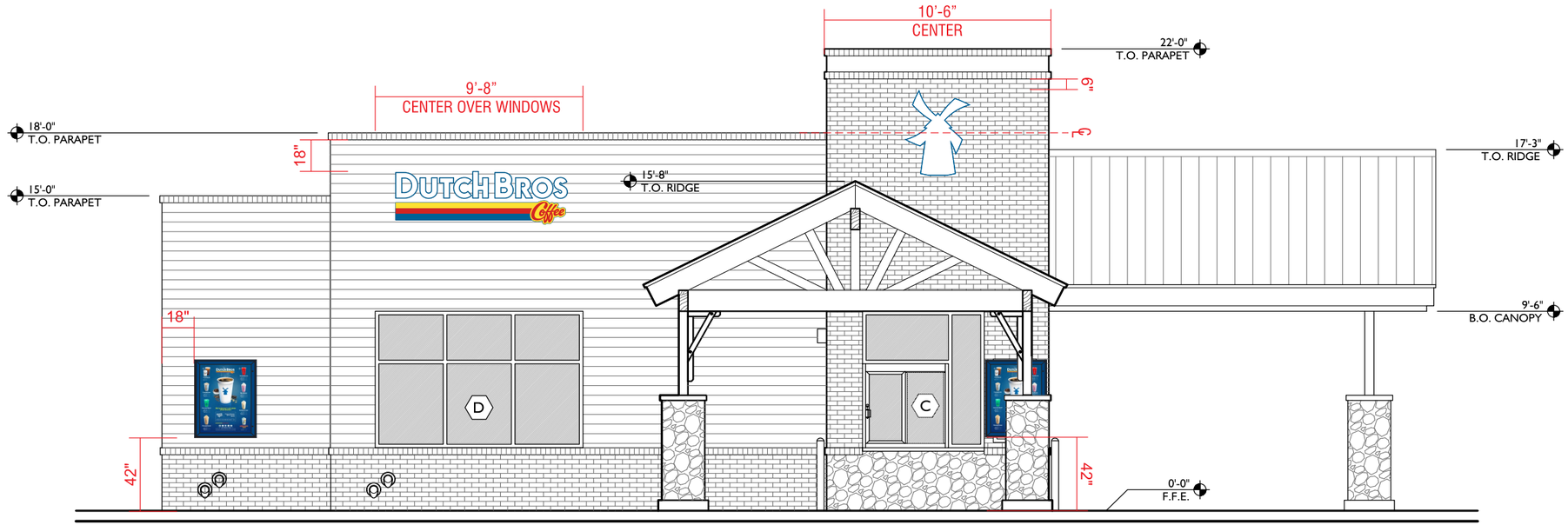
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 3

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
2	CHANNEL LETTERS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SCOPE OF WORK: MANUFACTURE & INSTALL (3) HALO-ILLUMINATED WINDMILL LOGOS

LEVEL A FINISH

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 4

ES&A SIGN & AWNING
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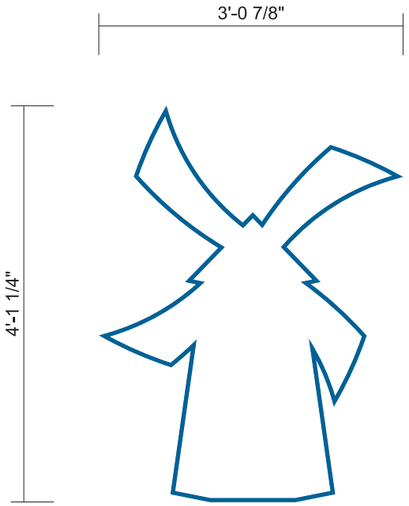
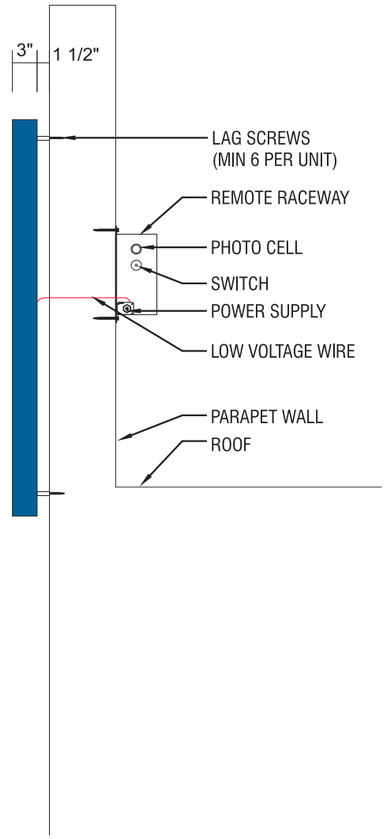
P 541.485.5546 | F 541.485.5813

DBW11-HALO-LIT
SCALE: 3/4"=1'-0"



SIDE VIEW

ATTACHMENT DETAIL
CHANNEL LETTERS WITH
REMOTE RACEWAY



3" DEEP REVERSE PAN FABRICATED ALUMINUM WINDMILL. PAINT FACE WHITE.
PAINT OUTLINE & RETURNS TO MATCH PMS 7691 C BLUE.
WHITE LED HALO ILLUMINATION.
CLEAR ACRYLIC BACK WITH WHITE DIFFUSER FOR HALO LIGHTING & 1 1/2" SPACERS.

COLOR CODE

- 230-127 INTENSE BLUE PSV
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

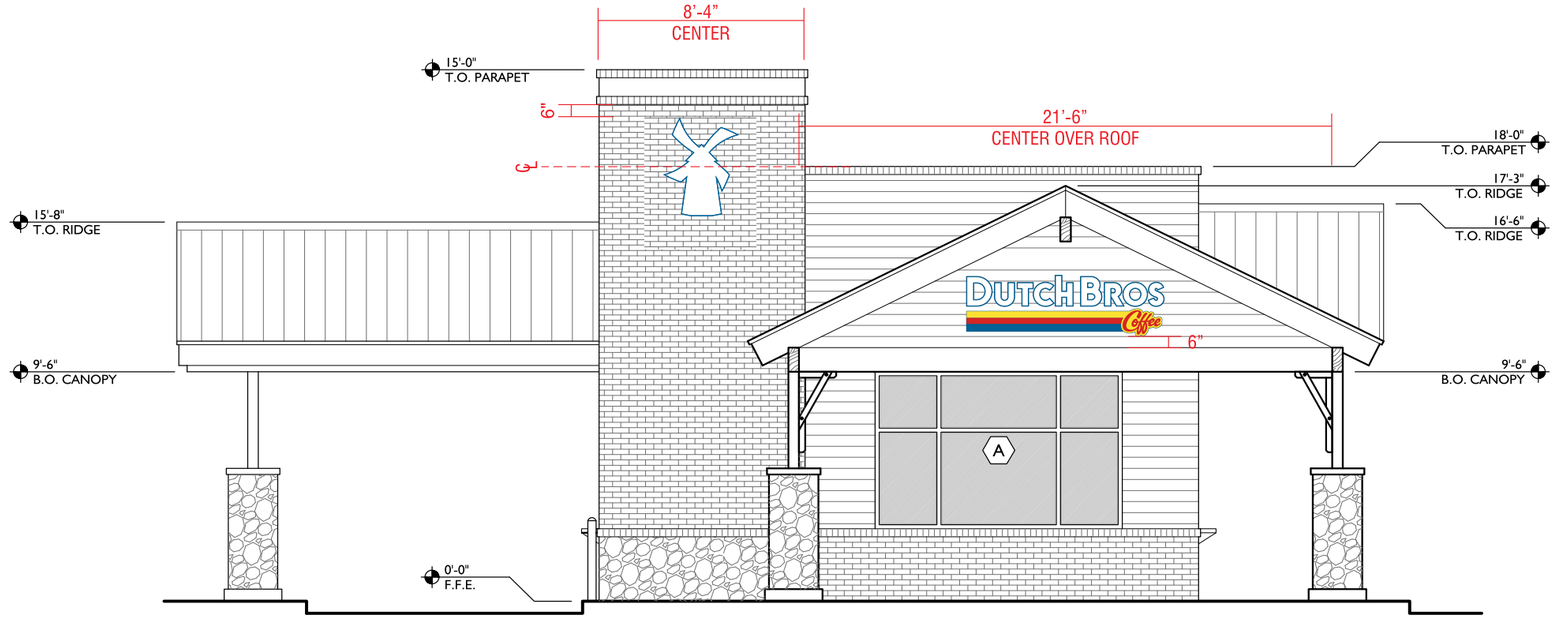
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



EAST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

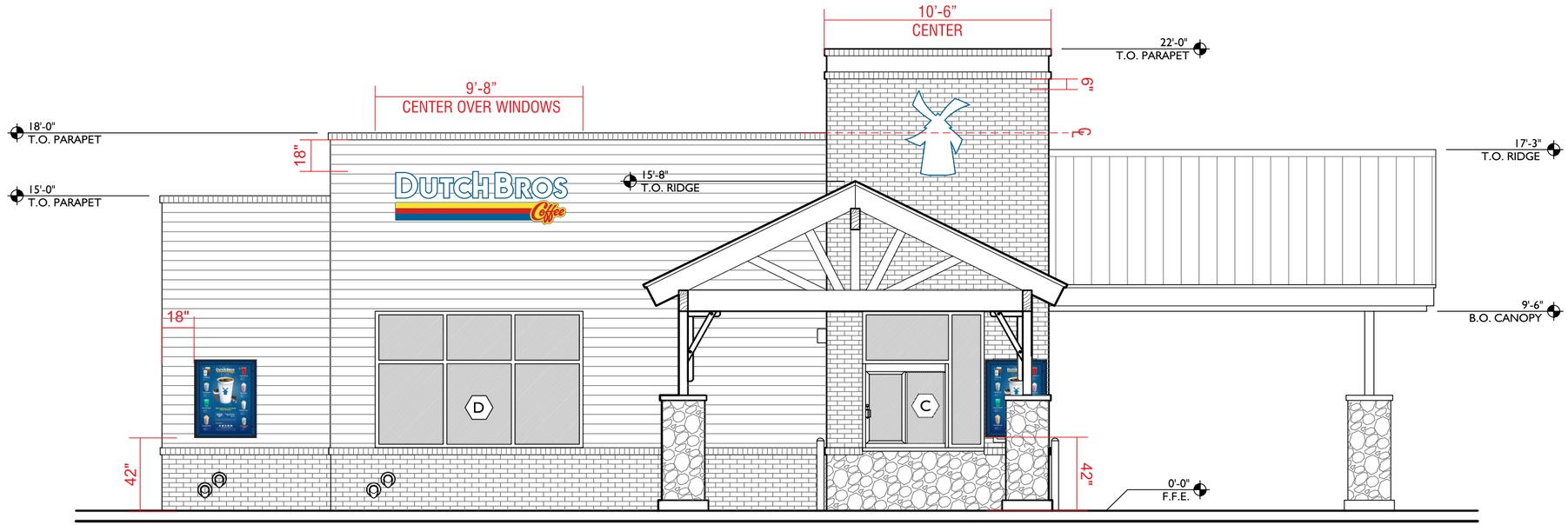
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181C

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

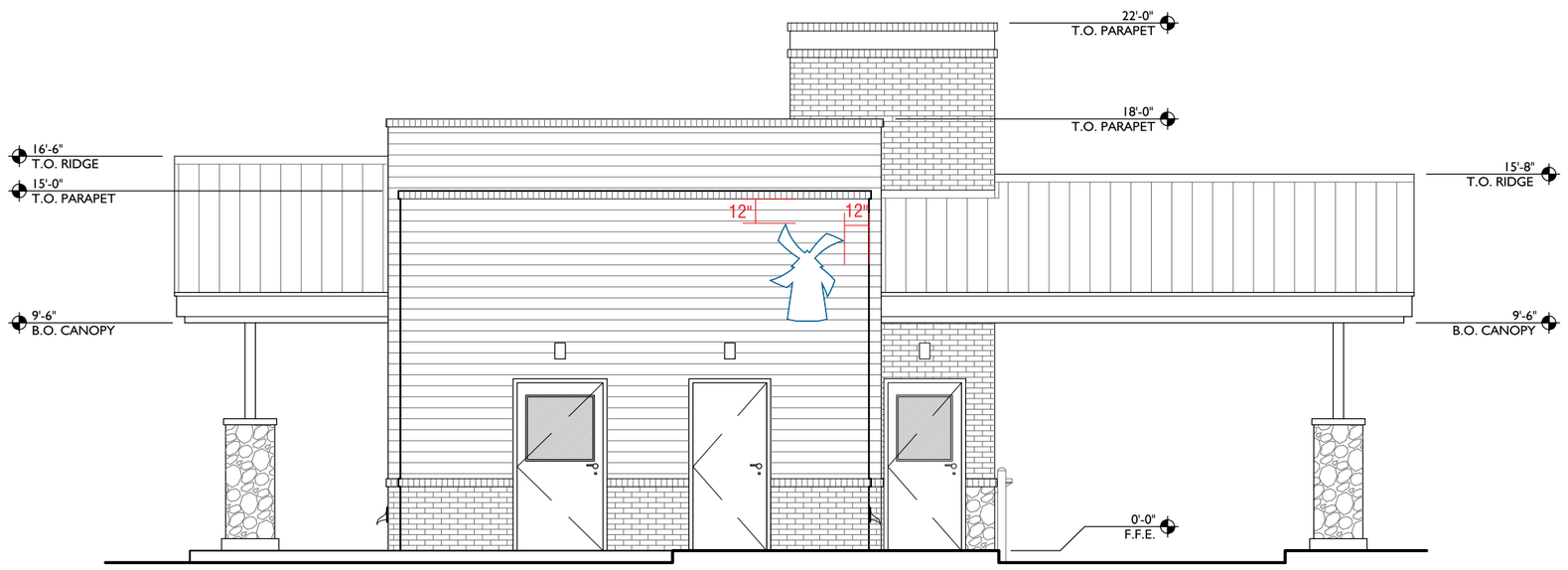
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	4 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



WEST ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL SIGN AS SHOWN.
HOOK UP TO POWER.

PICK LIST		
QTY	PART	✓
3	WINDMILL LOGOS	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SCOPE OF WORK: MANUFACTURE & INSTALL (1) S/F NON-ILLUMINATED 'DRIVE THRU' SIGN

LEVEL A FINISH

SHOP DRAWING #:
28181D

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
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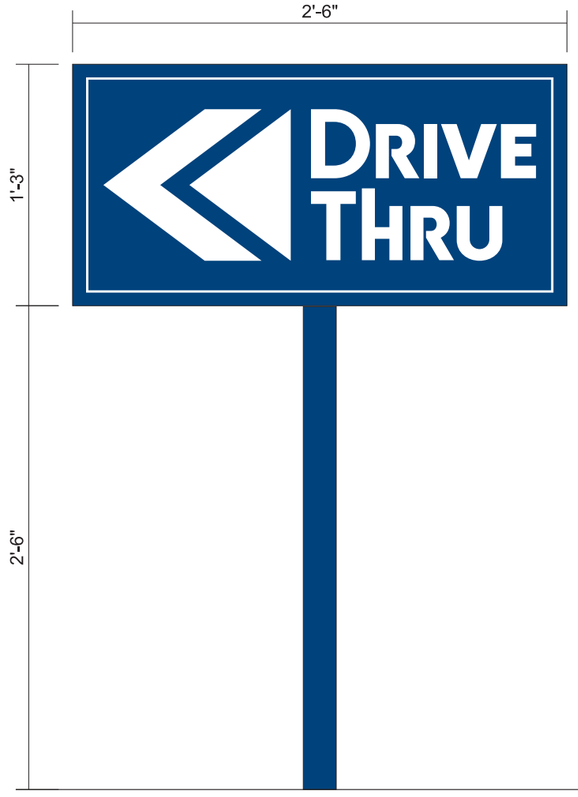
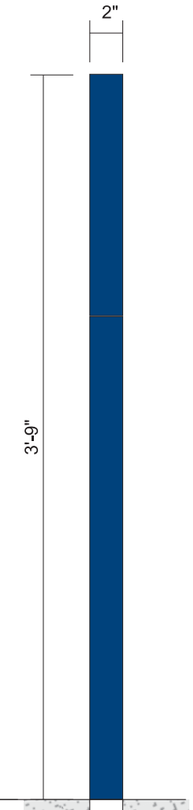
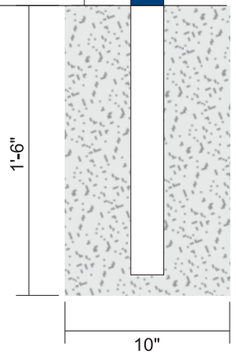
LAYOUT
SCALE: 1 1/2"=1'-0"



SIDE VIEW





DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES
PAINT PMS 541 C
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181D

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

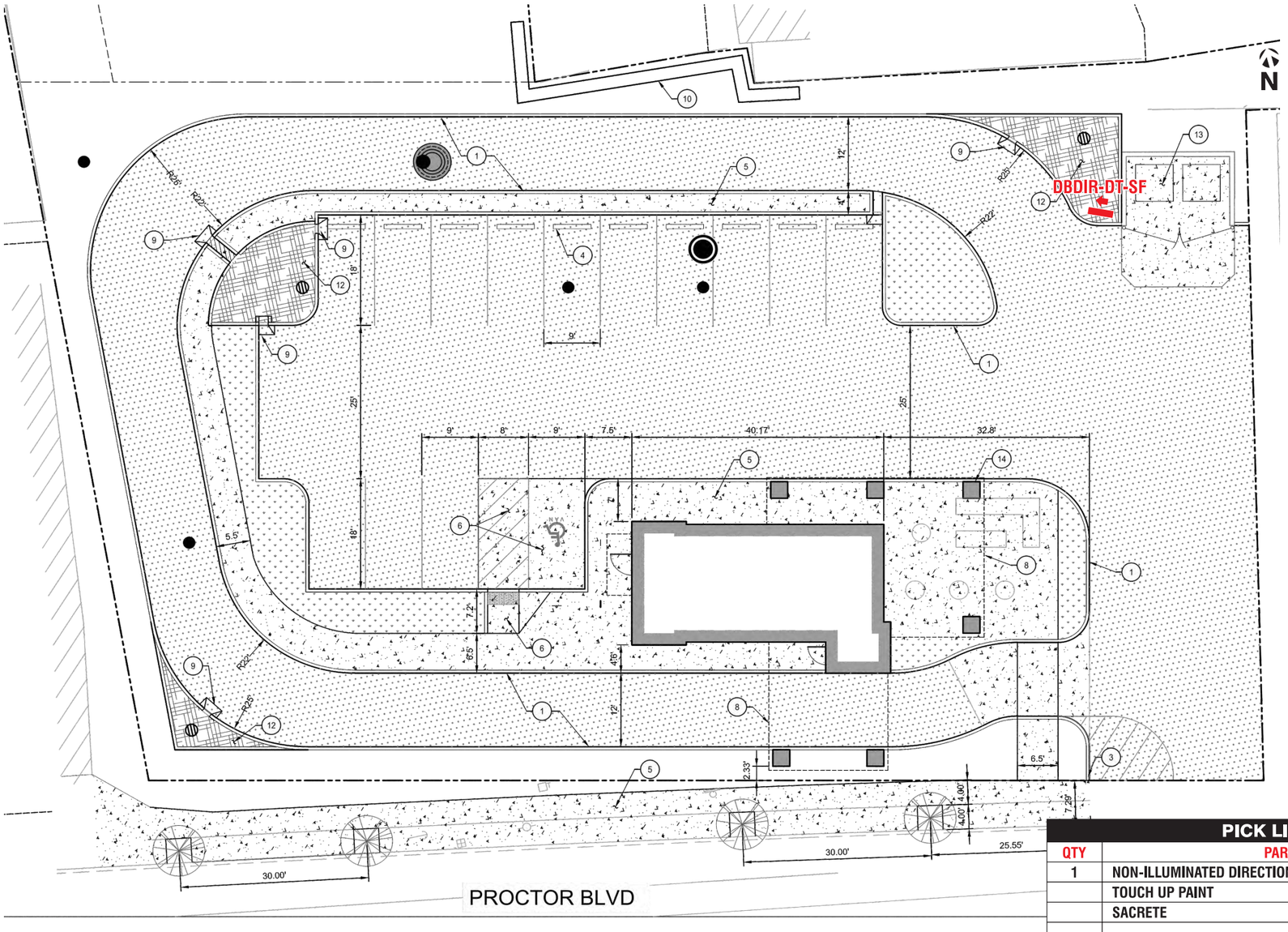
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW 'DRIVE THRU' SIGN AS SHOWN.
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

PICK LIST		
QTY	PART	✓
1	NON-ILLUMINATED DIRECTIONAL SIGN	
	TOUCH UP PAINT	
	SACRETE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181E

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

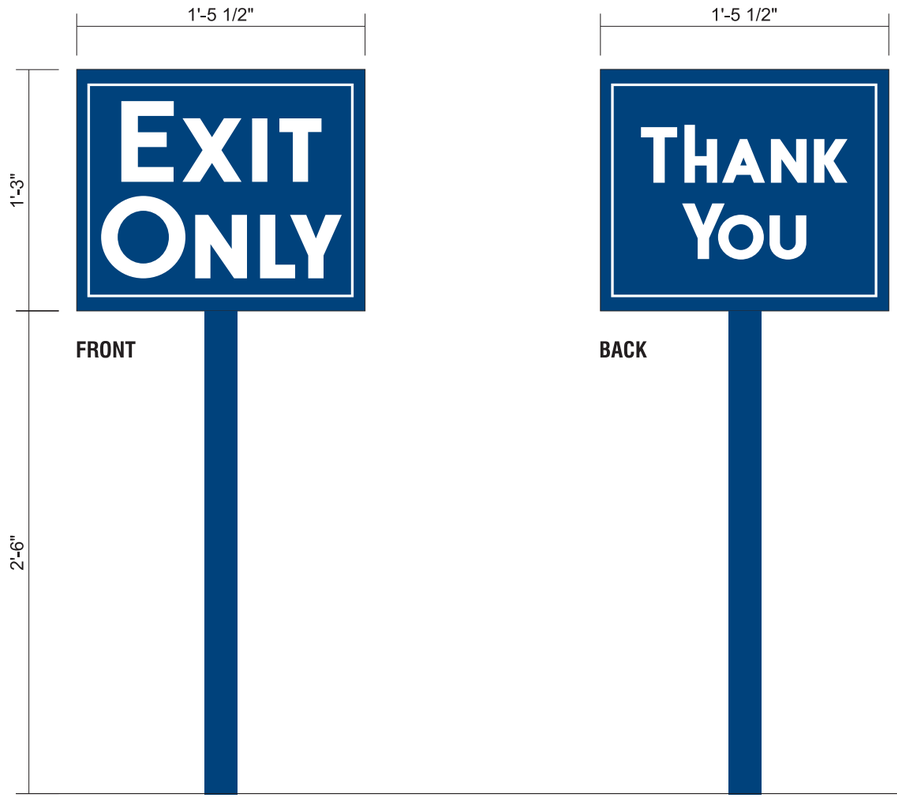
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

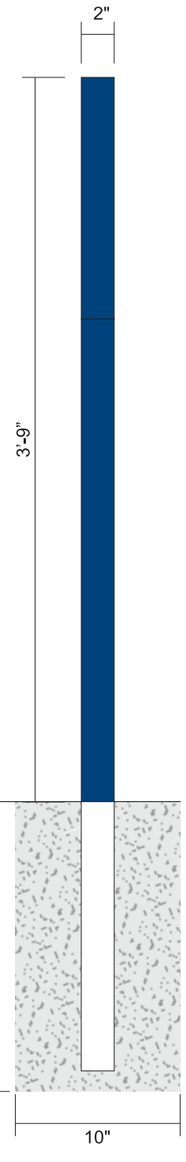
SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F FREESTANDING NON-LIT EXIT ONLY SIGN

LEVEL A FINISH

EXIT ONLY SIGN
SCALE: 1 ½"=1'-0"



SIDE VIEW



DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES
PAINT PMS 541 C
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
28181E

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

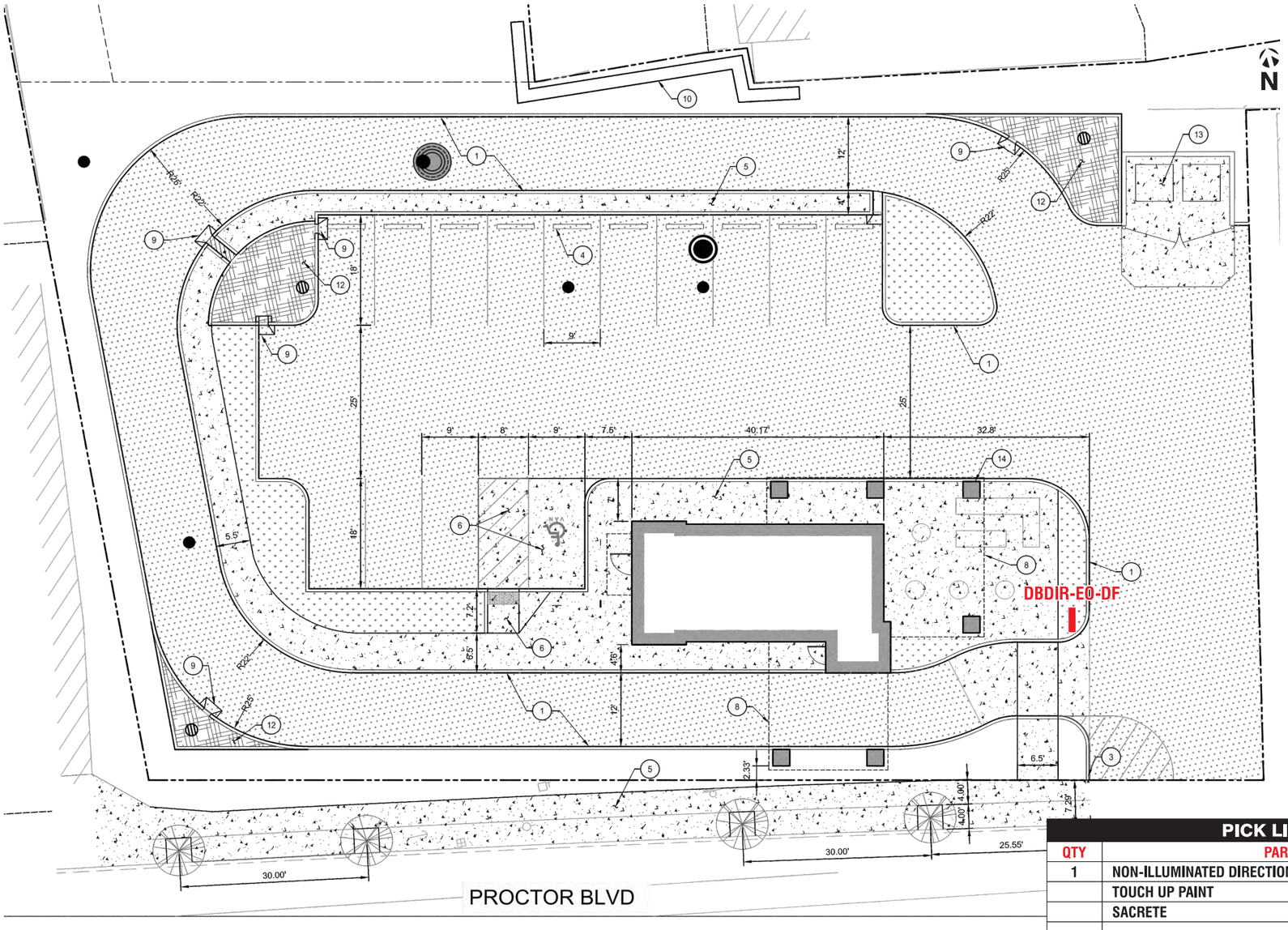
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:
INSTALL NEW 'DRIVE THRU' SIGN AS SHOWN.
SET POST IN NEW CONCRETE FOOTING, 10" DIA. X 18" DEEP.

PICK LIST

QTY	PART	✓
1	NON-ILLUMINATED DIRECTIONAL SIGN	
	TOUCH UP PAINT	
	SACRETE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
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ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
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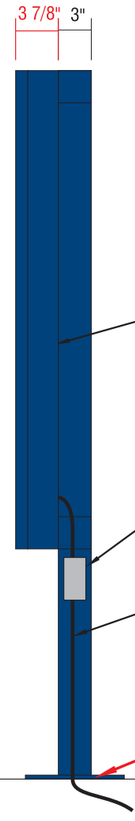
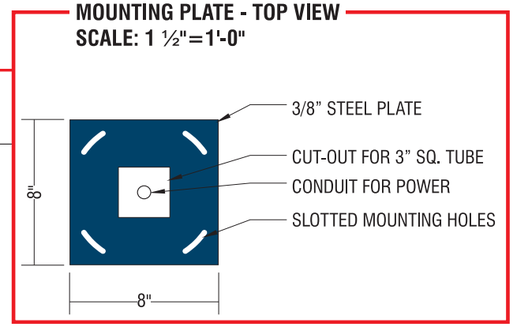
SCOPE OF WORK: PROVIDE (2) S/F ILLUMINATED MENU SIGNS - PLATE-MOUNTED

LEVEL A FINISH



FREESTANDING BACKLIT MENU SIGN

- RECEIVE & ASSEMBLE ILLUMINATED MENU SIGN WITH PLATE MOUNT ATTACHMENT
- ASSEMBLE POST & MENU
- PROVIDE ANCHOR BOLTS & ANCHOR BOLT PATTERN
- SHIP BOLT PATTERN TO G.C. FOR LOCATING POWER.
- FOOTING INSTALLED BY G.C.



COLOR CODE

- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
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ES&A SIGN & AWNING
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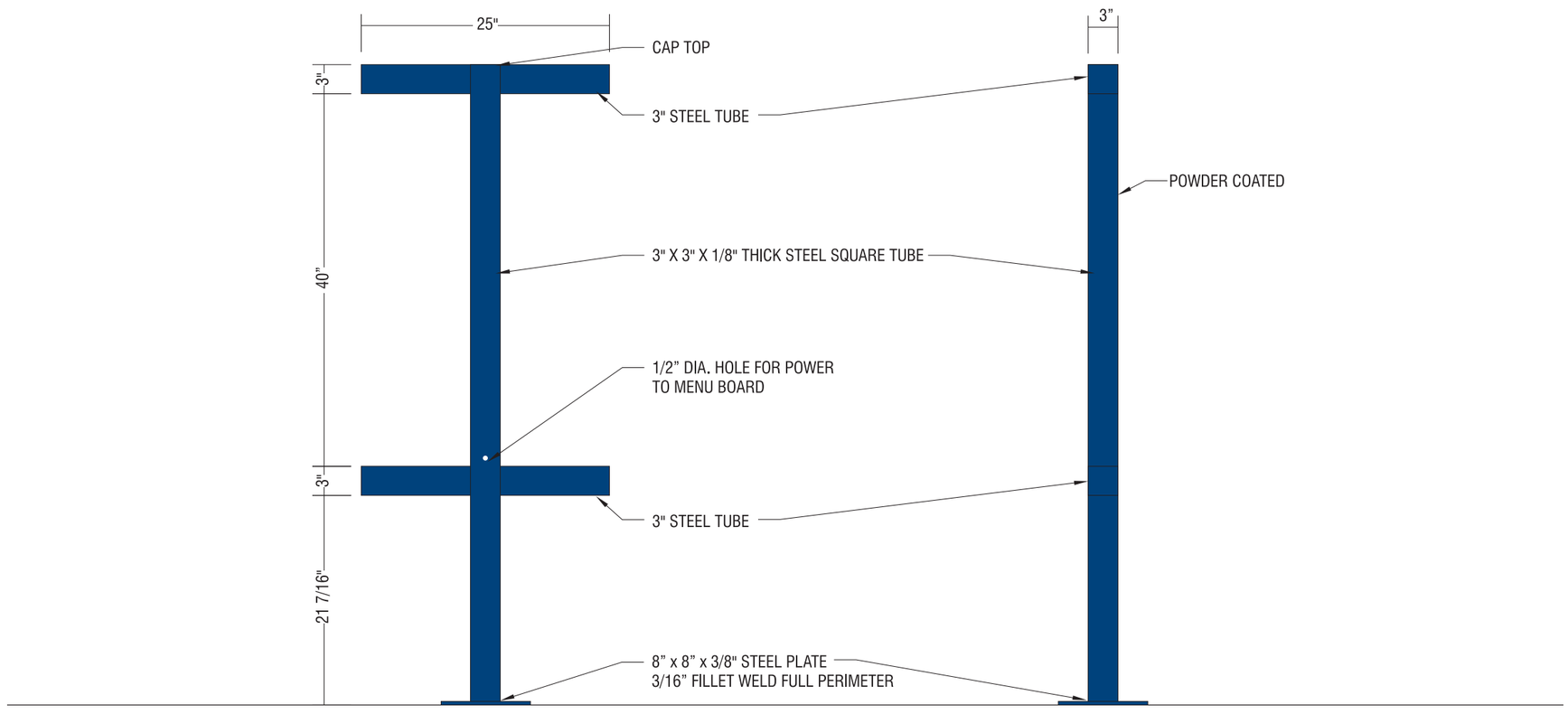
BACK-LIT MENU BOARD - FRAME



FRAME LAYOUT **SIDE VIEW**

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
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ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
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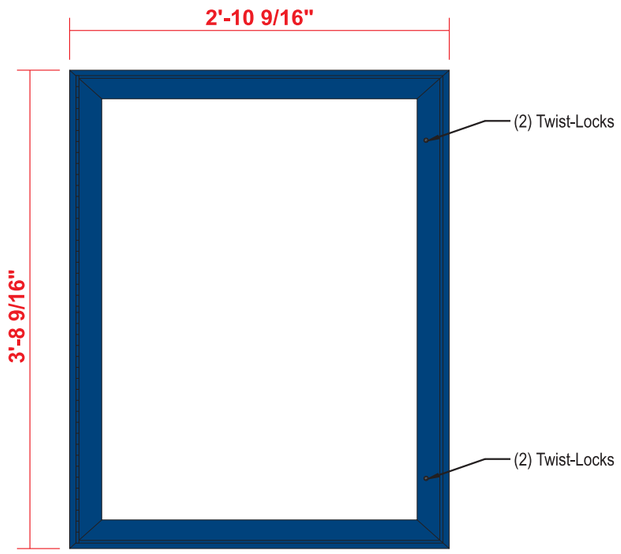
LIGHT BOX DETAIL



30 X 40 LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

SIDE VIEW

PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER
- PRINT NOT INCLUDED

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
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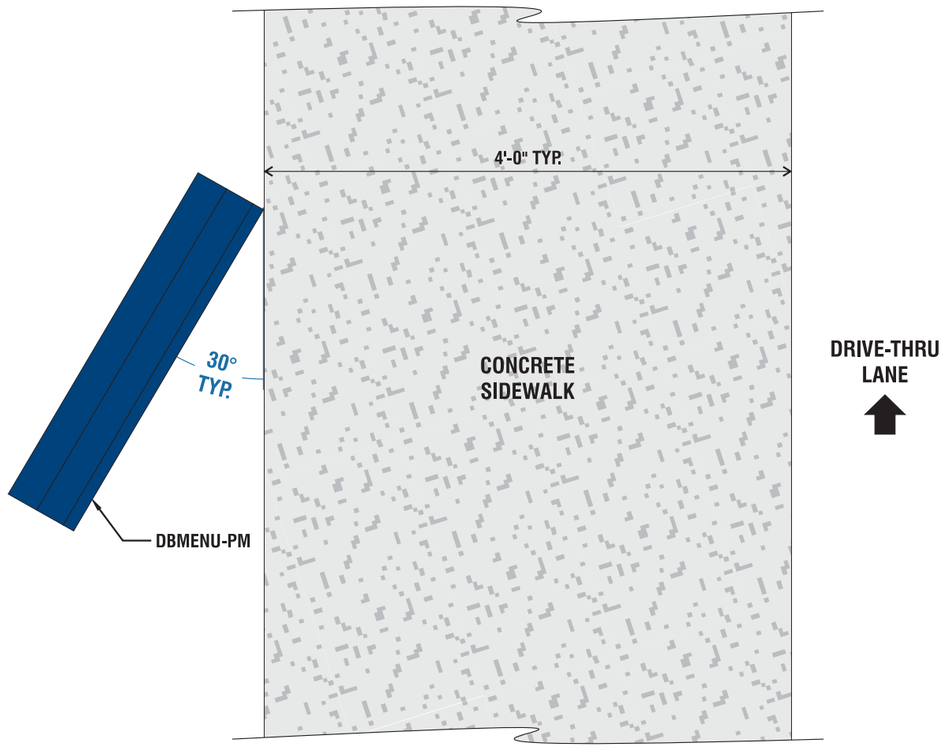
ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION ORIENTATION DETAIL



FACTORY DRAWING

SHOP DRAWING #:
28181F

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

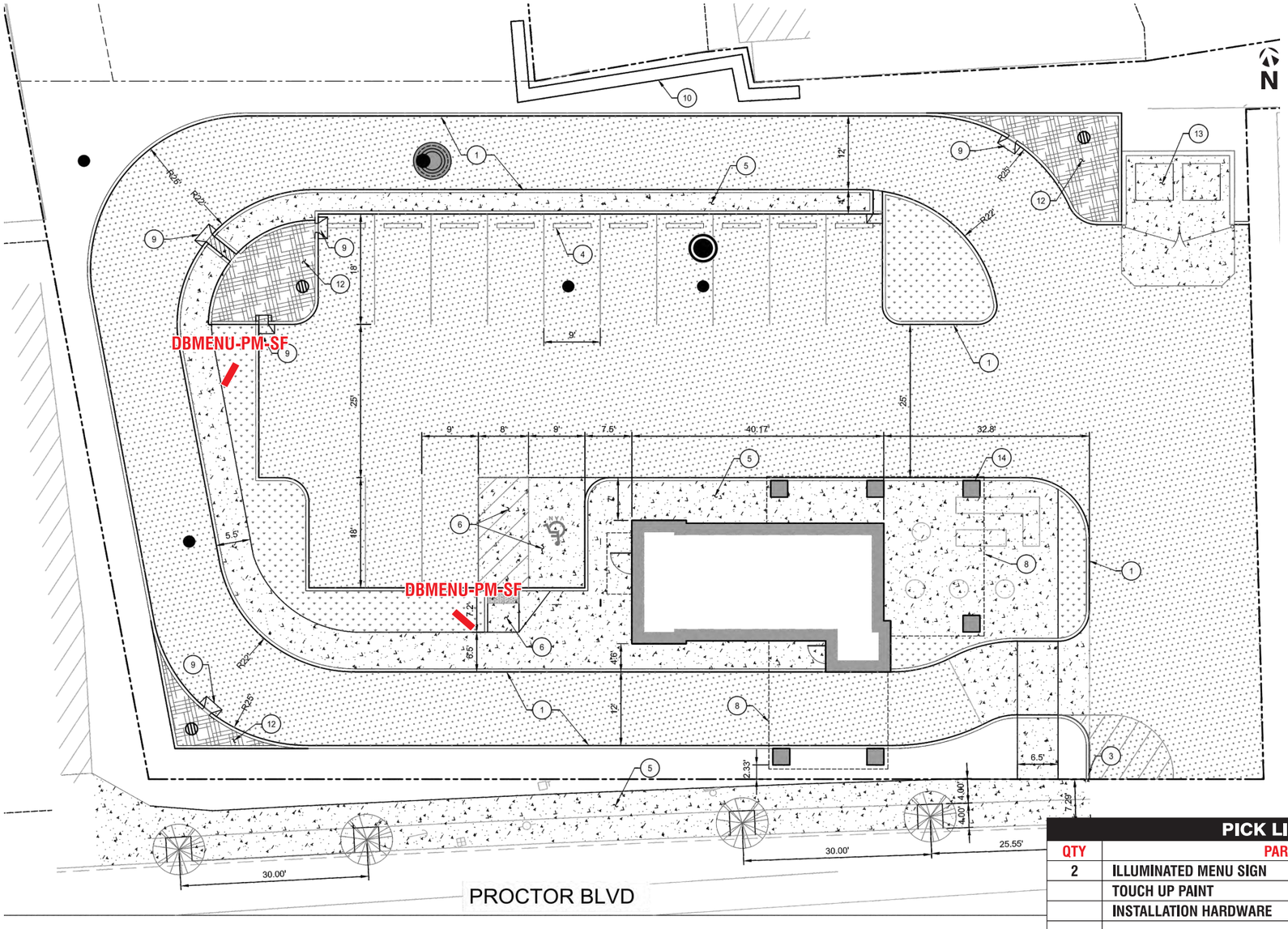
DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	5 of 5

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

INSTALLATION



INSTALL NOTES:

PLATE MOUNT WITH EXPANSION BOLTS INTO EXISTING CONCRETE PAD.

PICK LIST

QTY	PART	✓
2	ILLUMINATED MENU SIGN	
	TOUCH UP PAINT	
	INSTALLATION HARDWARE	

SIGNED: DATE:

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

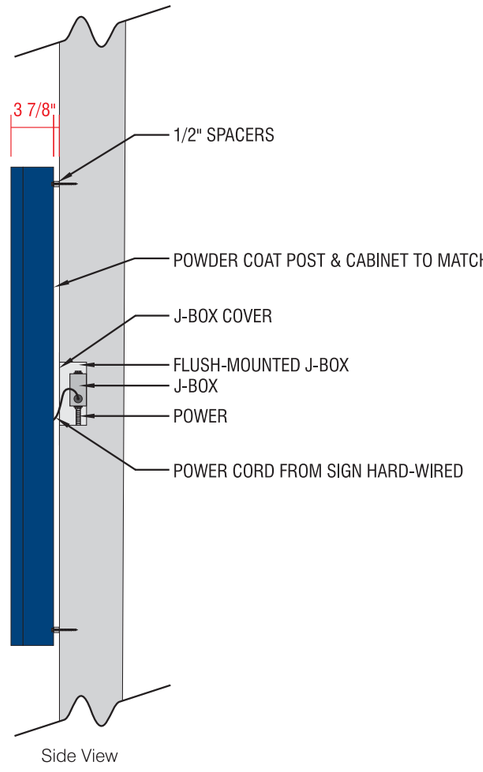
SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 4

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SCOPE OF WORK: PROVIDE (3) ILLUMINATED MENU SIGNS - WALL-MOUNTED

LEVEL A FINISH



A WALL-MOUNTED, BACKLIT MENU SIGN
- PRINTED MENU PANEL NOT INCLUDED
- LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

B PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:
.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 4

ES&A SIGN & AWNING
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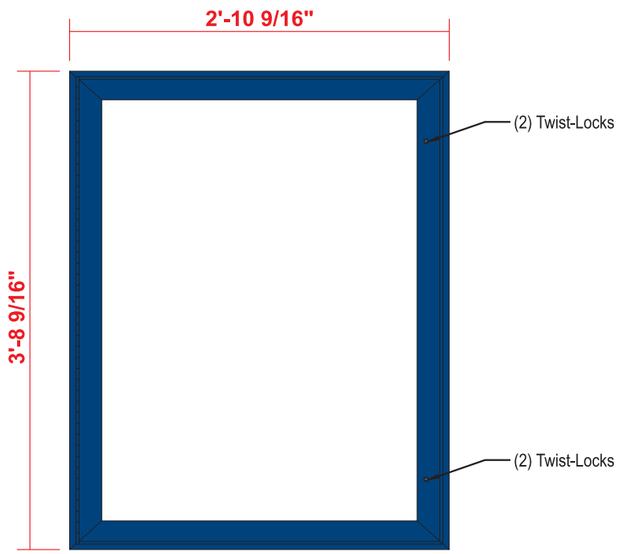
LIGHT BOX DETAIL



30 X 40 LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

SIDE VIEW

PRINTED LIGHT GUIDE PANEL
- AS SEPARATE ORDER
- PRINT NOT INCLUDED

COLOR CODE
- DIGITAL PRINT
- DB CUSTOM DARK BLUE

SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	3 of 4

ES&A SIGN & AWNING
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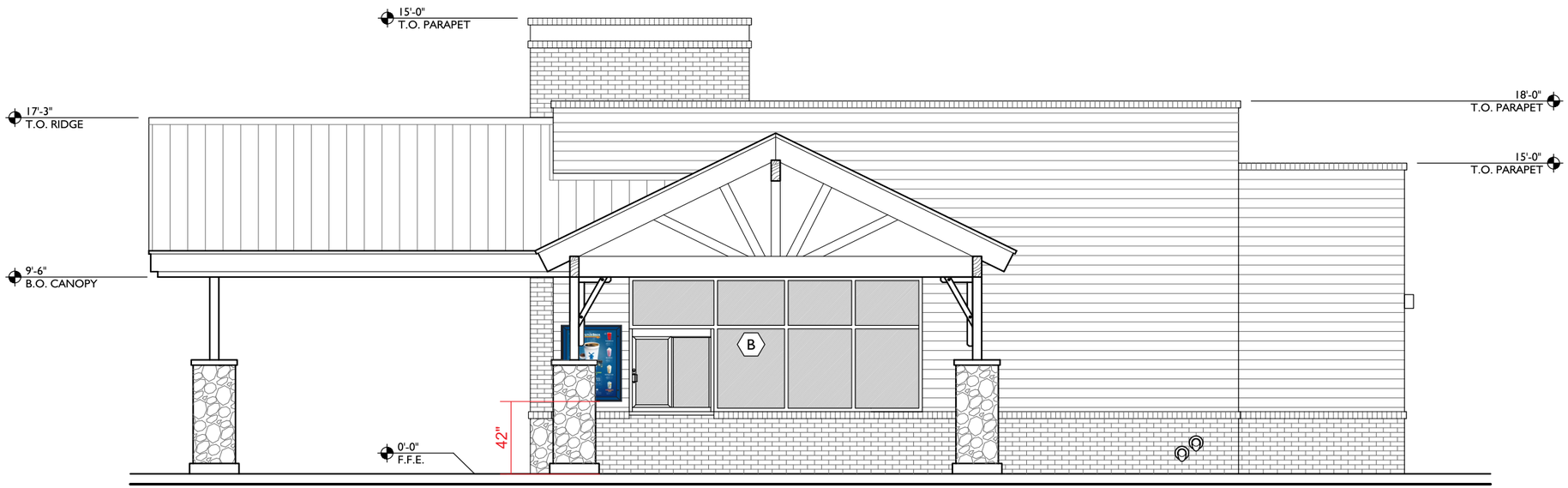
INSTALLATION



NORTH ELEVATION
SCALE: 3/16"=1'-0"

INSTALL NOTES:
INSTALL NEW MENUS SIGN AS SHOWN.

PICK LIST		
QTY	PART	✓
3	ILLUMINATED MENU SIGNS	
	TOUCH UP PAINT	
	INSTALL HARDWARE	
SIGNED:	DATE:	

FACTORY DRAWING

SHOP DRAWING #:
28181G

CLIENT:
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

DATE OF SHOP DRAWING:
12/7/18

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	4 of 4

ES&A SIGN & AWNING
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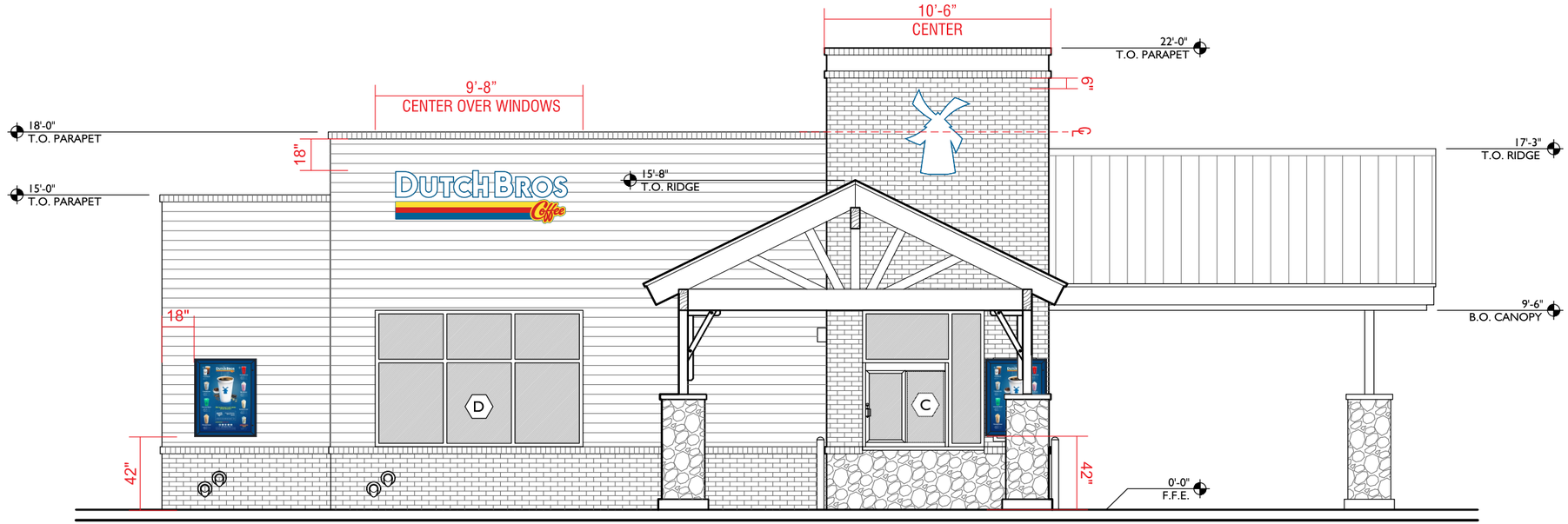
P 541.485.5546 | F 541.485.5813

INSTALLATION



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

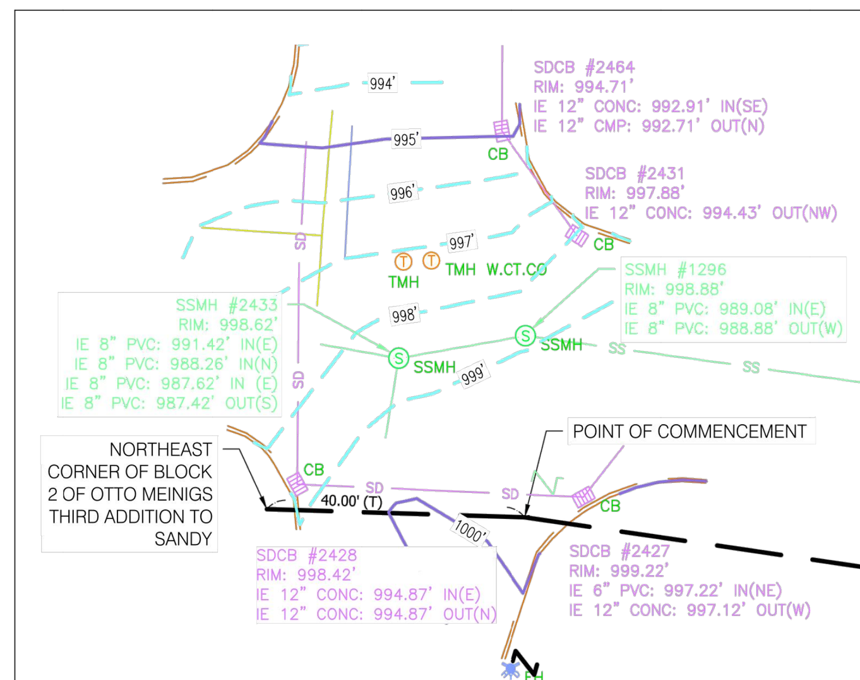
INSTALL NOTES:
INSTALL NEW MENUS SIGN AS SHOWN.

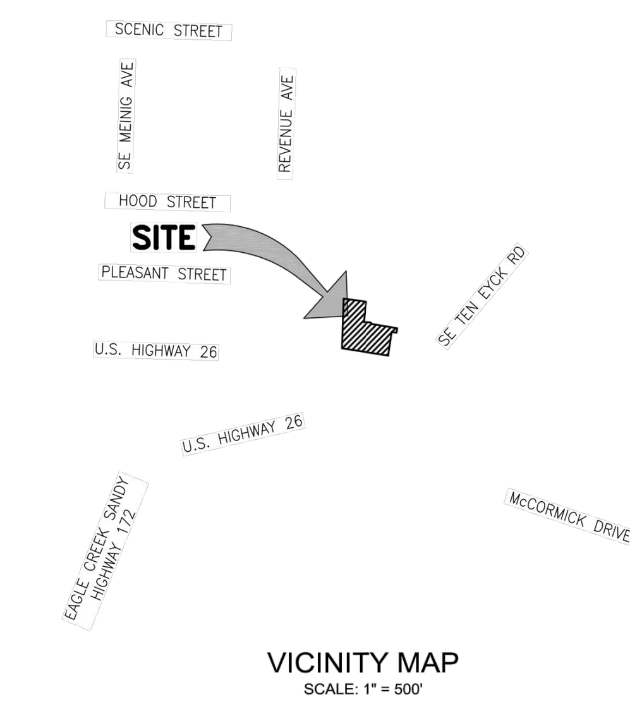
PICK LIST		
QTY	PART	✓
3	ILLUMINATED MENU SIGNS	
	TOUCH UP PAINT	
	INSTALL HARDWARE	
SIGNED:	DATE:	

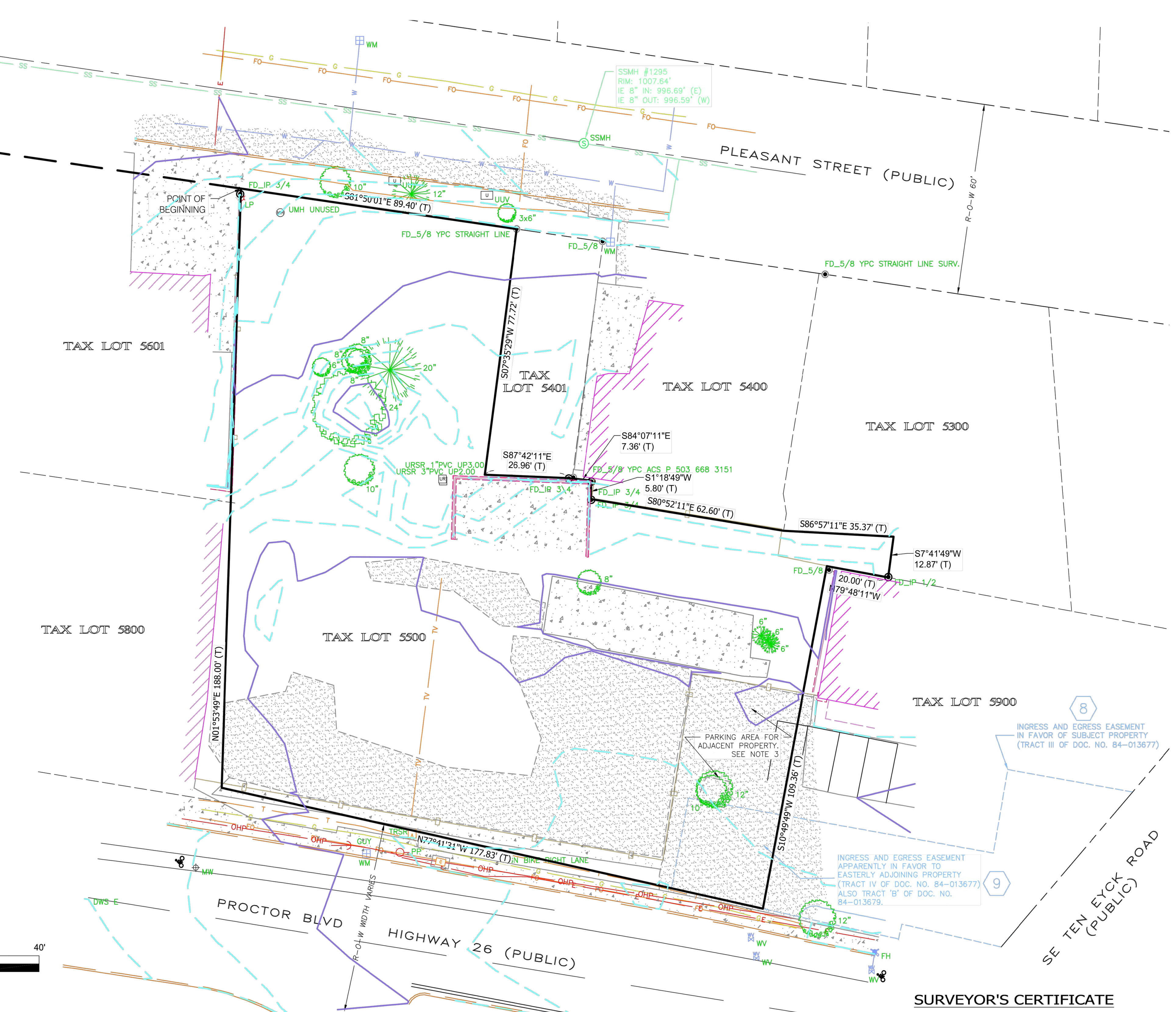
Exhibit W

ALTA/NSPS LAND TITLE SURVEY

LOCATED IN THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 02 SOUTH, RANGE 04 EAST OF THE WILLAMETTE MERIDIAN, CITY OF SANDY, CLACKAMAS COUNTY, OREGON







LEGAL DESCRIPTION:

A TRACT OF LAND SITUATED IN THE NORTHEAST ONE-QUARTER OF SECTION 13, TOWNSHIP 2 SOUTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN, IN THE CITY OF SANDY, COUNTY OF CLACKAMAS AND STATE OF OREGON, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT THAT IS EAST 40.00 FEET FROM THE NORTHEAST CORNER OF BLOCK 2, OTTO MEINIGS THIRD ADDITION TO SANDY; THENCE SOUTH 83°37'50" EAST ALONG THE SOUTHERLY LINE OF PLEASANT STREET, A MEASURED DISTANCE OF 190.20 FEET TO THE POINT OF BEGINNING AT THE NORTHWEST CORNER OF THE FRANCIS CALKINS TRACT RECORDED UNDER FEE NO. 91-049368, SAID POINT WITNESSED BY A 3/4 INCH IRON PIPE THAT BEARS SOUTH 0°06'00" WEST, 1.40 FEET THEREFROM; THENCE SOUTH 83°37'50" EAST ALONG THE SOUTHERLY LINE OF SAID PLEASANT STREET, 89.40 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 5°47'40" WEST PARALLEL WITH THE WESTERLY LINE OF THAT PROPERTY DESCRIBED UNDER FEE NO. 92-057278, A DISTANCE OF 77.72 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 89°30'00" EAST, 26.96 FEET TO A 3/4 INCH IRON PIPE AT THE MOST WESTERLY SOUTHWEST CORNER OF SAID FEE NO. 92-057278; THENCE SOUTH 85°55'00" EAST ALONG THE SOUTHERLY LINE OF SAID FEE NO. 92-057578, A MEASURED DISTANCE OF 7.38 FEET TO A 3/4 INCH IRON PIPE; THENCE SOUTH 0°29'00" EAST ALONG SAID FEE NO. 92-057273, A DISTANCE OF 5.80 FEET TO A 3/4 INCH IRON PIPE AT THE MOST EASTERLY SOUTHWEST CORNER THEREOF; THENCE SOUTH 82°40'00" EAST ALONG THE SOUTHERLY LINE OF SAID FEE NO. 92-057278, A DISTANCE OF 62.60 FEET TO A 5/8 INCH IRON ROD AT THE SOUTHEAST CORNER THEREOF, SAID POINT BEING IN THE SOUTHERLY EXTENSION OF THE EAST LINE OF THAT TRACT CONVEYED TO JESSE L. HITE AND WIFE BY DEED RECORDED JULY 31, 1957 IN BOOK 528, PAGE 610, DEED RECORDS OF SAID CLACKAMAS COUNTY; THENCE SOUTH 88°45'00" EAST, 35.37 FEET TO THE NORTHEAST CORNER OF SAID FEE NO. 91-049368 AS WAS DETERMINED; THENCE SOUTH 5°54'00" WEST ALONG THE EAST LINE OF SAID FEE NO. 91-049368, A MEASURED DISTANCE OF 12.87 FEET TO A 1/2 INCH IRON PIPE; THENCE NORTH 81°36'00" WEST 20.00 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 9°02'00" WEST ALONG THE SOUTHERLY EAST LINE OF SAID FEE NO. 91-049368, A DISTANCE OF 109.36 FEET TO THE NORTHERLY LINE OF MT. HOOD HIGHWAY 26; THENCE ALONG SAID NORTHERLY LINE NORTH 79°29'20" WEST, 177.83 FEET TO THE SOUTHWEST CORNER OF SAID FEE NO. 91-049368; THENCE NORTH 0°06'00" EAST, 188.00 FEET TO THE POINT OF BEGINNING.

TITLE REPORT SPECIAL EXCEPTIONS:

PER CHICAGO TITLE COMPANY OF OREGON PRELIMINARY TITLE REPORT ORDER NO. 472518003272, DATED JUNE 29, 2018 AT 8:00AM

8 AGREEMENT CREATING MUTUAL EASEMENTS, INCLUDING THE TERMS AND PROVISIONS THEREOF;
EXECUTED BY: ADJOINING PROPERTY OWNERS
RECORDING DATE: APRIL 25, 1984
RECORDING NO.: 84-013677
AFFECTS PROPERTY, AS SHOWN HEREON

9 RESTRICTIVE COVENANTS, INCLUDING THE TERMS AND PROVISIONS THEREOF;
RECORDING DATE: APRIL 25, 1984
RECORDING NO.: 84-013679
AFFECTS PROPERTY, AS SHOWN HEREON

10 EASEMENT AND EQUITABLE SERVITUDES, INCLUDING THE TERMS AND PROVISIONS THEREOF;
RECORDING DATE: FEBRUARY 26, 2008
RECORDING NO.: 2008-013173
BLANKET EASEMENT ACROSS SUBJECT PROPERTY

TABLE "A" ITEMS:

5 VERTICAL RELIEF WITH THE SOURCE OF INFORMATION (E.G., GROUND SURVEY, AERIAL MAP), CONTOUR INTERVAL, DATUM, AND ORIGINATING BENCHMARK IDENTIFIED.

8 SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK (IN ADDITION TO THE IMPROVEMENTS AND FEATURES REQUIRED PURSUANT TO SECTION 5 ABOVE) (E.G., PARKING LOTS, BILLBOARDS, SIGNS, SWIMMING POOLS, LANDSCAPED AREAS, SUBSTANTIAL AREAS OF REFUSE).

11 LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY AS DETERMINED BY:
- OBSERVED EVIDENCE COLLECTED PURSUANT TO SECTION 5.E.IV.
- EVIDENCE FROM PLANS REQUESTED BY THE SURVEYOR AND OBTAINED FROM UTILITY COMPANIES, OR PROVIDED BY CLIENT (WITH REFERENCE AS TO THE SOURCES OF INFORMATION), AND
- MARKINGS REQUESTED BY THE SURVEYOR PURSUANT TO AN 811 UTILITY LOCATE OR SIMILAR REQUEST

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITY FACILITIES SHOWN HEREON ARE BASED ON LOCATE MARKS REQUESTED FOR THIS SURVEY PER ONE CALL PUBLIC LOCATE. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR FOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THE PLAN. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. FIELD WORK WAS COMPLETED ON NOVEMBER 28, 2018.
3. THE SOUTHEAST CORNER OF SUBJECT SITE IS FENCED OFF AND USED FOR PARKING BY ADJACENT PROPERTY OWNER.

LEGEND:

BUILDING
FLOW LINE CURB
EXTRUDED CURB
STANDARD CURB
EDGE OF PAVEMENT
EDGE OF CONCRETE
WALL-TOP
WALL-TOE
COMMUNICATIONS - CABLE TV
WATER
STORM SEWER
GAS
ELECTRIC
OVERHEAD POWER
SANITARY SEWER
SANITARY SEWER-PRESSURE
FIBER OPTIC
TELEPHONE
COMMUNICATION
FENCE - WOOD
CENTERLINE
RIGHT OF WAY
BOUNDARY LINE
EASEMENT
LOT/PARCEL LINE
CONCRETE HATCH
ASPHALT HATCH
MAJOR CONTOUR
MINOR CONTOUR
FOUND MONUMENT - 5/8" IRON ROD
FOUND MONUMENT-IRON PIPE
TREE - DECIDUOUS
TREE - CONIFER
SIGN
POWER POLE
LIGHT-LAMP POST
GUY ANCHOR
SANITARY SEWER MANHOLE
FIRE HYDRANT
WATER METER
TELEPHONE RISER
UNKNOWN MANHOLE
COMMUNICATION VAULT
UNKNOWN RISER
MONITORING WELL
XX.XX' (T) DISTANCE PER TITLE REPORT

SURVEYOR'S CERTIFICATE

TO: CVP - SANDY, OREGON, LLC (COLE VALLEY PARTNERS, LLC)
CHICAGO TITLE, COMPANY OF OREGON:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDNACE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 5, 8, AND 11 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON OCTOBER 12, 2018.

CHRISTOFER C. SHERBY, PLS
OREGON REGISTRATION NO. 74508LS

DATED THIS 6th DAY OF December, 2018

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 11, 2008
CHRISTOFER C. SHERBY
74508LS
RENEWS 6/30/18

REVISIONS
OCTOBER 16, 2018: ORIGINAL
NOVEMBER 30, 2018: ADDITIONAL TOPOGRAPHY

39565 PROCTOR ROAD

S&F Land Services
4858 SW SCHOLLS FERRY ROAD, SUITE A
PORTLAND, OR 97225
503-345-0328
www.sflands.com
info@sflands.com

Scale:	1"=20'	JOB NUMBER 2018-124-01
Drawn By:	H.A.P.	
Date Plotted:	NOV. 30, 2018	SHEET 1 OF 1
Drawing Name:	1812401 TOPO.DWG	

Revisions

FROELICH ENGINEERS
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(503) 624-7005
froelich-engineers.com

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SANDY, OR 97055

a23 studios
340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com

Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C1.1

EXISTING CONDITIONS

File: P:\2018\18-C023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-C023_C1.1_EXCON.dwg TAB:C1.1
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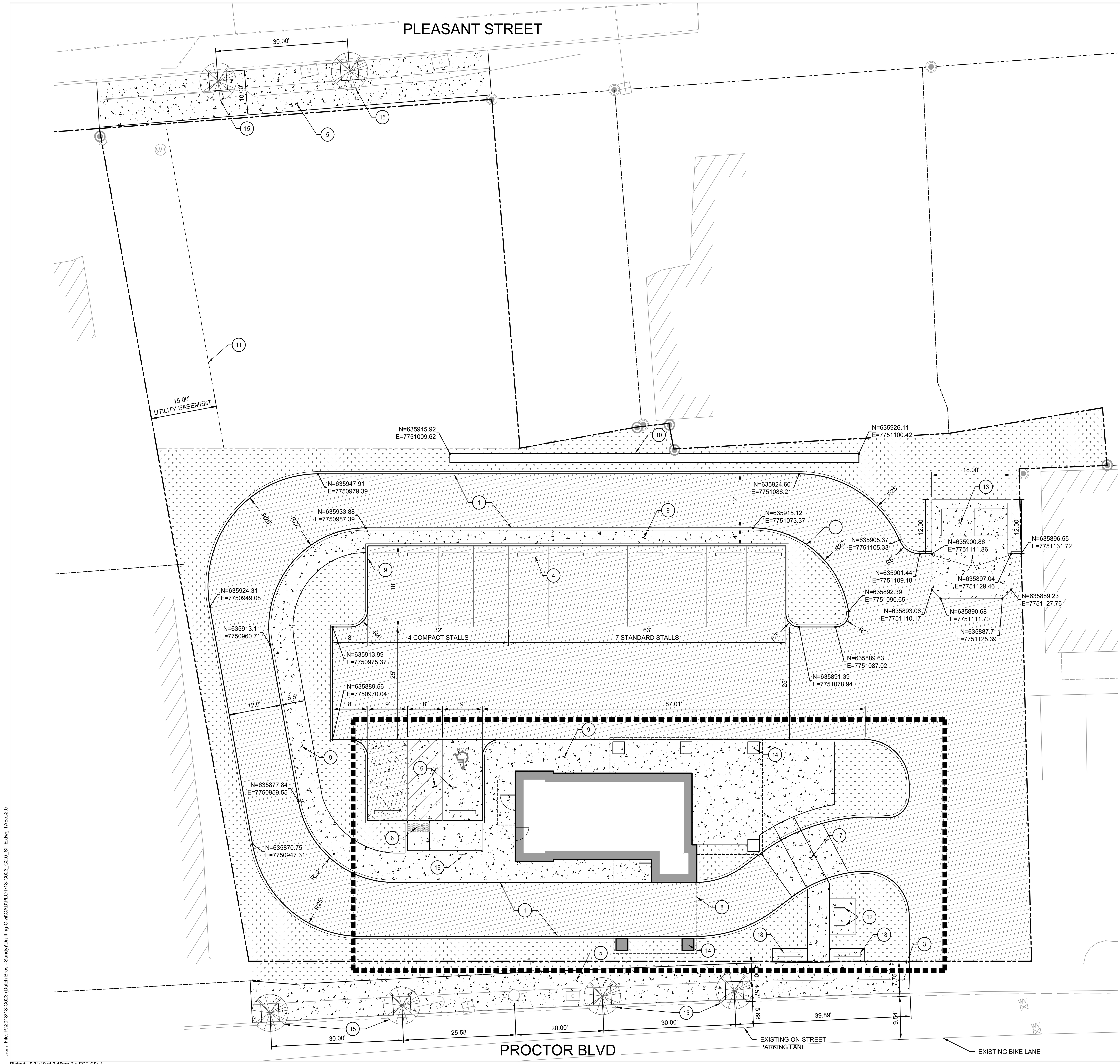

SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. ALL SIDEWALK PAVEMENT JOINTS SHALL BE CONSTRUCTED PER DETAIL X/C5.X.

KEY NOTES

1 SAWCUT LINE
2 STANDARD CURB
3 CURB ENDING
4 WHEEL STOP
5 CONCRETE SIDEWALK - PER PLEASANT STREET STANDARD
6 CONCRETE SIDEWALK - PER PROCTOR STREET STANARD
7 CURB RAMP
8 OVERHEAD CANOPY
9 CONCRETE SIDEWALK
10 ULTRA BLOCK RETAINING WALL
11 15' UTILITY EASEMENT
12 BIKE RACK. SEE ARCHITECTURAL PLANS
13 TRASH ENCLOSURE
14 CANOPY COLUMN
15 FRONTAGE TREE WITH 4' GRATE
16 ADA PARKING STALL (VAN ACCESSIBLE)
17 PEDESTRIAN CROSSING
18 PEDESTRIAN BENCH. SEE ARCHITECTURAL PLANS
19 ADA PARKING SIGN

SHEET LEGEND

(line)	PROPERTY LINE
(hatch)	CONCRETE SIDEWALK
(hatch)	STANDARD ASPHALT PAVEMENT
(hatch)	LANDSCAPING, SEE LANDSCAPE PLANS

Revisions

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Project 18069
Date 11.28.18
Scale As Noted
Sheet
C2.0
SITE PLAN

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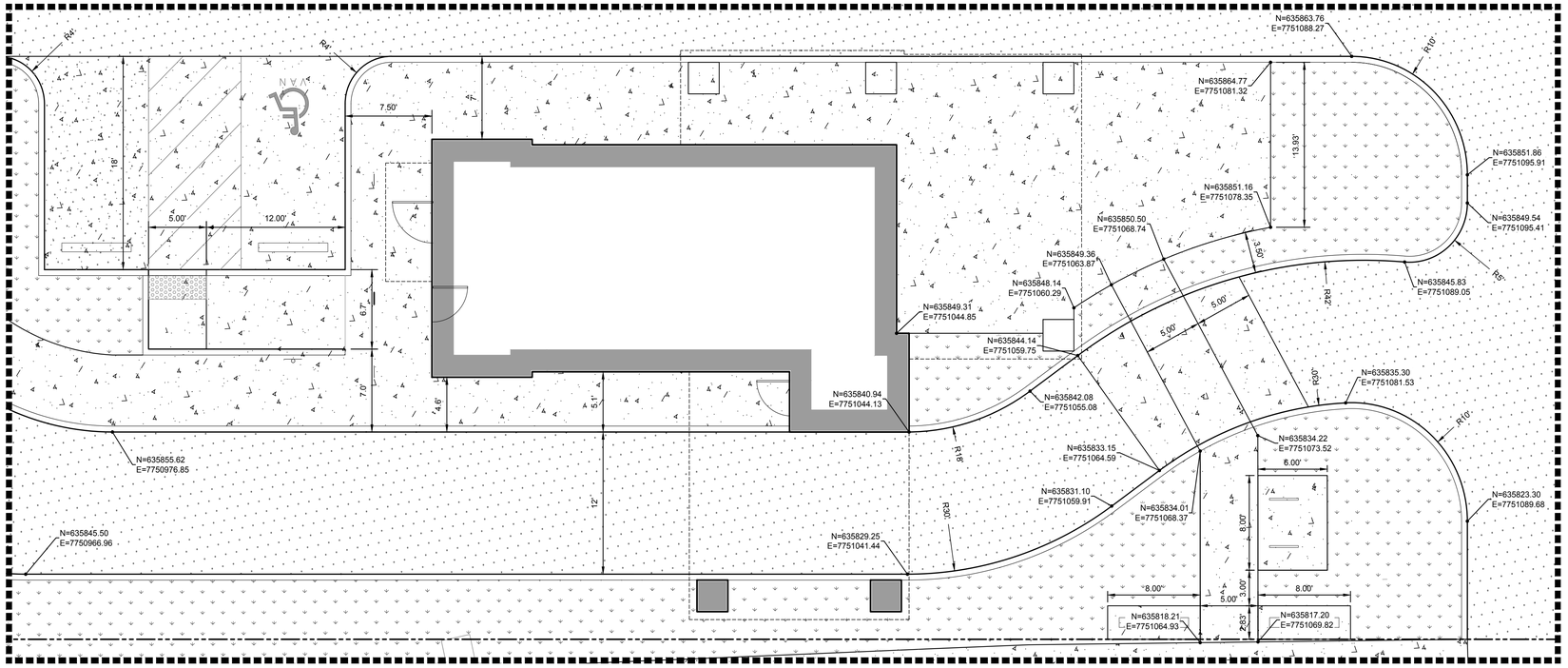

ENLARGEMENT - SITE PLAN

SCALE: 1" = 5'

SCALE 1 INCH = 5 FEET

5 0 5 10

Revisions

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340 South Convent Ave
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520.243.4010 phone
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Project 18069
Date 11.28.18
Scale As Noted
Sheet C2.1

SITE ENLARGMENT

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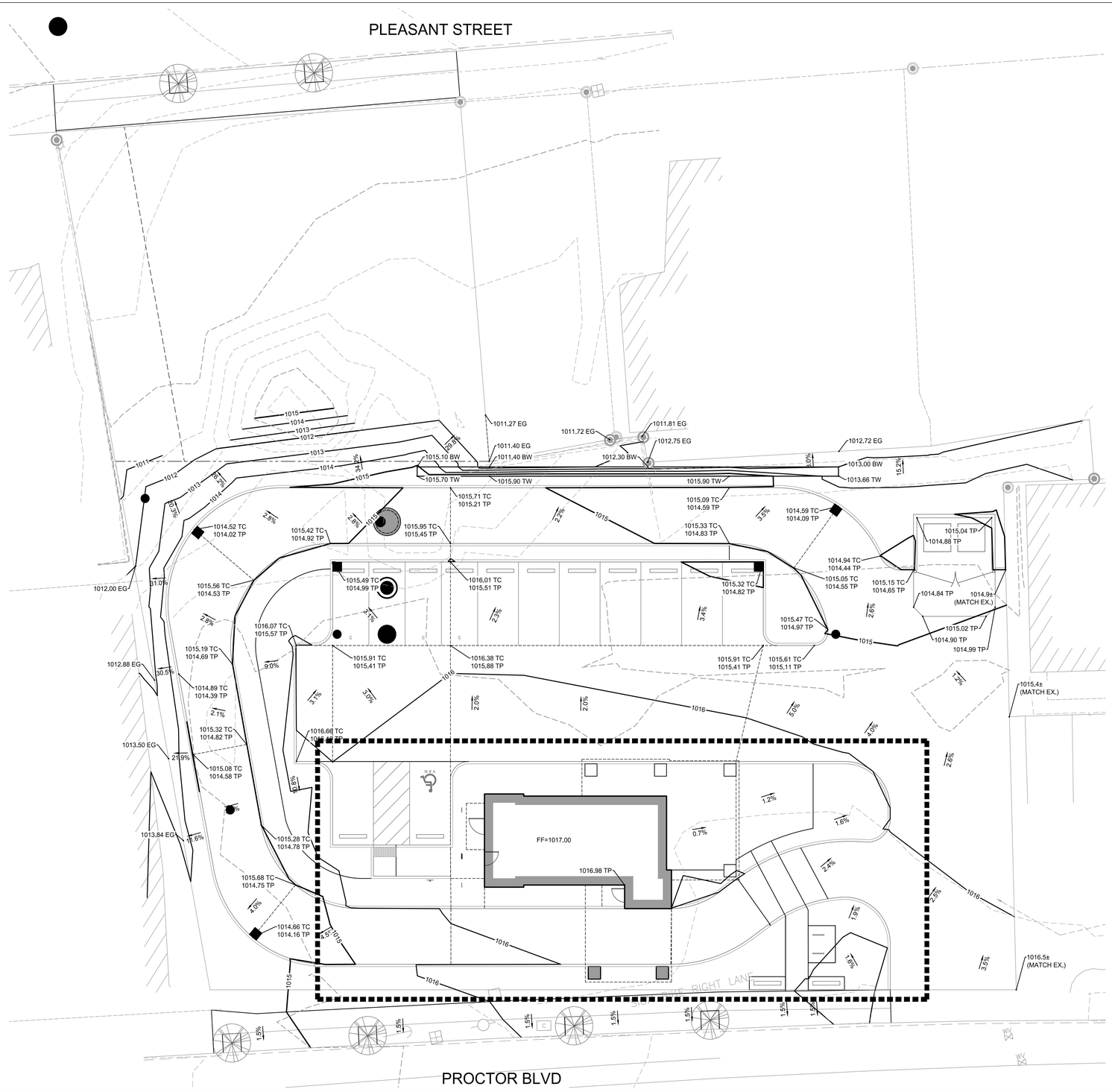

SHEET NOTES

1. SLOPES PROVIDED ON SLOPE ARROW ARE FOR REFERENCE ONLY.
2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
4. ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
5. BLDG PORCH/PATIO CONCRETE PAD. TYP. GRADING IS: TOP OF CONCRETE OUTSIDE DOOR = FF ELEV. MINUS 0.02' SLOPE PORCH/PATIO 2.0% AWAY FROM BLDG (SEE ARCH. PLANS).

(X) KEY NOTES

GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X% →	GRADING SLOPE AND DIRECTION (DOWNHILL)

SPOT ELEVATION
DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
XX.XX XX

BOS	BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RIM	RIM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL

SHEET LEGEND

- DRAINAGE FLOW DIRECTION
- GRADE BREAK
- 49 — EX. CONTOUR MINOR
- 50 — EX. CONTOUR MAJOR
- 49 — CONTOUR MINOR (FG)
- 50 — CONTOUR MAJOR (FG)

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

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Project 18069
Date 11.28.18
Scale As Noted
Sheet C3.0

GRADING PLAN

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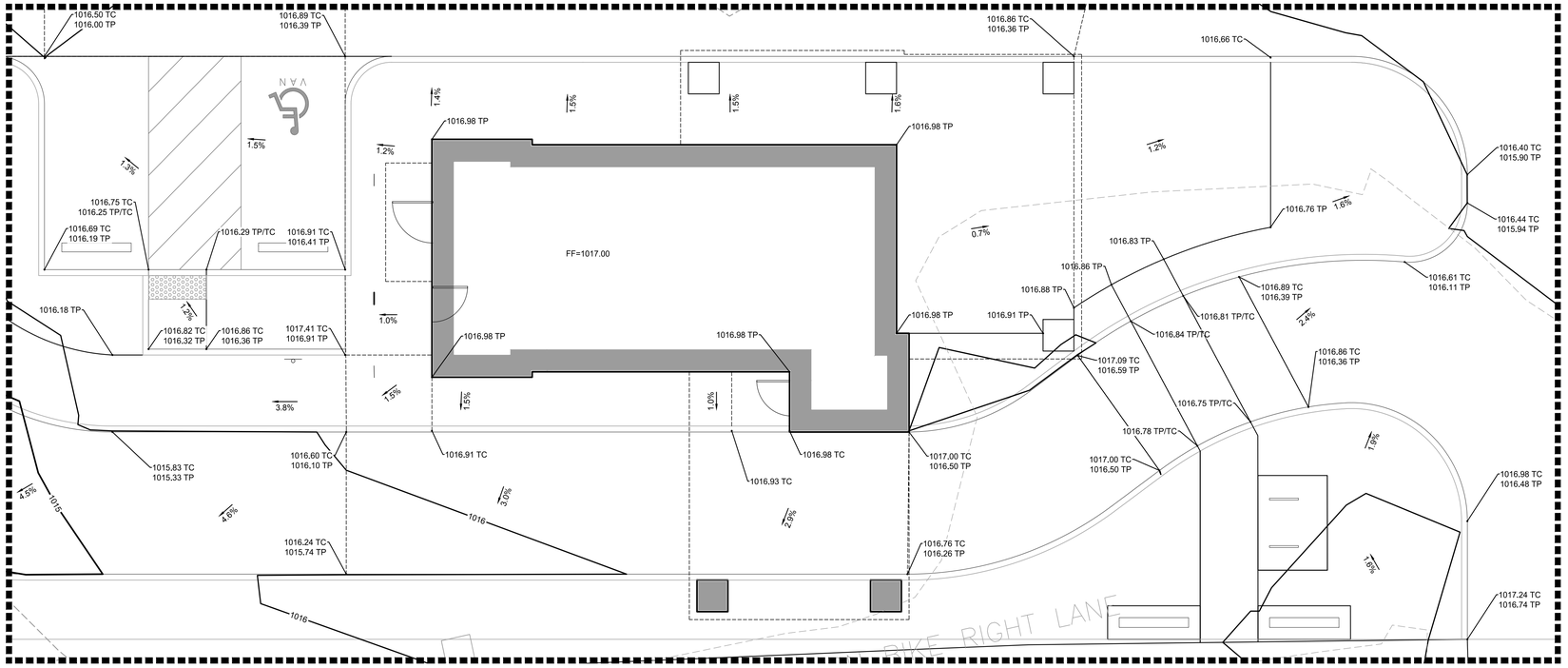

ENLARGEMENT - GRADING PLAN

SCALE: 1" = 5'

SCALE 1 INCH = 5 FEET

5 0 5 10

Revisions

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Project 18069
Date 11.28.18
Scale As Noted
Sheet

C3.1
GRADING
ENLARGEMENT

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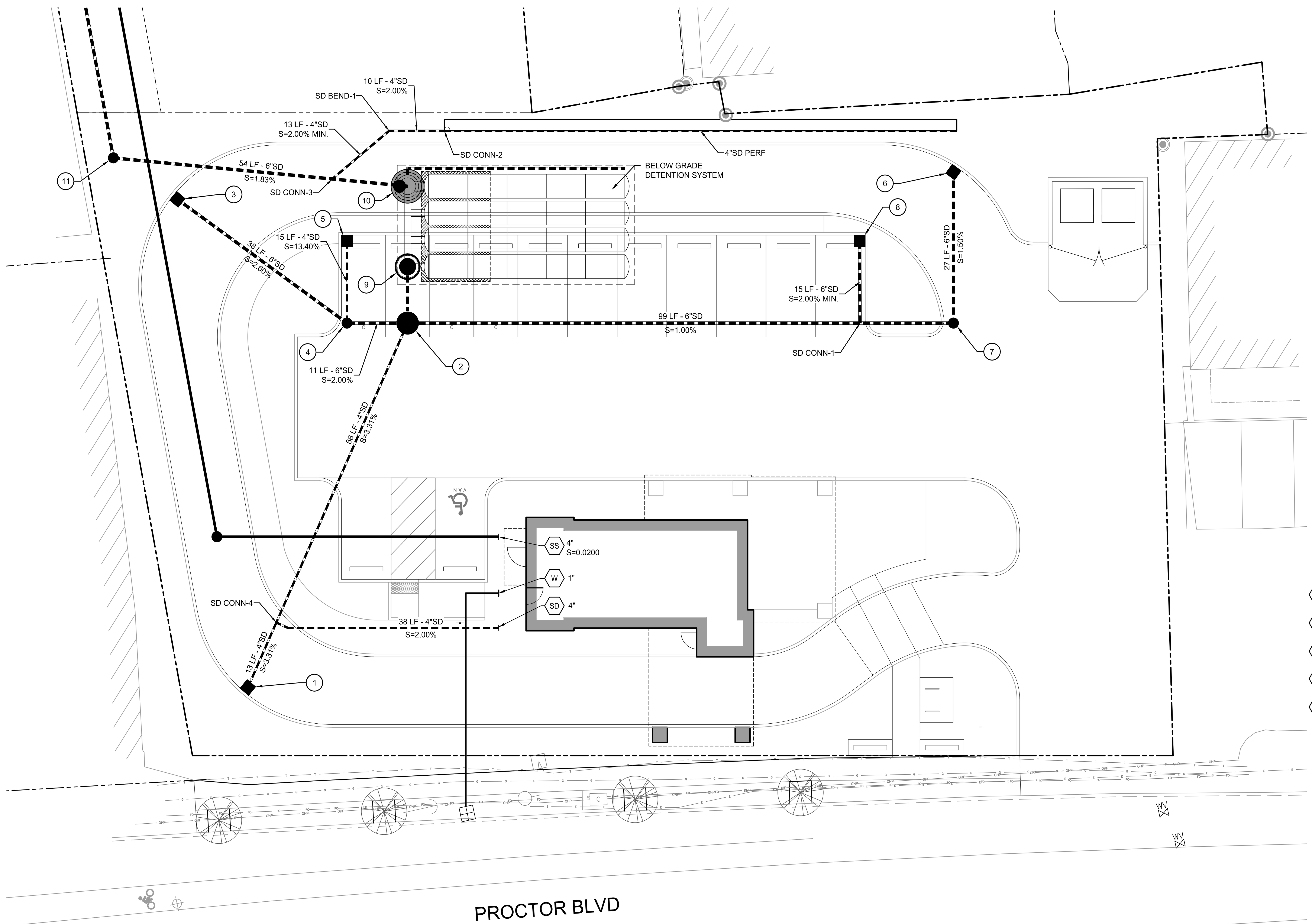
1	CB-1	N=635,855.18 E=7,750,953.36 RIM=1014.18 IE 4" OUT=1012.66 (NE)
2	WQHM-1	N=635,912.10 E=7,750,995.43 RIM=1013.67 IE 6" IN=1010.32 (E) IE 6" IN=1010.32 (W) IE 4" IN=1010.32 (SW) IE 6" OUT=1008.00 (N)
3	CB-2	N=635,942.41 E=7,750,959.33 RIM=1014.02 IE 6" OUT=1011.52 (SE)
4	COTG-1	N=635,914.44 E=7,750,984.69 IE 6" OUT=1010.54 (E)
5	CB-3	N=635,928.66 E=7,750,987.80 RIM=1014.99 IE 4" OUT=1012.49 (S)
6	CB-4	N=635,917.14 E=7,751,097.85 RIM=1014.10 IE 6" OUT=1011.71 (S)
7	COTG-4	N=635,890.99 E=7,751,092.15 IE 6" OUT=1011.31 (W)
8	CB-5	N=635,908.84 E=7,751,078.63 RIM=1014.83 IE 6" OUT=1012.00 (S)
9	FSMH	N=635,921.87 E=7,750,997.56 RIM=1015.36 IE 6" IN=1007.80 (S) IE 15" OUT=1007.60 (E)
10	FCMH	N=635,935.79 E=7,751,000.60 RIM=1015.08 IE 15" IN=1005.60 (E) IE 4" IN=1005.10 (N) IE 6" OUT=1005.00 (W)
11	COTG-6	N=635,952.07 E=7,750,949.54 IE 6" OUT=1004.02 (N)



SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

UTILITY LABEL LEGEND

STRUCTURE LABEL

XX XX-XX — UTILITY TYPE (SD=STORM DRAINAGE, SS=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION); STRUCTURE TYPE CALLOUT; ID NUMBER (WHERE APPLICABLE)
X+XX.X RT X.X' — LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X — STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

XXLF - XX" XX — UTILITY LENGTH; UTILITY SIZE; UTILITY TYPE
S=X.XX% — SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

SHEET LEGEND

- FTP — STORMWATER FLOW-THROUGH PLANTER. ID AS SHOWN.
- SS — CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- SD — CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.
- W — CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
- !! — UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O.

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

FROELICH ENGINEERS!
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DUTCH BROS
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Project 18069
Date 11.28.18
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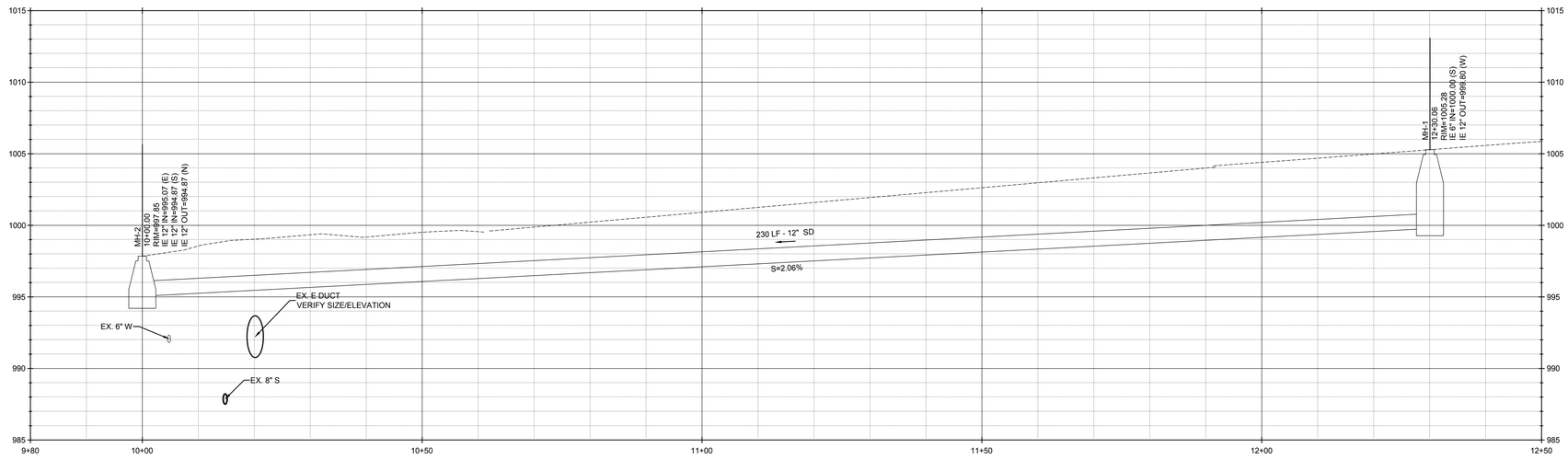
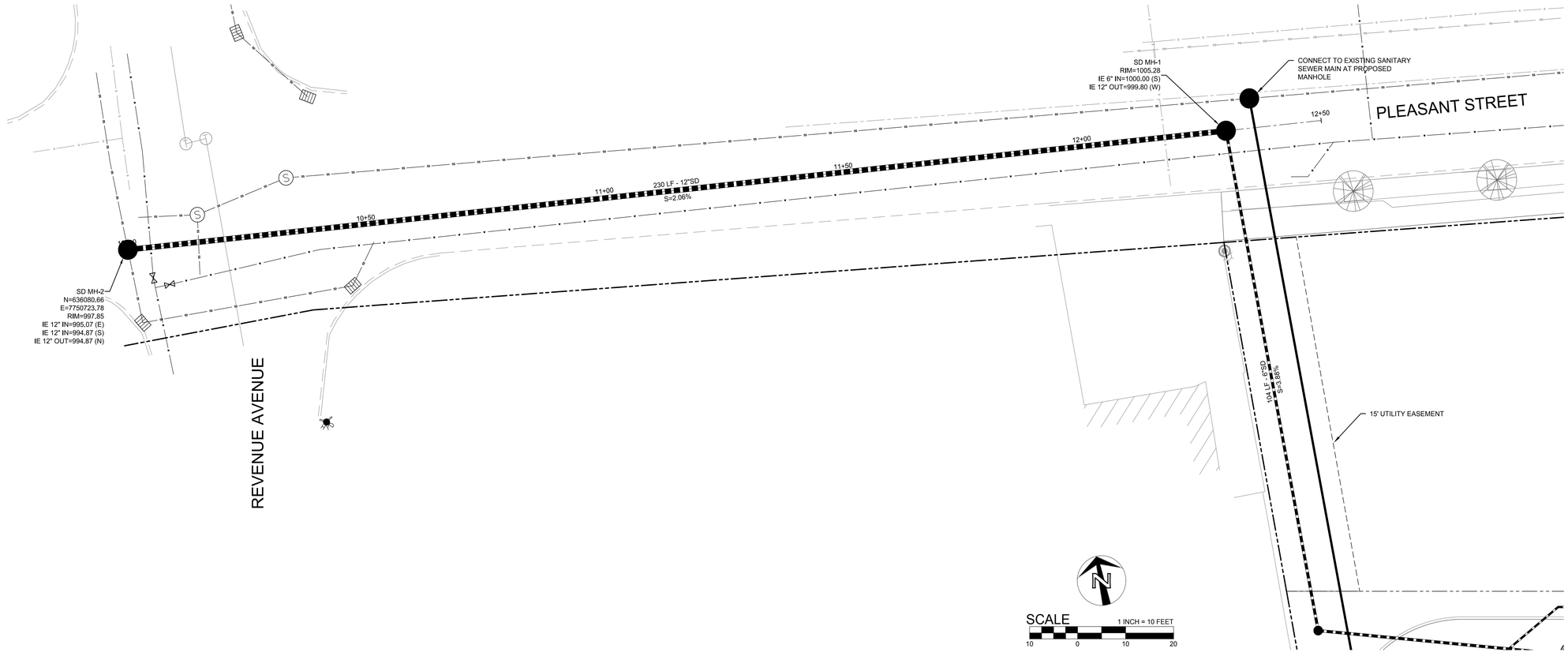
UTILITY PLAN - SOUTH



PROFILE - STORMWATER MAIN

SCALE: HORZ: 1" = 10'
VERT: 1" = 2'



UTILITY PLAN - NORTH

Revisions

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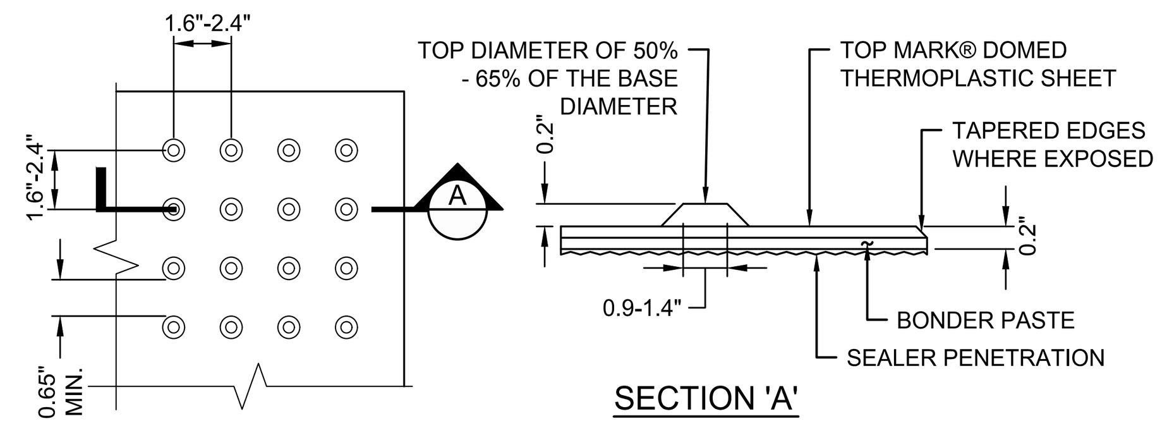
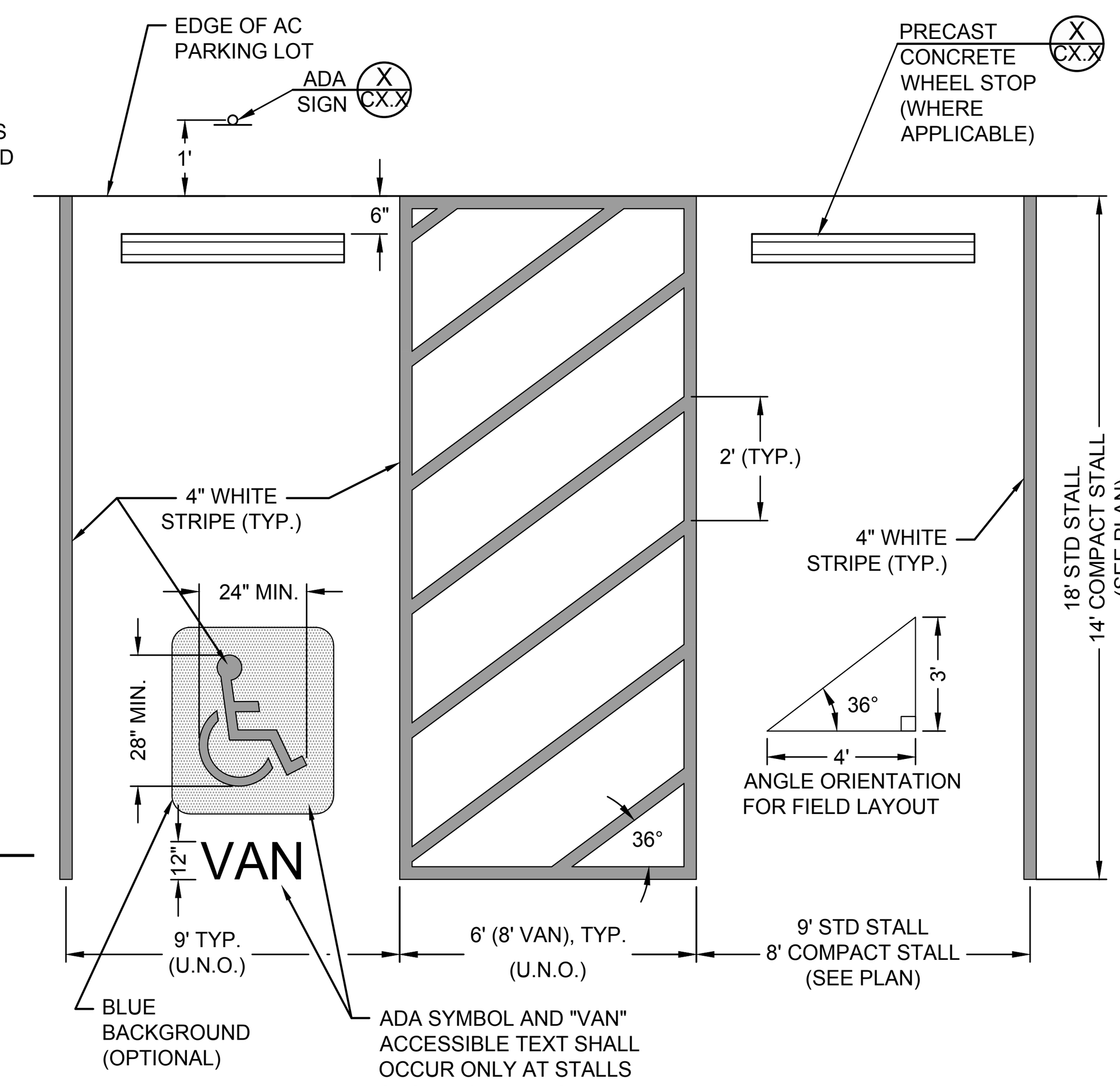
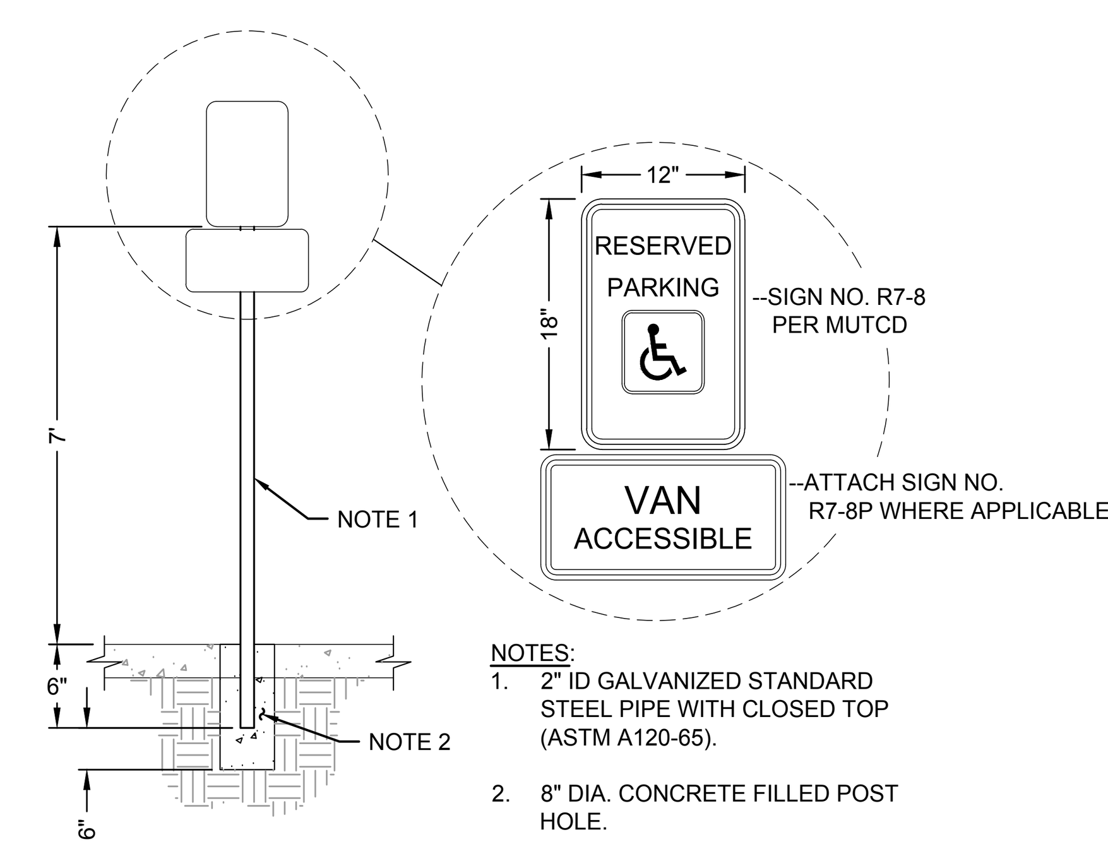


NOTES:
1. THERMOPLASTIC DETECTABLE WARNINGS SHALL BE INSTALLED AS SHOWN IN PLANS AND DETAILS AND TO THE FULL WIDTH OF CURB RAMP OR FLUSH SURFACE. THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE OR OTHER POTENTIAL HAZARD.
2. THERMOPLASTIC DETECTABLE WARNING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. MANUFACTURER OF DETECTABLE WARNING:
   TOPMARK BY FLINT TRADING INC.
   PH: (336) 475-6600
   WWW.FLINTTRADING.COM
   OR APPROVED EQUAL

X DETECTABLE WARNING - TYPE 1
SCALE: NTS

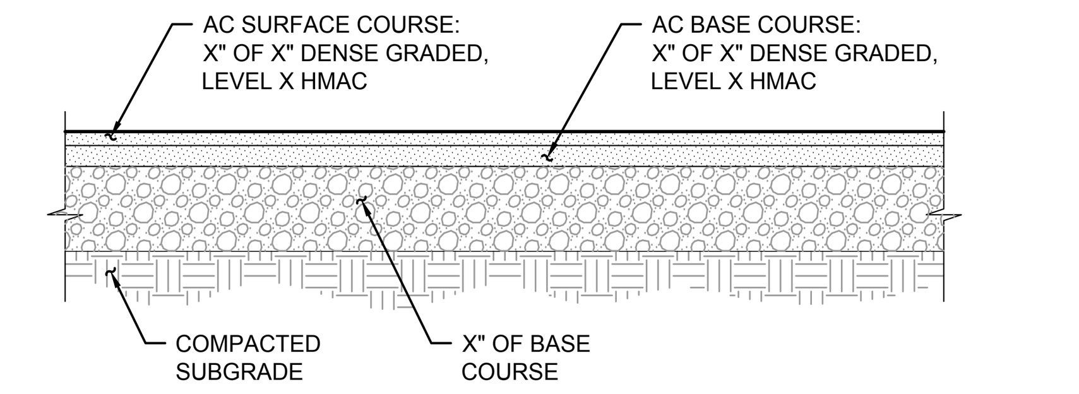


X TYPICAL PARKING LAYOUT
SCALE: NTS

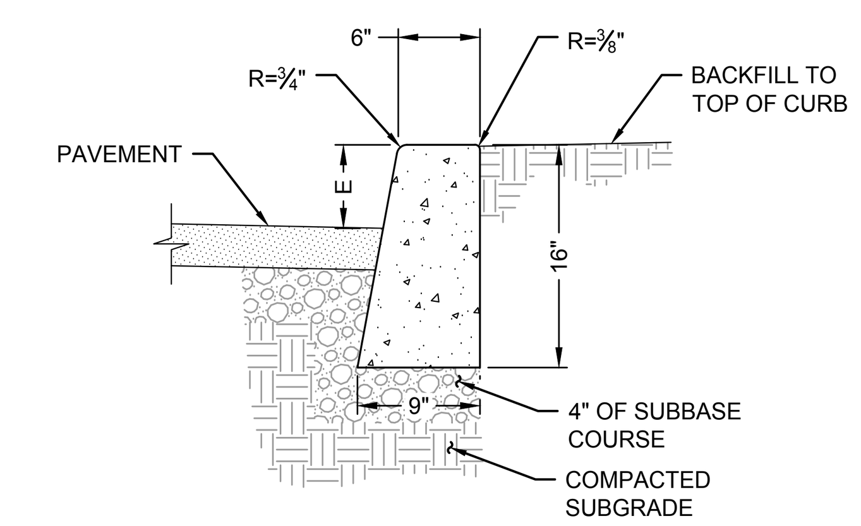


NOTES:
1. 2" ID GALVANIZED STANDARD STEEL PIPE WITH CLOSED TOP (ASTM A120-65).
2. 8" DIA. CONCRETE FILLED POST HOLE.

X ADA PARKING SIGN - TYPE 1
SCALE: NTS

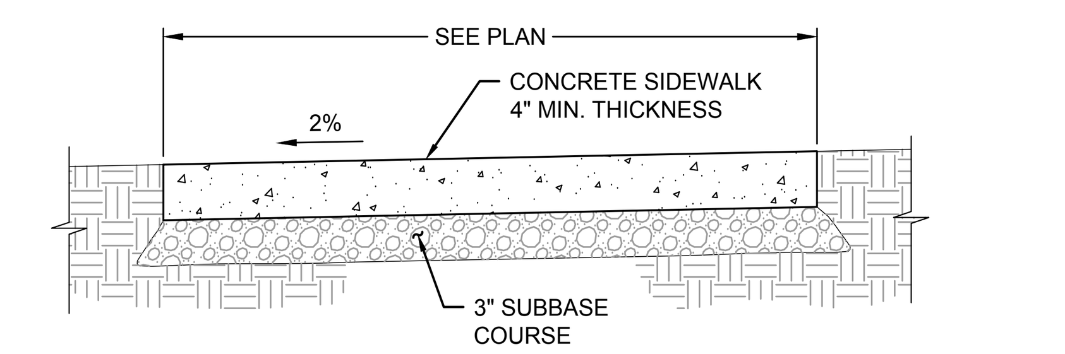


X ASPHALT PAVEMENT SECTION
SCALE: NTS



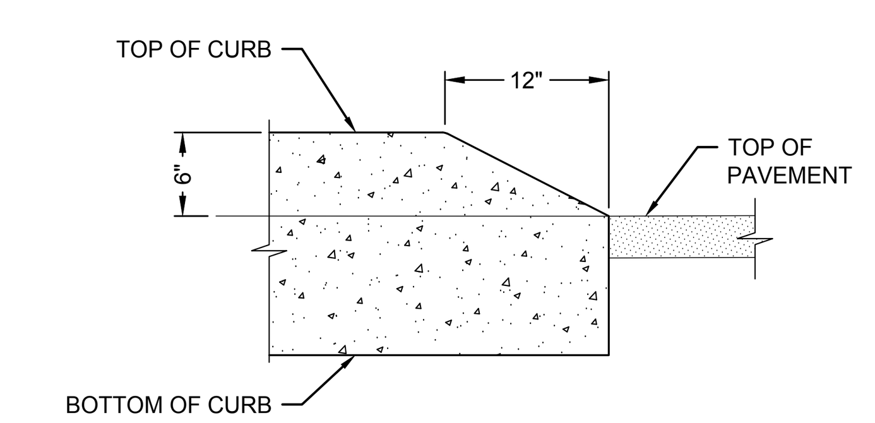
NOTES:
1. CURB EXPOSURE 'E' = 6", TYP. VARY AS SHOWN ON PLANS OR AS DIRECTED.
2. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY.
3. TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% UNLESS OTHERWISE SHOWN OR AS DIRECTED.
4. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM WITH CURB MACHINE AS APPROVED BY THE ENGINEER.

X STANDARD CONCRETE CURB
SCALE: NTS

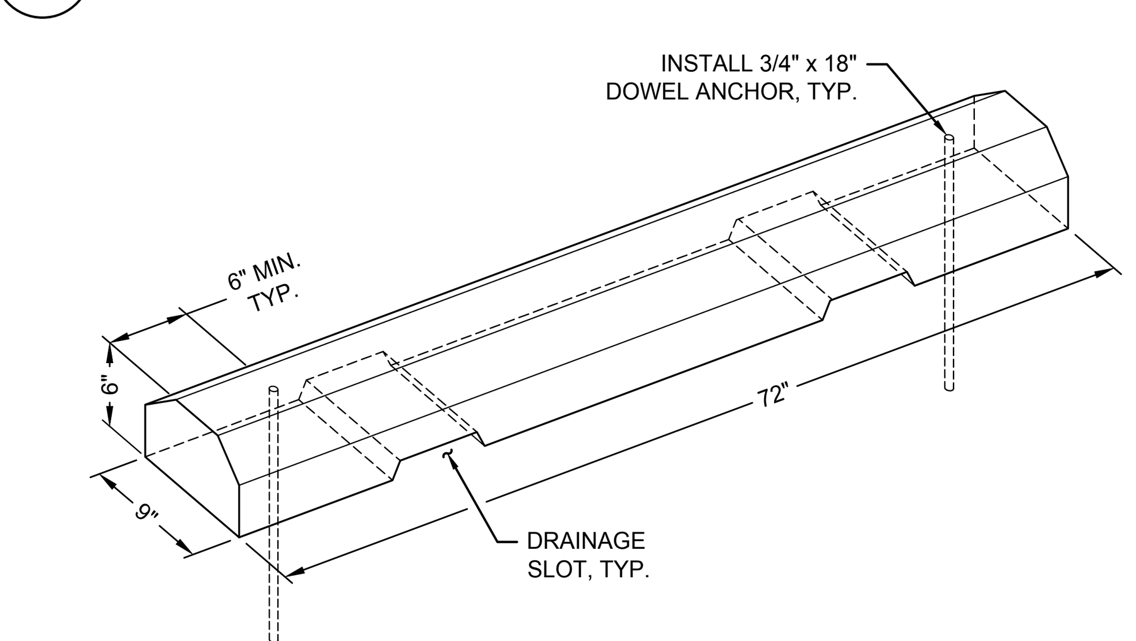


NOTES:
1. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING, AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY, UNLESS NOTED OTHERWISE.

X CONCRETE SIDEWALK
SCALE: NTS

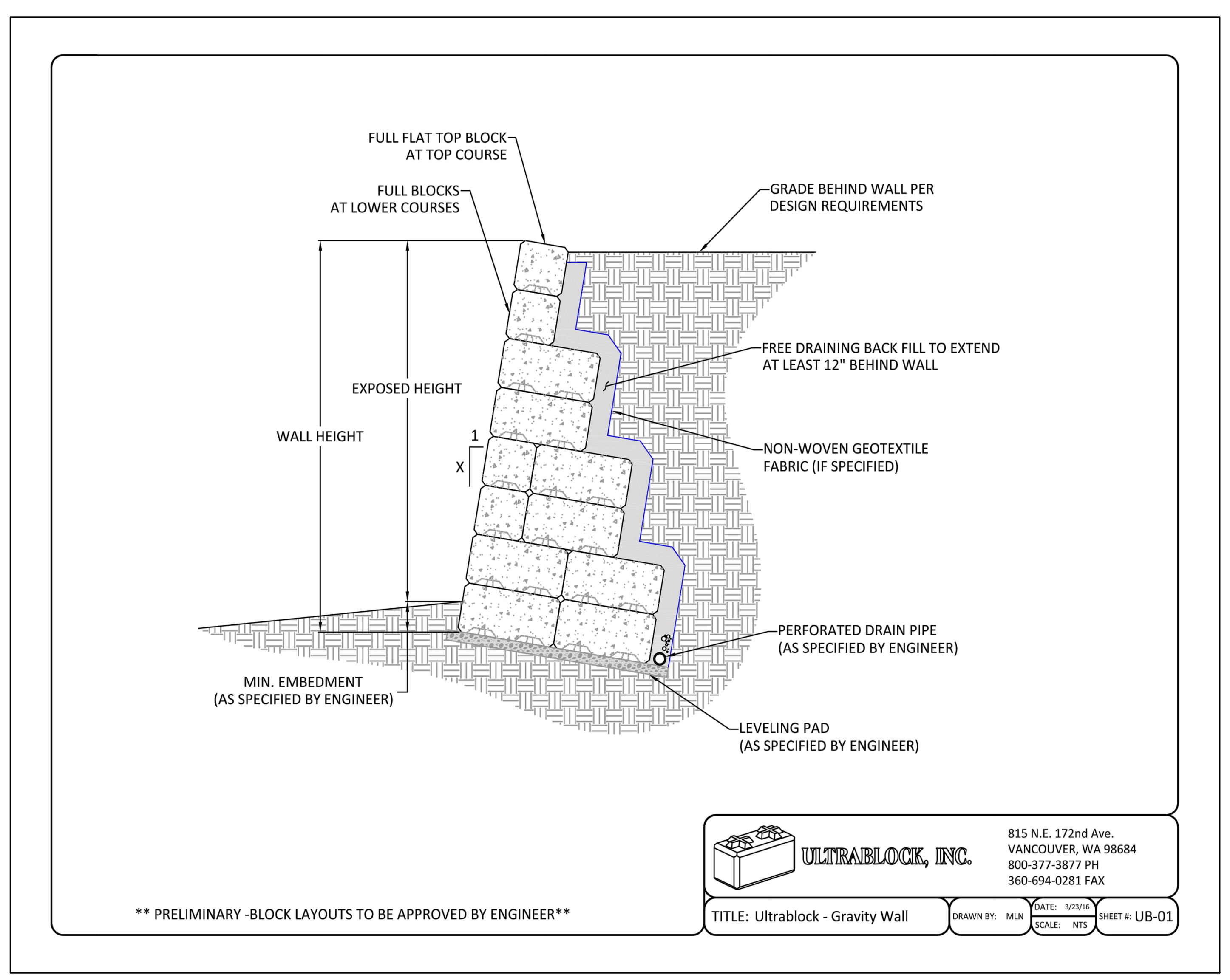


X CONCRETE CURB ENDING
SCALE: NTS



NOTES:
1. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM TO MANUFACTURER'S PRODUCTS APPROVED BY ENGINEER.

X PRECAST CONCRETE WHEEL STOP
SCALE: NTS



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DETAILS

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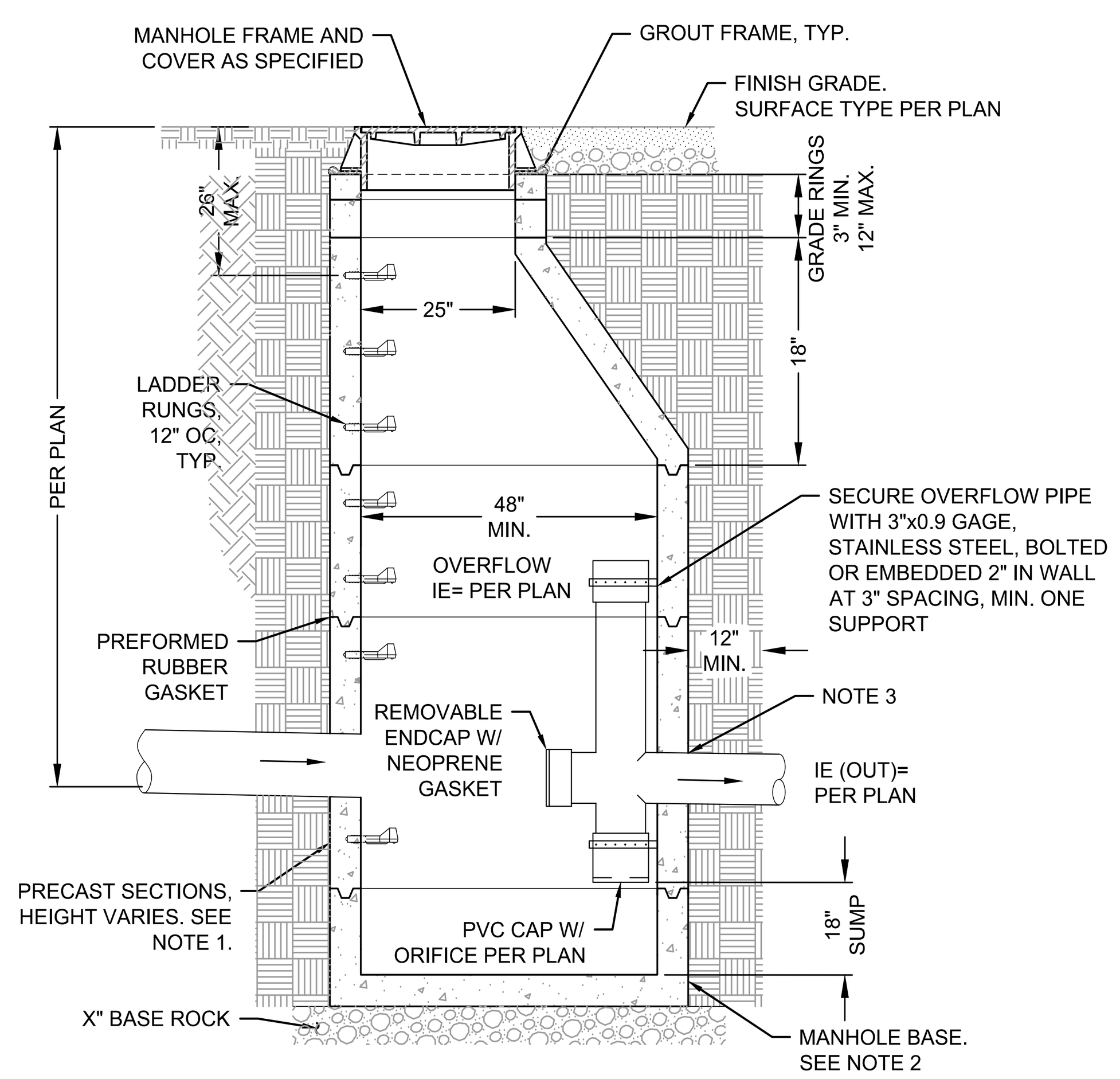
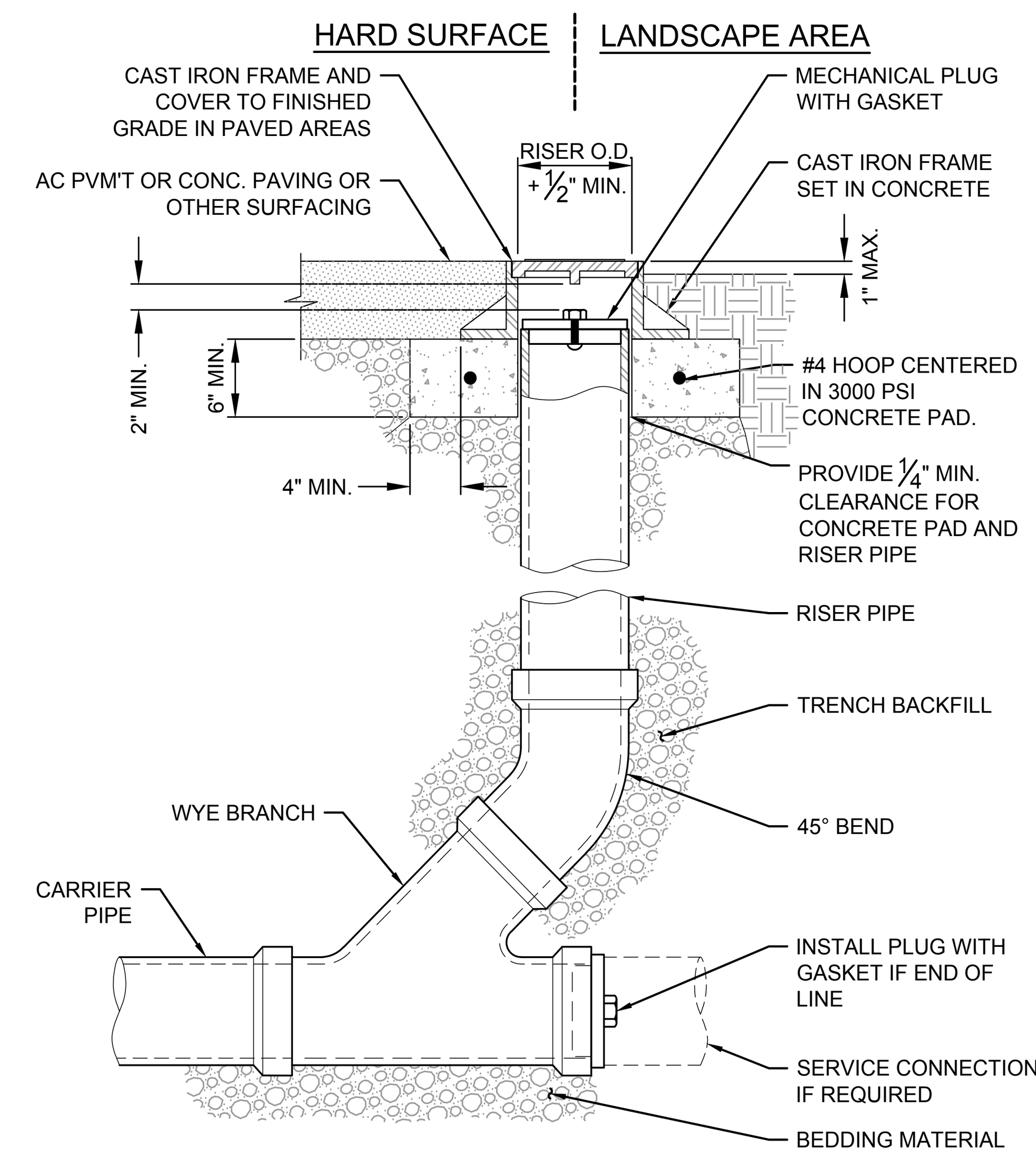


NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT. PIPE SIZES NOTED ON PLANS.

X FLOW CONTROL MANHOLE

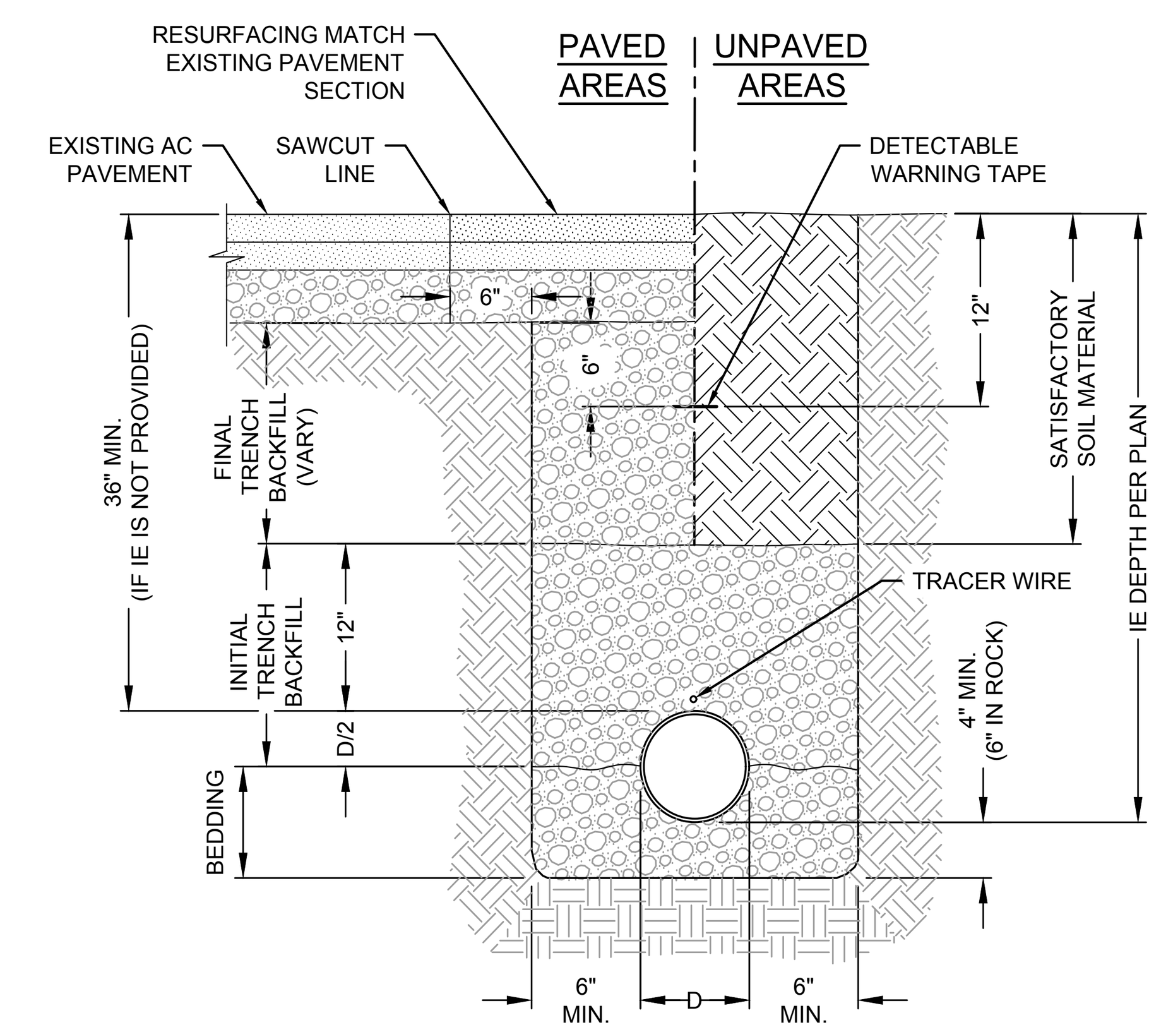
SCALE: NTS



NOTES:
1. CAST IRON FRAME AND COVER SHALL MEET H-20 LOAD REQUIREMENT.
2. FOR CARRIER PIPE SIZE 6"Ø AND LESS, PROVIDE RISER PIPE SIZE TO MATCH CARRIER PIPE.
3. FOR CARRIER PIPE SIZE 8"Ø AND LARGER, RISER PIPE SHALL BE 6"Ø.
4. RISER PIPE MATERIAL TO MATCH CARRIER PIPE MATERIAL.

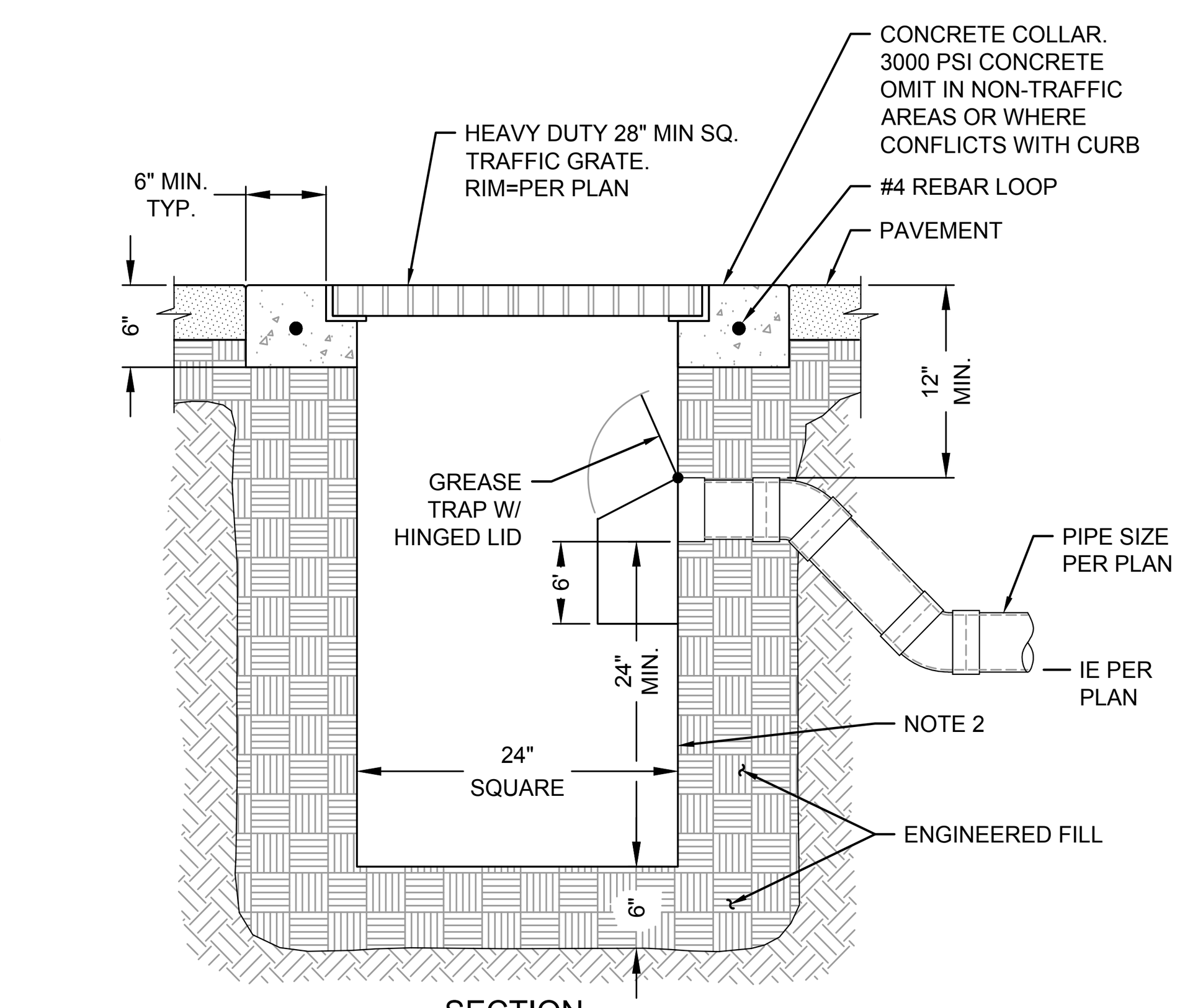
X STANDARD CLEANOUT (COTG)

SCALE: NTS



X TYPICAL PIPE BEDDING AND BACKFILL

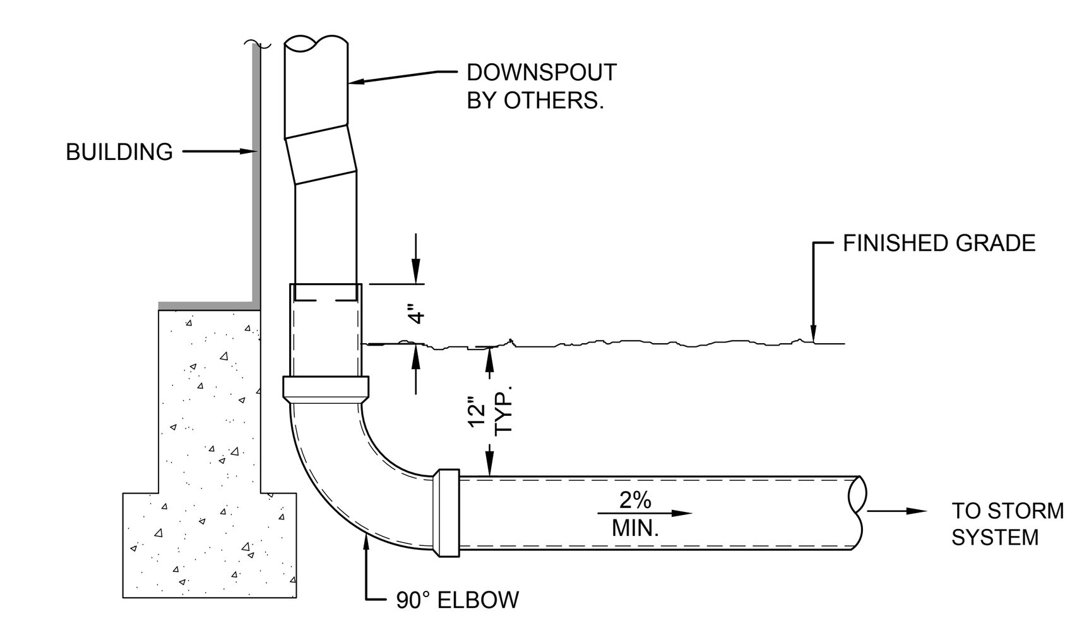
SCALE: NTS



NOTES:
1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 1/4" STEEL PLATE, BITUMINOUS COATED. AS MANUFACTURED BY GIBSON STEEL BASINS OR APPROVED EQUAL.

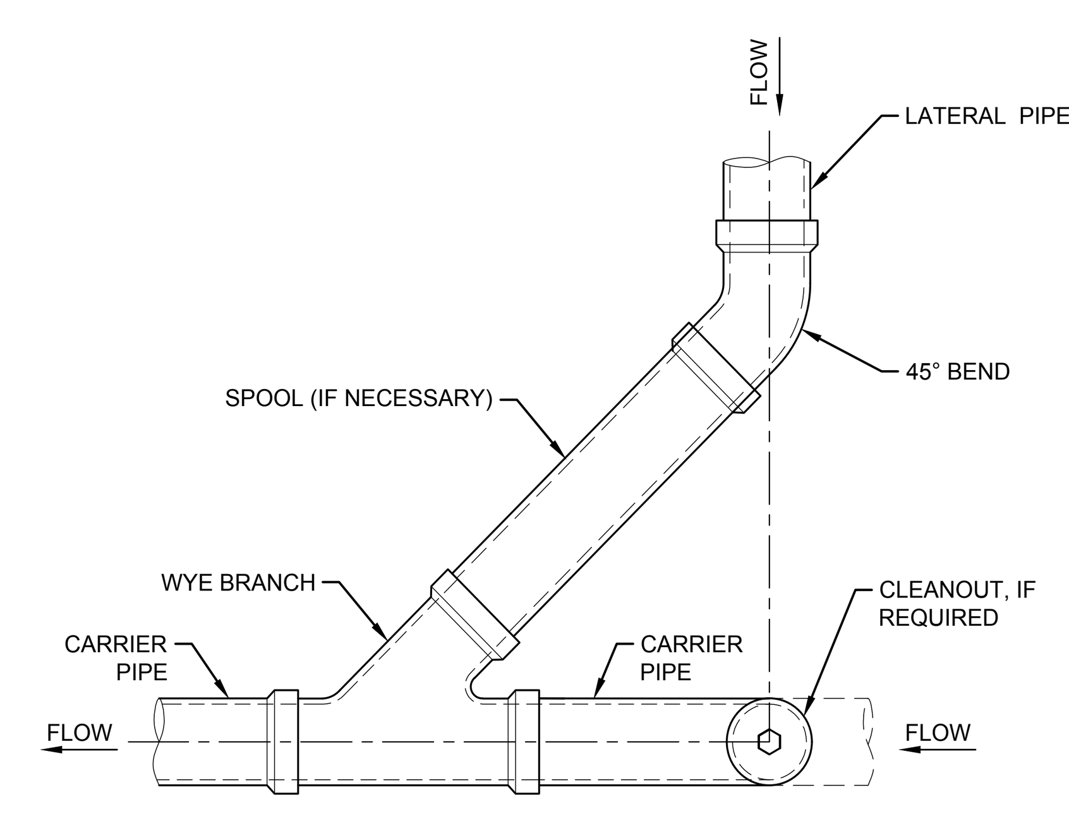
X TRAPPED CATCH BASIN

SCALE: NTS



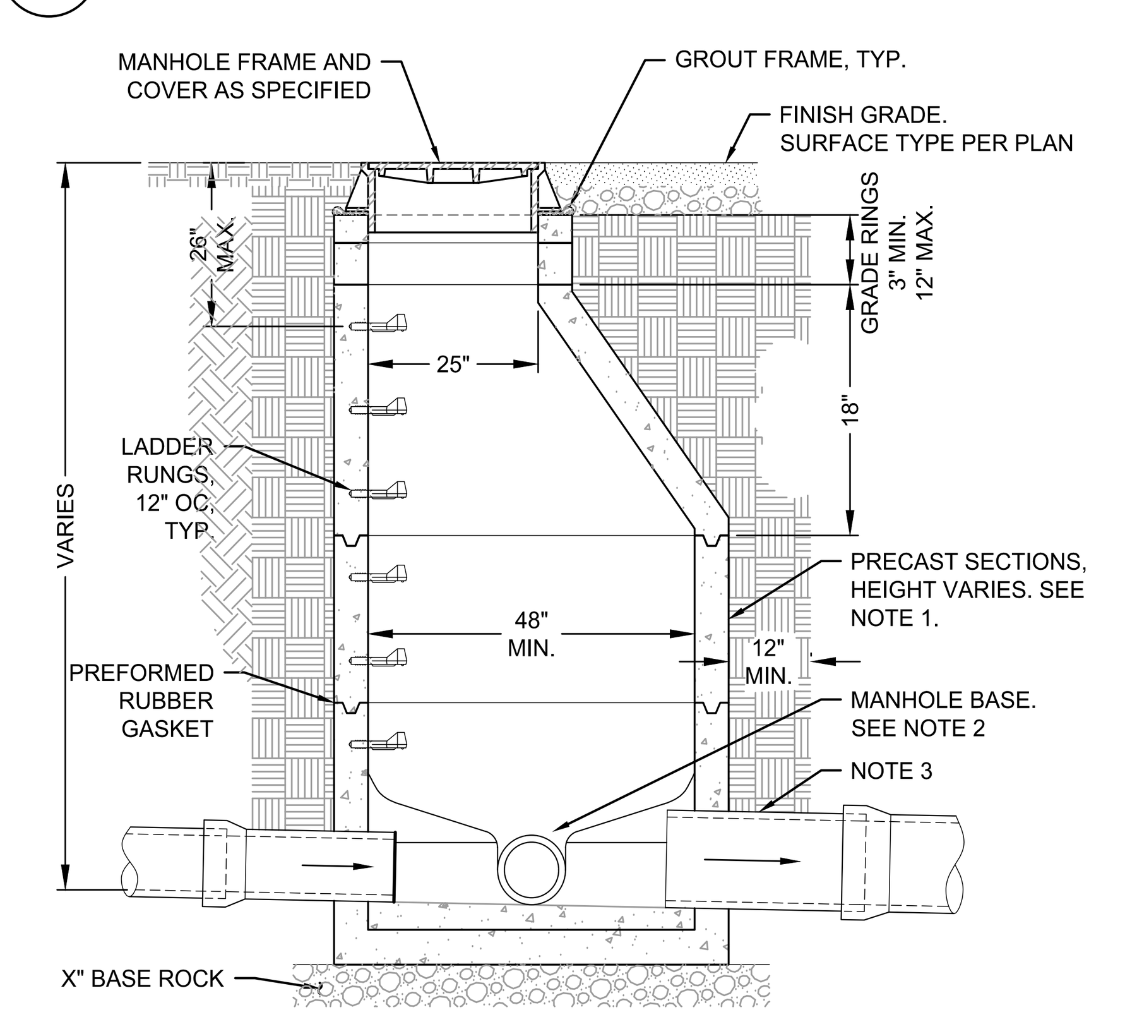
X DOWNSPOUT/STORM DRAIN CONNECTION

SCALE: NTS



3 STANDARD GRAVITY WYE CONNECTION

SCALE: NTS



NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT.

X STANDARD MANHOLE

SCALE: NTS

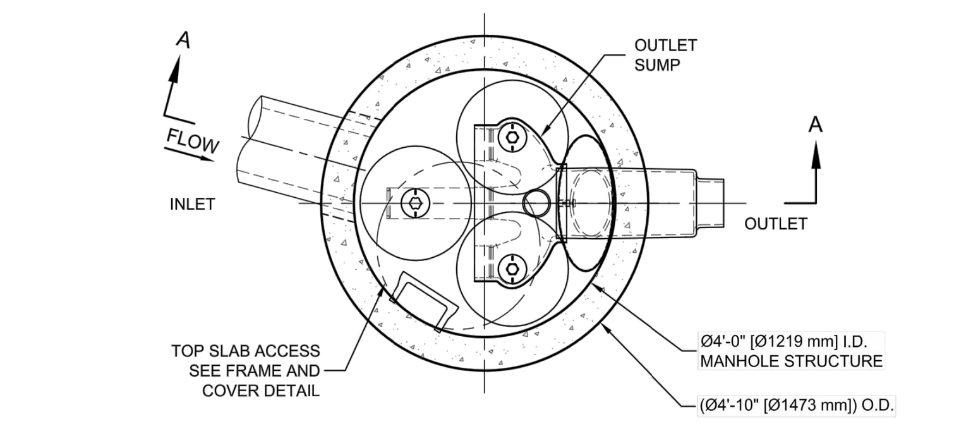
STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. Ø4 [1219 mm] MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS [28.3 L/s] . IF THE SITE CONDITIONS EXCEED 1.0 CFS [28.3 L/s] AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

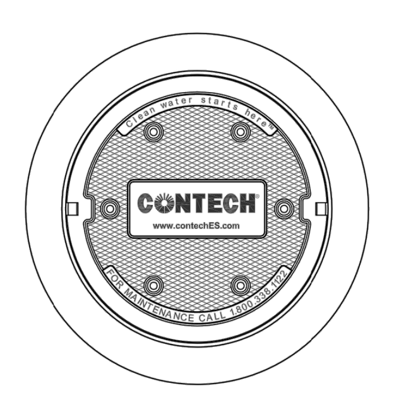
CARTRIDGE HEIGHT	27" [686 mm]			18" [458 mm]			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H)	3.05' [930 mm]			2.3' [700 mm]			1.8' [550 mm]		
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.44]	10 [0.63]	8.35 [0.54]	5 [0.32]

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



PLAN VIEW

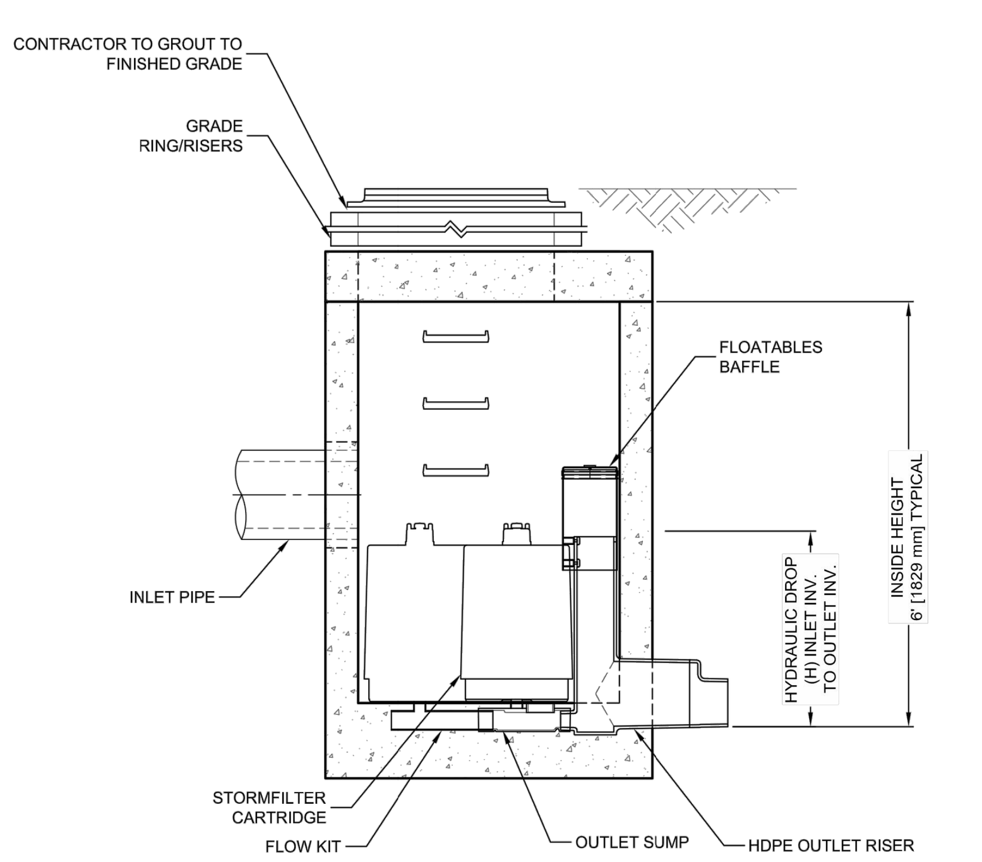
STANDARD OUTLET RISER
FLOWKIT: 40A



FRAME AND COVER

(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID	*		
WATER QUALITY FLOW RATE (cfs) [L/s]	*		
PEAK FLOW RATE (cfs) [L/s]	*		
RETURN PERIOD OF PEAK FLOW (yrs)	*		
CARTRIDGE HEIGHT (SEE TABLE ABOVE)	*		
NUMBER OF CARTRIDGES REQUIRED	*		
CARTRIDGE FLOW RATE	*		
MEDIA TYPE (PERLITE, ZPG, PSORB)	*		
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION	*		
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			



SECTION A-A

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524 mm] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

The Stormwater Management StormFilter®

CONTECH® ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

SFMH48
STORMFILTER
STANDARD DETAIL

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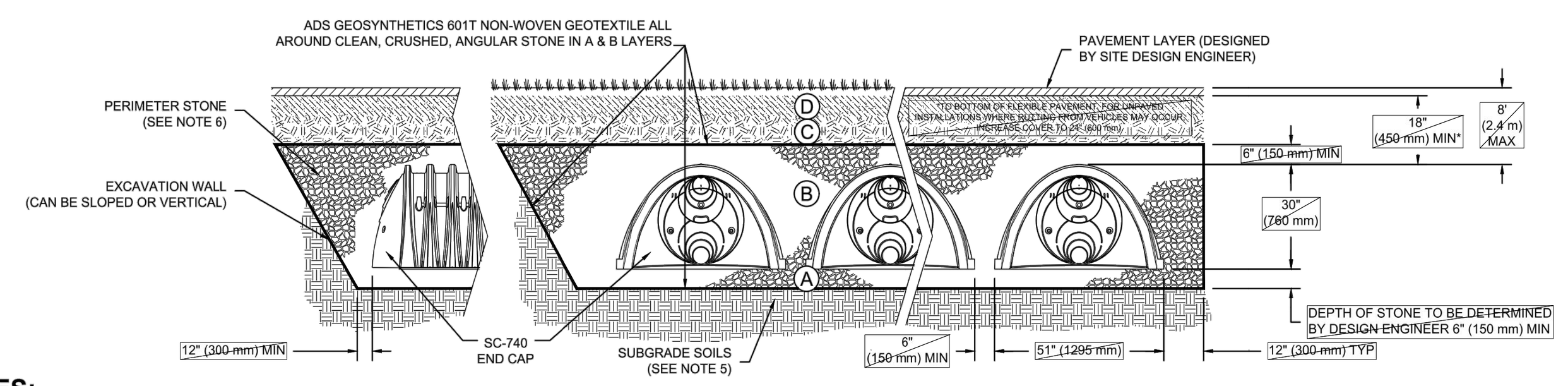
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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StormTech

SHEET 3 OF 5

ADS
ADVANCED DRAINAGE SYSTEMS, INC.

SiteASSIST
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

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STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

Revisions

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Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.2

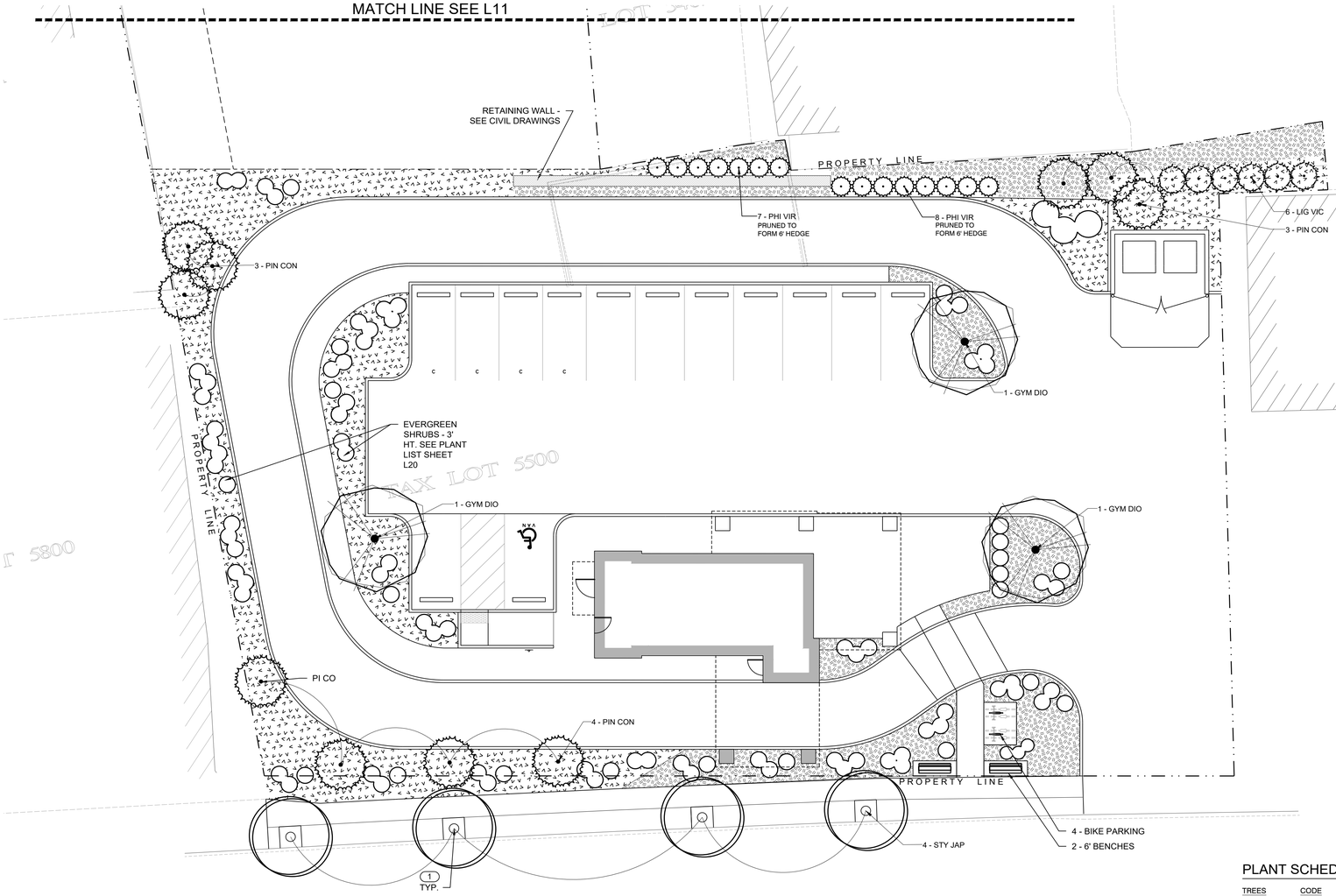
DETAILS

File: P:\2018\18-C023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-C023_C5.0_DETL.dwg TAB:C5.2

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1

Exhibit X


DUTCH BROS
Coffee



TOTAL SITE AREA	= 28,184 SF
REQUIRED LANDSCAPE AREA (10%)	= 2,818 SF
LANDSCAPE AREA	= 4,985 SF
ONSITE LANDSCAPE AREA TOTAL	**= 4,985 SF (17%)**

NORTHWEST ORNAMENTAL PLANTING MIX
SEE PLANT LIST - SHEET L20

STANDARD SHRUB AND GROUNDCOVER MIX
SEE PLANT LIST - SHEET L20

STORMWATER PLANTINGS
SEE PLANT LIST - SHEET L20

PLANTING NOTES

1. VERIFY LOCATION OF ANY EXISTING PLANTS TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL INDICATED TO REMAIN IN PLACE UNLESS POTTING AND STORAGE IS REQUIRED TO PERFORM WORK.
2. VERIFY AND COORDINATE WORK AROUND ALL UNDERGROUND UTILITIES BEFORE EXCAVATION. NOTIFY ALL UTILITY PROVIDERS AT LEAST TWO (2) WORKING DAYS PRIOR TO BEGINNING WORK.
3. VERIFY THAT THE CONDITIONS ARE SUITABLE TO PROMOTE HEALTHY PLANT GROWTH. DO NOT PROCEED IF CONDITIONS DETRIMENTAL TO HEALTHY GROWING ENVIRONMENT ARE PRESENT, INCLUDING OVER-COMPACTED SOILS, ADVERSE DRAINAGE CONDITIONS, DEBRIS, INVASIVE PLANTS, OR OTHER HARMFUL CIRCUMSTANCES. PROCEEDING WITHOUT NOTIFICATION DENOTES ACCEPTANCE.
4. ALL PLANTING AREAS SHALL BE EQUIPPED WITH AN AUTOMATIC DRIP IRRIGATION SYSTEM. ALL TREES ON PROPERTY SHALL BE EQUIPPED WITH DRIP LOOPS ON SEPARATE ZONE.
5. ALL PLANT MIXES SHALL BE DISTRIBUTED AS PLANT SPACINGS INDICATED TO PROVIDE FULL GROUND AND SCREENING COVERAGE WITHIN 2 YEARS.
6. VERIFY PLANT QUANTITIES SHOWN ON THE PLANS BASED ON GRAPHIC REPRESENTATION. QUANTITIES SHOWN ARE FOR CONTRACTOR CONVENIENCE ONLY.
7. PROVIDE POSITIVE DRAINAGE FOR ALL PLANTING AREAS.
8. UNLESS OTHERWISE INDICATED, ALL PLANTINGS SHALL BE TRIANGULARLY SPACED.

SITE PLANTING AREA MATERIALS

(1) ORGANIC MULCH AT PLANTING BELOW TREE GRATES

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY	REMARKS
	GYM DIO	Gymnocladus dioica 'Espresso'	Kentucky Coffeetree	1.5" Cal.	3	
	LIG VIC	Ligustrum vicaryi	Golden Privet	---	6	
	PIN CON	Pinus contorta ``Contorta``	Shore Pine	5` Ht.	10	
	STY JAP	Styrax japonicus	Japanese Snowbell	2" Cal.	6	

SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
	PHI VIR	Philadelphus x virginalis	Mock Orange	3` Ht.	48" o.c.	15	

1 LANDSCAPE PLAN
SCALE: 1" = 10' - 0"

N 0 5 10 20

Exhibit Y

Revisions

medium
LANDSCAPE ARCHITECTURE + design
4321 se windsor ct portland oregon
503.780.1791 mediumla.com

Ownership:
CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
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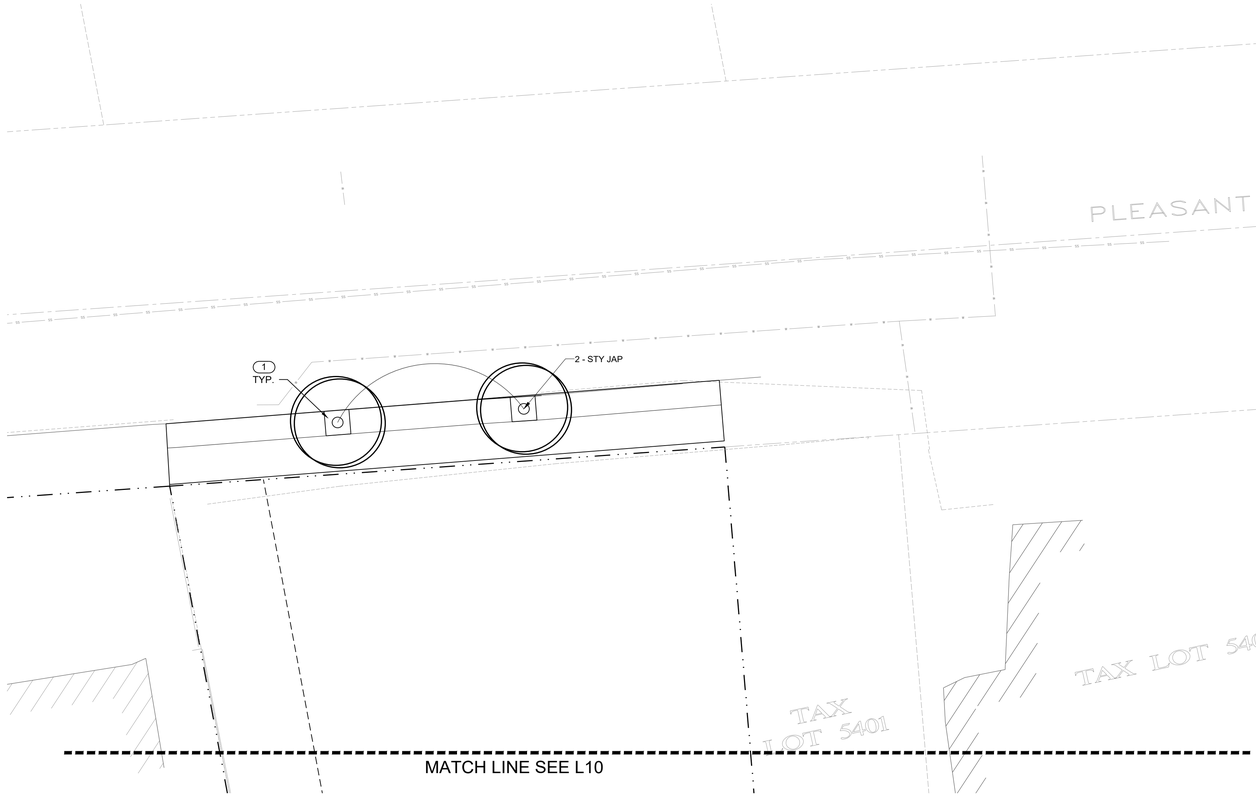
Project	18069
Date	05.24.19
Scale	As Noted
Sheet	L10



TOTAL SITE AREA	= 28,184 SF
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NORTHWEST ORNAMENTAL PLANTING MIX

SEE PLANT LIST - SHEET L20

STANDARD SHRUB AND GROUNDCOVER MIX

SEE PLANT LIST - SHEET L20

STORMWATER PLANTINGS

SEE PLANT LIST - SHEET L20

PLANTING NOTES

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4. ALL PLANTING AREAS SHALL BE EQUIPPED WITH AN AUTOMATIC DRIP IRRIGATION SYSTEM. ALL TREES ON PROPERTY SHALL BE EQUIPPED WITH DRIP LOOPS ON SEPARATE ZONE.
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SITE PLANTING AREA MATERIALS

(1) ORGANIC MULCH AT PLANTING BELOW TREE GRATES

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE		QTY	REMARKS
	GYM DIO	Gymnocladus dioica 'Espresso'	Kentucky Coffeetree	1.5" Cal.		3	
	LIG VIC	Ligustrum vicaryi	Golden Privet	---		6	
	PIN CON	Pinus contorta ``Contorta``	Shore Pine	5` Ht.		10	
	STY JAP	Styrax japonicus	Japanese Snowbell	2" Cal.		6	
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**	**QTY**	**REMARKS**
	PHI VIR	Philadelphus x virginalis	Mock Orange	3` Ht.	48" o.c.	15	

1 LANDSCAPE PLAN

SCALE: 1" = 10' - 0"

N 0 5 10 20

Revisions

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Date 05.24.19
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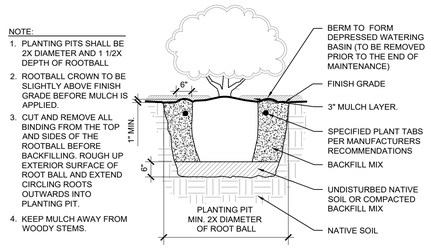
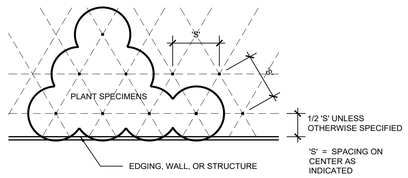


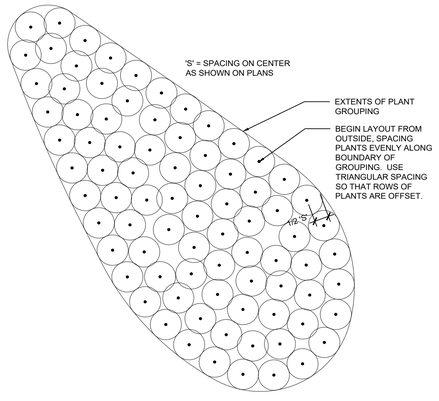
3 SHRUB PLANTING

Not to Scale



4 PLANT SPACING

Not to Scale

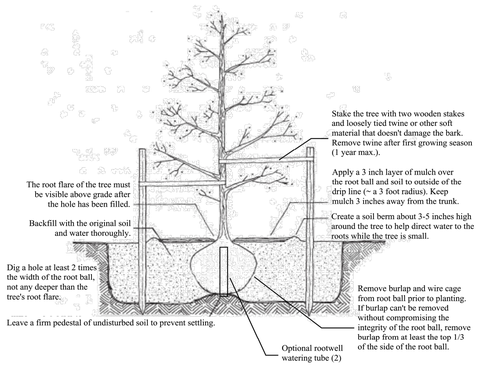


4 PLANT SPACING

Not to Scale

STREET TREE STANDARD PLANTING DETAIL

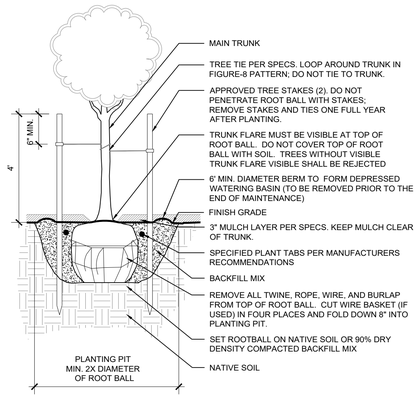
Profile of a newly planted street tree. Diagram not to scale.



- Please water your trees regularly for the first 2 to 3 years. During the summer dry season (roughly May to October), deep-root watering is recommended. Begin with 15 gallons of water per tree per week, and adjust as needed. During the remaining months of the year, monitor the root zone for dryness and water as needed. Good watering practices will promote vigorous growth, ensure well-formed root development, and help produce a beautiful tree for years to come.
- Make sure stakes are placed at the edge of the mulch pile and are pounded securely into the ground so they cannot be easily pulled out. Loosely tie the tree to the stakes with twine or another flexible material. The ties should be located no higher than 2/3 the height of the tree. The tree should be able to sway in the wind, which helps establish strong support roots and trunk. Check the twine periodically to make sure there is room for the tree to grow and the twine is not damaging the trunk. Remove the twine immediately if there are signs of damage on the trunk. Do not leave trees staked for more than one year or the tree may not develop its own proper support structure.
- Reapply mulch as necessary to maintain a 3 inch depth. Keep weeds and grass from growing in the mulch area to reduce competition for water and nutrients.
- Remove any twine, tape, or tags from the tree's trunk and branches prior to planting.

1 STREET TREE PLANTING

Not to Scale



2 TREE PLANTING

Not to Scale

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE	SPACING	#	NOTES
NORTHWEST ORNAMENTAL PLANTING MIX						
SE AU	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS	2 GAL.	24" O.C.	X	
MA RE	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL.	18" O.C.	X	
PO MU	POLYSTICHUM MUNITUM	SWORD FERN	2 GAL.	24" O.C.	X	
PE AT	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	2 GAL.	30" O.C.	X	
AR UV	ARCTOSTAPHYLOS UVA-URSI 'Massachusetts'	KINNIKKINIK MASSACHUSETTS	4" POTS	12" O.C.	X	
PI MU	PINUS MUGO VAR. PUMILLO	DWARF MUGO PINE	1 GAL.	24" O.C.	X	
PE SE	PENNESETUM ALOPECURIODES 'HAMELN'	DWARF FOUNTAIN GRASS	1 GAL.	24" O.C.	X	
RU FU	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	1 GAL.	24" O.C.	X	
TA MO	TAXUS CUSPIDATA 'MONLOO'	JAPANESE YEW	2 GAL.	30" O.C.	X	
FR CH	FRAGARIA CHILOENSIS	BEACH STRAWBERRY	1 GAL.	18" O.C.	X	
EU PU	EUPATORIUM PURPUREUM 'BABY JOE'	JOE PYE WEED	1 GAL.	18" O.C.	X	
STANDARD SHRUB AND GROUNDCOVER MIX						
AT FI	ATHYRIUM FELIX-FEMINA	LADY FERN	2 GAL.	18" O.C.	x	
PO NE	POLYSTICHUM NEOLOBATUM	ASIAN SABER FERN	2 GAL.	18" O.C.	x	
PH LE	PHILADELPHUS LEWISII 'BLIZZARD'	MOCK ORANGE	2 GAL.	36" O.C.	x	
CI PU	CISTUS X PULVERULENTUS 'SUNSET'	ROCK ROSE	2 GAL.	36" O.C.	x	
SY AL	SYMPHORICARPOS ALBUS	SNOWBERRY	2 GAL.	36" O.C.	x	
MA RE	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL.	18" O.C.	X	
MA RE	RIBES SANGUINEUM 'KING EDWARD VII'	FLOWERING CURRANT	2 GAL.	36" O.C.	X	
STORMWATER FACILITY PLANTINGS						
IR SI	IRIS SIBERICA	SIBERIAN IRIS	1 GAL.	-	x	
JU PA	JUNCUS ENSIFOLIUS	STARHEAD RUSH	1 GAL.	12" O.C.	x	
CO AL	CORNUS ALBA 'Elegantissima'	REDTWIG DOGWOOD	5 GAL.	4' O.C.	x	

Revisions

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Date 05.24.19
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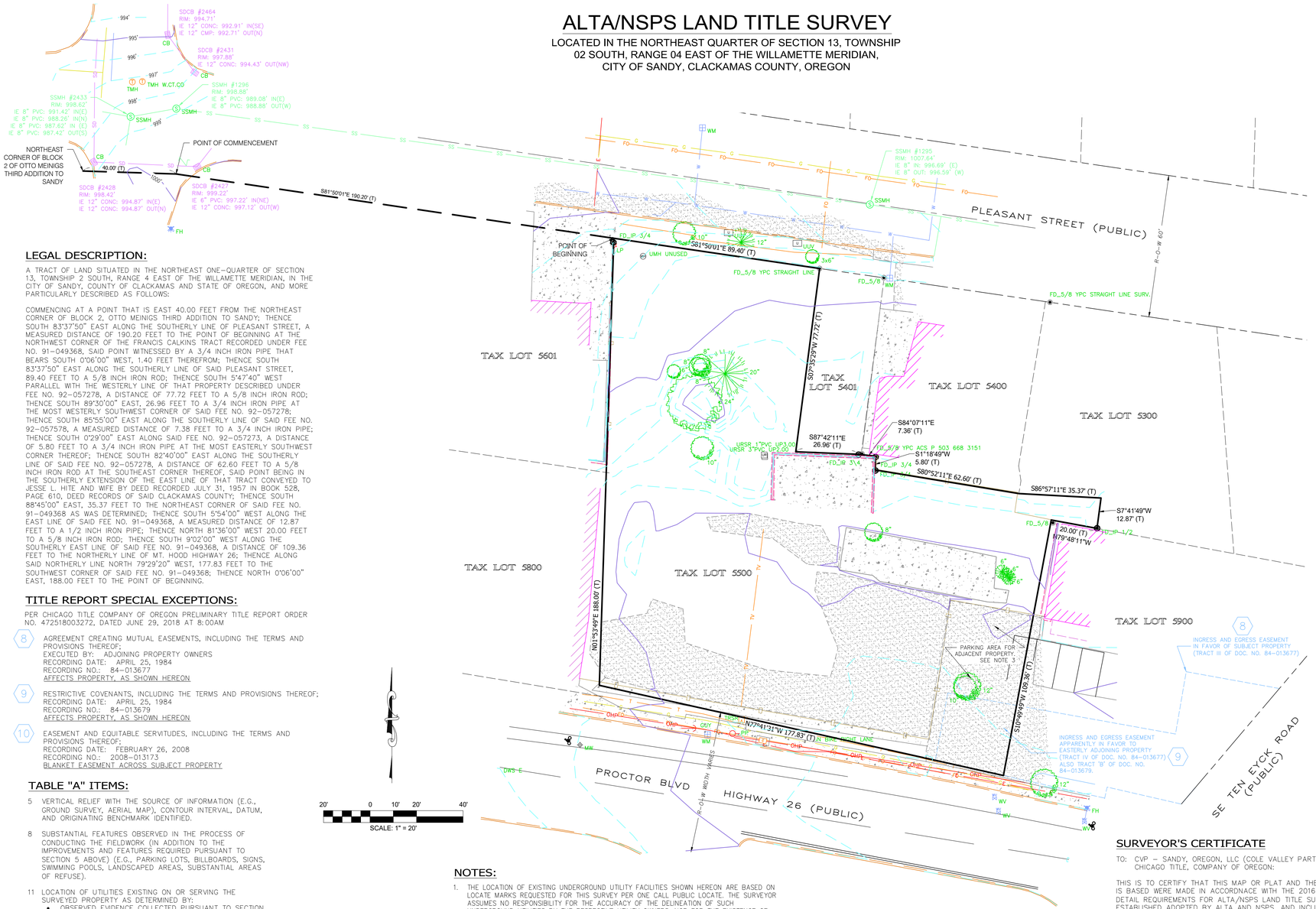
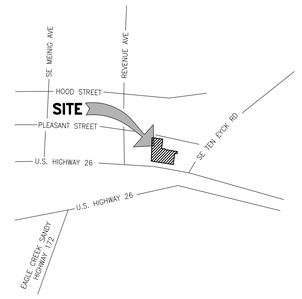
L20

Exhibit Z

ALTA/NSPS LAND TITLE SURVEY

LOCATED IN THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 02 SOUTH, RANGE 04 EAST OF THE WILLAMETTE MERIDIAN, CITY OF SANDY, CLACKAMAS COUNTY, OREGON





VICINITY MAP
SCALE: 1" = 500'

LEGEND:

- BUILDING
- FLOW LINE CURB
- EXTRUDED CURB
- STANDARD CURB
- EDGE OF PAVEMENT
- EDGE OF CONCRETE
- WALL–TOP
- WALL–TOE
- TV — COMMUNICATIONS – CABLE TV
- W — WATER
- SD — STORM SEWER
- G — GAS
- E — ELECTRIC
- OHP — OVERHEAD POWER
- SS — SANITARY SEWER
- PS — SANITARY SEWER–PRESSURE
- FO — FIBER OPTIC
- T — TELEPHONE
- COMM — COMMUNICATION
- FENCE – WOOD
- CENTERLINE
- RIGHT OF WAY
- BOUNDARY LINE
- EASEMENT
- LOT/PARCEL LINE
- CONCRETE HATCH
- ASPHALT HATCH
- MAJOR CONTOUR
- MINOR CONTOUR
- FOUND MONUMENT – 5/8" IRON ROD
- FOUND MONUMENT–IRON PIPE
- TREE – DECIDUOUS
- TREE – CONIFER
- SIGN
- POWER POLE
- LIGHT–LAMP POST
- GUY ANCHOR
- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER METER
- TELEPHONE RISER
- UNKNOWN MANHOLE
- COMMUNICATION VAULT
- UNKNOWN RISER
- MONITORING WELL
- XX.XX' (T) — DISTANCE PER TITLE REPORT

LEGAL DESCRIPTION:

A TRACT OF LAND SITUATED IN THE NORTHEAST ONE–QUARTER OF SECTION 13, TOWNSHIP 2 SOUTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN, IN THE CITY OF SANDY, COUNTY OF CLACKAMAS AND STATE OF OREGON, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT THAT IS EAST 40.00 FEET FROM THE NORTHEAST CORNER OF BLOCK 2, OTTO MEINIGS THIRD ADDITION TO SANDY; THENCE SOUTH 83°37'50" EAST ALONG THE SOUTHERLY LINE OF PLEASANT STREET, A MEASURED DISTANCE OF 190.20 FEET TO THE POINT OF BEGINNING AT THE NORTHWEST CORNER OF THE FRANCIS CALKINS TRACT RECORDED UNDER FEE NO. 91–049368, SAID POINT WITNESSED BY A 3/4 INCH IRON PIPE THAT BEARS SOUTH 0°06'00" WEST, 1.40 FEET THEREFROM; THENCE SOUTH 83°37'50" EAST ALONG THE SOUTHERLY LINE OF SAID PLEASANT STREET, 89.40 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 5°47'40" WEST PARALLEL WITH THE WESTERLY LINE OF THAT PROPERTY DESCRIBED UNDER FEE NO. 92–057278, A DISTANCE OF 77.72 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 89°30'00" EAST, 26.96 FEET TO A 3/4 INCH IRON PIPE AT THE MOST WESTERLY SOUTHWEST CORNER OF SAID FEE NO. 92–057278; THENCE SOUTH 85°55'00" EAST ALONG THE SOUTHERLY LINE OF SAID FEE NO. 92–057578, A MEASURED DISTANCE OF 7.38 FEET TO A 3/4 INCH IRON PIPE; THENCE SOUTH 0°29'00" EAST ALONG SAID FEE NO. 92–057273, A DISTANCE OF 5.80 FEET TO A 3/4 INCH IRON PIPE AT THE MOST EASTERLY SOUTHWEST CORNER THEREOF; THENCE SOUTH 82°40'00" EAST ALONG THE SOUTHERLY LINE OF SAID FEE NO. 92–057278, A DISTANCE OF 62.60 FEET TO A 5/8 INCH IRON ROD AT THE SOUTHEAST CORNER THEREOF, SAID POINT BEING IN THE SOUTHERLY EXTENSION OF THE EAST LINE OF THAT TRACT CONVEYED TO JESSE L. HITE AND WIFE BY DEED RECORDED JULY 31, 1957 IN BOOK 528, PAGE 610, DEED RECORDS OF SAID CLACKAMAS COUNTY; THENCE SOUTH 88°45'00" EAST, 35.37 FEET TO THE NORTHEAST CORNER OF SAID FEE NO. 91–049368 AS WAS DETERMINED; THENCE SOUTH 5°54'00" WEST ALONG THE EAST LINE OF SAID FEE NO. 91–049368, A MEASURED DISTANCE OF 12.87 FEET TO A 1/2 INCH IRON PIPE; THENCE NORTH 81°36'00" WEST 20.00 FEET TO A 5/8 INCH IRON ROD; THENCE SOUTH 9°02'00" WEST ALONG THE SOUTHERLY EAST LINE OF SAID FEE NO. 91–049368, A DISTANCE OF 109.36 FEET TO THE NORTHERLY LINE OF MT. HOOD HIGHWAY 26; THENCE ALONG SAID NORTHERLY LINE NORTH 79°29'20" WEST, 177.83 FEET TO THE SOUTHWEST CORNER OF SAID FEE NO. 91–049368; THENCE NORTH 0°06'00" EAST, 188.00 FEET TO THE POINT OF BEGINNING.

TITLE REPORT SPECIAL EXCEPTIONS:

PER CHICAGO TITLE COMPANY OF OREGON PRELIMINARY TITLE REPORT ORDER NO. 472518003272, DATED JUNE 29, 2018 AT 8:00AM

8 AGREEMENT CREATING MUTUAL EASEMENTS, INCLUDING THE TERMS AND PROVISIONS THEREOF;
EXECUTED BY: ADJOINING PROPERTY OWNERS
RECORDING DATE: APRIL 25, 1984
RECORDING NO.: 84–013677
AFFECTS PROPERTY, AS SHOWN HEREON

9 RESTRICTIVE COVENANTS, INCLUDING THE TERMS AND PROVISIONS THEREOF;
RECORDING DATE: APRIL 25, 1984
RECORDING NO.: 84–013679
AFFECTS PROPERTY, AS SHOWN HEREON

10 EASEMENT AND EQUITABLE SERVITUDES, INCLUDING THE TERMS AND PROVISIONS THEREOF;
RECORDING DATE: FEBRUARY 26, 2008
RECORDING NO.: 2008–013173
BLANKET EASEMENT ACROSS SUBJECT PROPERTY

TABLE "A" ITEMS:

5 VERTICAL RELIEF WITH THE SOURCE OF INFORMATION (E.G., GROUND SURVEY, AERIAL MAP), CONTOUR INTERVAL, DATUM, AND ORIGINATING BENCHMARK IDENTIFIED.

8 SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK (IN ADDITION TO THE IMPROVEMENTS AND FEATURES REQUIRED PURSUANT TO SECTION 5 ABOVE) (E.G., PARKING LOTS, BILLBOARDS, SIGNS, SWIMMING POOLS, LANDSCAPED AREAS, SUBSTANTIAL AREAS OF REFUSE).

11 LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY AS DETERMINED BY:
- OBSERVED EVIDENCE COLLECTED PURSUANT TO SECTION 5,E,IV,
- EVIDENCE FROM PLANS REQUESTED BY THE SURVEYOR AND OBTAINED FROM UTILITY COMPANIES, OR PROVIDED BY CLIENT (WITH REFERENCE AS TO THE SOURCES OF INFORMATION), AND
- MARKINGS REQUESTED BY THE SURVEYOR PURSUANT TO AN 811 UTILITY LOCATE OR SIMILAR REQUEST

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITY FACILITIES SHOWN HEREON ARE BASED ON LOCATE MARKS REQUESTED FOR THIS SURVEY PER ONE CALL PUBLIC LOCATE. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR FOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THE PLAN. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. FIELD WORK WAS COMPLETED ON NOVEMBER 28, 2018.
3. THE SOUTHEAST CORNER OF SUBJECT SITE IS FENCED OFF AND USED FOR PARKING BY ADJACENT PROPERTY OWNER.

SURVEYOR'S CERTIFICATE

TO: CVP – SANDY, OREGON, LLC (COLE VALLEY PARTNERS, LLC)
CHICAGO TITLE, COMPANY OF OREGON:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDNACE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 5, 8, AND 11 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON OCTOBER 12, 2018.

CHRISTOFER C. SHERBY, PLS
OREGON REGISTRATION NO. 74508LS

DATED THIS 5th DAY OF June, 2018

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 11, 2008
CHRISTOFER C. SHERBY
74508LS
RENEWS 6/30/18

REVISIONS
OCTOBER 16, 2018: ORIGINAL
NOVEMBER 30, 2018: ADDITIONAL TOPOGRAPHY

39565 PROCTOR ROAD

S&F Land Services
4858 SW SCHOLLS FERRY ROAD, SUITE A
PORTLAND, OR 97225
503–345–0328
www.sflands.com
info@sflands.com

Scale:	1"=20'
Drawn By:	H.A.P.
Date Plotted:	NOV. 30, 2018
Drawing Name:	18124O1 TOPO.DWG
JOB NUMBER	2018-124-01
SHEET	1 OF 1

Exhibit AA

PLEASANT STREET

S81° 50' 00.84"E
89.396

TAX LOT 5601
0.20 ACRES

TAX LOT 5500
PROPOSED PARCEL 2
0.15 ACRES

CVP - SANDY, OREGON, LLC
3519 NE 15TH AVE, SUITE 251
PORTLAND, OR 97212

TAX LOT 5401
0.05 ACRES

TAX LOT 5400
0.13 ACRES

TAX LOT 5300
0.15 ACRES

N1° 52' 40.14"E
72.189

77.720
S1° 35' 29.19"W

TAX LOT 5601

TAX LOT 5401

TAX LOT 5400

TAX LOT 5300

PROPOSED PARTITION LINE

S84° 07' 10.81"E
7.360

S1° 18' 49.19"W
5.800

S87° 42' 10.81"E
26.960

S80° 52' 10.81"E
62.600

S86° 57' 10.81"E
35.370

157.870
S7° 41' 49.19"W

20.000
N79° 48' 10.81"W

TAX LOT 5500
PROPOSED PARCEL 1
0.50 ACRES

CVP - SANDY, OREGON, LLC
3519 NE 15TH AVE, SUITE 251
PORTLAND, OR 97212

20.99'

109.380
S10° 49' 49.19"W

TAX LOT 5900
0.30 ACRES

TAX LOT 5900

TAX LOT 5800
0.21 ACRES

TAX LOT 5800

60.55'

N1° 52' 40.14"E
116.616

PROPOSED
STRUCTURE

64.58'

2.39'

977.830
N77° 41' 30.81"W

INGRESS AND EGRESS EASEMENT
APPARENTLY IN FAVOR TO
EASTERLY ADJOINING PROPERTY
(TRACT IV OF DOC. NO. 84-013677)
ALSO TRACT 'B' OF DOC. NO.
84-013679.

PROCTOR BLVD

SCALE 1 INCH = 10 FEET
10 0 10 20

Revisions

FROELICH ENGINEERS
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

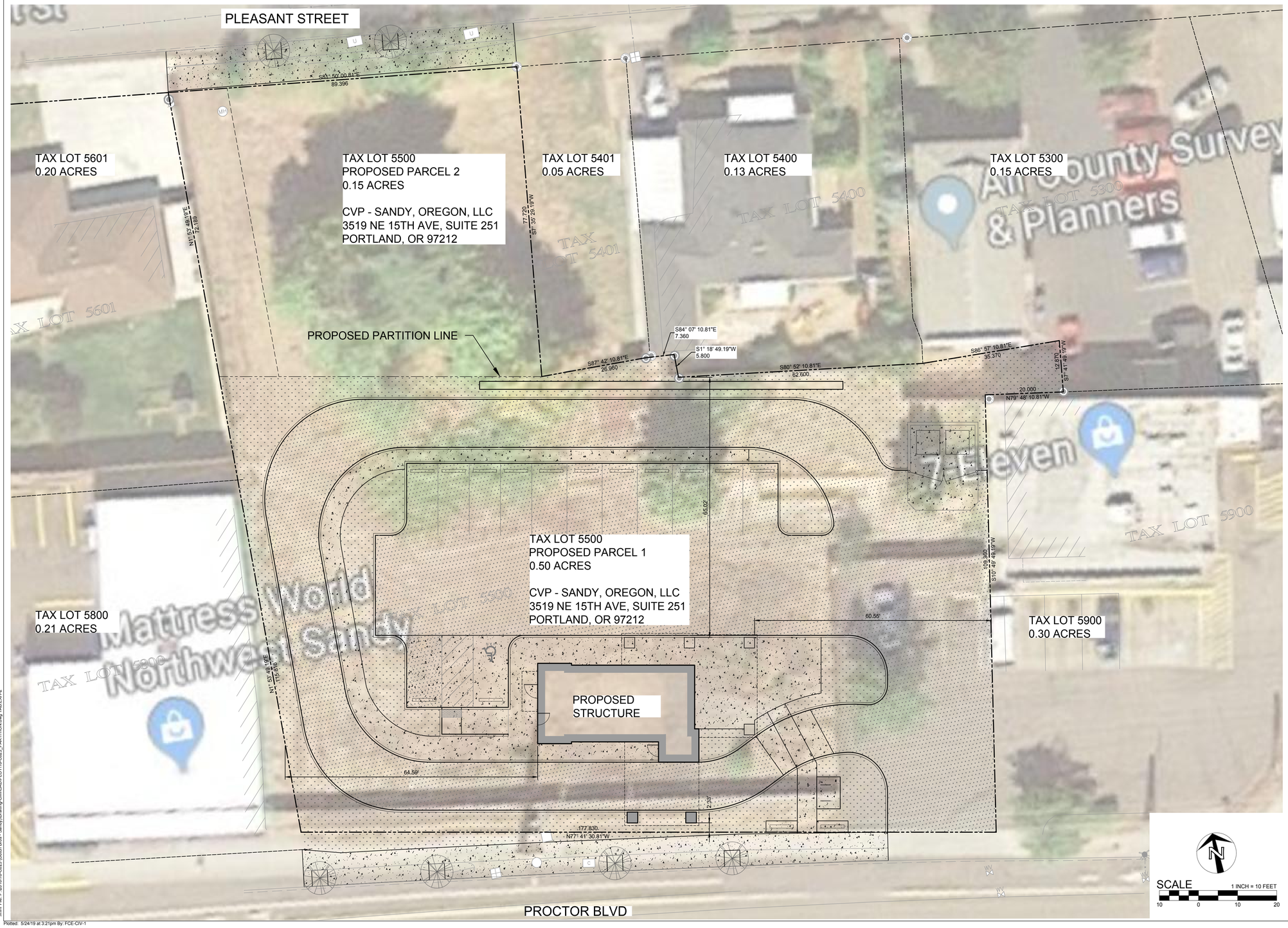
340 South Convent Ave
Tucson, Arizona 85701
520.247.4100 phone
www.a23studios.com
a.23 studios

Project 18069
Date 11.28.18
Scale As Noted
Sheet EXH-1

PARTITION EXHIBIT

Plotted: 5/24/19 at 3:21pm By: FCE-CIV-1

File: P:\2018\18-0323 (Dutch Bros - Sandy)\Drafting\Civil\CAD\PLOT\18-0323_PARTITION.dwg TAB:EXH-1



Revisions

FROELICH ENGINEERS
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

DUTCH BROS
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SANDY, OR 97055

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Tucson, Arizona 85701
520.243.4010 phone
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a.23 studios

Project 18069
Date 11.28.18
Scale As Noted
Sheet EXH-2

SITE EXHIBIT

File: P:\2018\18-0323 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-0323_PARTITION.dwg TAB:EXH-2
Plotted: 5/24/19 at 3:21pm By: FCE-CIV-1

Exhibit BB

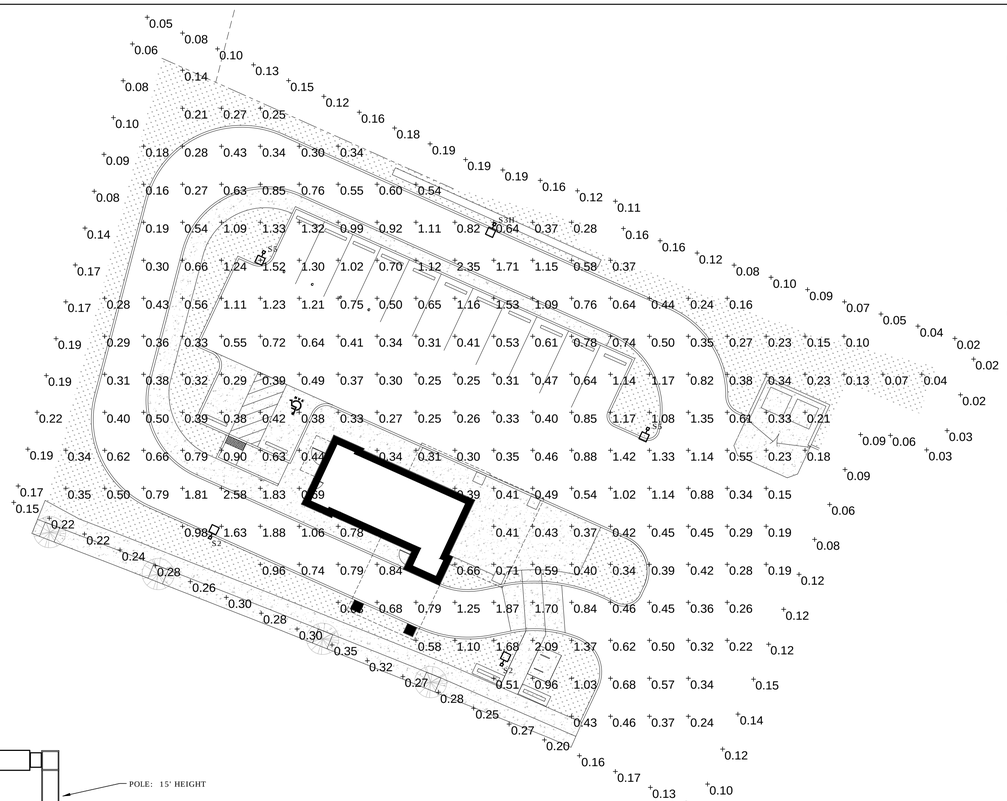
LIGHTING FIXTURE SCHEDULE

FIXTURE SCHEDULE GENERAL NOTES:

1. FIXTURES SHALL HAVE APPROPRIATE U.L. LABEL (i.e., DAMP OR WET) AS REQUIRED BY CODES AND ORDINANCES.
2. FIXTURES SHALL INCLUDE ALL ACCESSORIES NECESSARY FOR INSTALLATION ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND AS REQUIRED BY CODES AND LOCAL ORDINANCES.
3. PRIOR TO ORDERING ANY LIGHTING EQUIPMENT, THE CONTRACTOR SHALL COORDINATE ALL FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND CEILING CAVITY DEPTHS.
4. ALL LAMPS SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE ATTACHED FIXTURE SCHEDULE AND SPECIFICATIONS. ENSURE COMPATIBILITY BETWEEN FIXTURE, LAMP(S) AND BALLAST(S). (OSRAM SYLVANIA SERIES)
5. CONTRACTOR SHALL VERIFY FIXTURE VOLTAGES AND CEILING TRIM COMPATIBILITY PRIOR TO ORDERING FIXTURE.
6. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTING FIXTURES LOCATED IN FIRE-RATED CEILINGS.
7. LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY. PROVIDE ALL NECESSARY HARDWARE AS REQUIRED BY THE SPECIFICATIONS, DRAWINGS, AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION.
8. ENSURE COMPATIBILITY OF ALL LIGHTING SYSTEM COMPONENTS, ESPECIALLY DIMMED SYSTEMS. FIXTURES, LED DRIVERS LAMPS, BALLAST(S), AND DIMMING SYSTEMS/INDIVIDUAL CONTROLS SHALL BE FACTORY CERTIFIED COMPATIBLE FOR FULL RANGE OF DIMMING COMPATIBILITY.
9. PROVIDE CLEARANCES FROM COMBUSTIBLES: A MINIMUM OF \" (OTHER THAN AT POINTS OF SUPPORT) AND 3" FROM INSULATION FOR RECESSED LIGHTING FIXTURES WHICH ARE NON-IC RATED.
10. FOR FIXTURES RECESSED IN SUSPENDED T-BAR CEILING, PROVIDE A MINIMUM OF TWO (2) #12 SUPPORT WIRES ATTACHED TO BUILDING FRAME IN ADDITION TO T-BAR CLIPS.
11. FIXTURES WITH EMERGENCY BATTERY BACKUP SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING IN COMPLIANCE WITH NEC ARTICLE 700.
12. EMERGENCY LIGHTING UNITS SHALL BE EQUIPPED WITH FACTORY-INSTALLED INTEGRAL TEST SWITCHES.
13. FOR ALL FIXTURES LOCATED IN FOOD SERVICE AREAS, PROVIDE DOOR-TO-FRAME AND LENS-TO-DOOR GASKETING, INVERTED LENS, AND FOOD SERVICE RATING.
14. LED FIXTURES SHALL EQUAL OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:
    - L8/50: 80% OF LUMEN OUTPUT AT 50,000 HOURS
    - CRI GREATER THAN OR EQUAL TO 80.
    - LUMENS PER WATT: DOWNLIGHTS = GREATER THAN 60, OTHERWISE GREATER THAN 90.
    - UNIFORMITY: (3) MCADAMS ELLIPSES.
    - FUNCTIONAL LIFE: GREATER THAN 60,000 HOURS
    - INTERIOR AMBIENT: GREATER THAN 40°C, 104°F
    - EXTERIOR AMBIENT: GREATER THAN 50°C, 122°F
    - SEAL AGAINST DUST AND INSECT ENTRY.
    - POWER FACTOR: 0.9 OR BETTER.
    - MANUFACTURERS GUARANTEE: 5 YEARS.
15. FOR LED RETROFIT LAMPS, PROVIDE SELF-BALLASTED LED LAMPS WITH THESE CHARACTERISTICS:
    - CRI GREATER THAN OR EQUAL TO 80.
    - COLOR = 2700K OR 3000K
    - LIFE = GREATER THAN OR EQUAL 25,000 HOURS
    - MANUFACTURERS GUARANTEE = 5 YEARS.
    - DIMMABLE AS NOTED.
    - LUMENS AS NOTED.
16. WHERE FIXTURE AND/OR LAMP IS SPECIFIED BY MANUFACTURER AND CATALOG NUMBER, PERFORMANCE OF PROPOSED SUBSTITUTE SHALL EQUAL OR EXCEED PUBLISHED DATA OF THE SPECIFIED FIXTURE.

TYPE	DESCRIPTION AND MANUFACTURER	NOTES
S2 70	LED AREA LUMINAIRE - TYPE 2 DISTRIBUTION VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: KIM ERA#1A-RA172-E3560L-3K SERIES	
S3H 70	LED AREA LUMINAIRE - TYPE 3 DISTRIBUTION WITH HOUSE SIDE SHIELD. VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: KIM ERA#1A-RA173-E3560L-3K-NFO SERIES	
S5 70	LED AREA LUMINAIRE - TYPE 5 DISTRIBUTION VOLTAGE: 120 LAMP: LED: 8263 LUMEN, 3000K, 70 CRI MANUFACTURER: KIM ERA#1A-RA175-E3560L-3K SERIES	

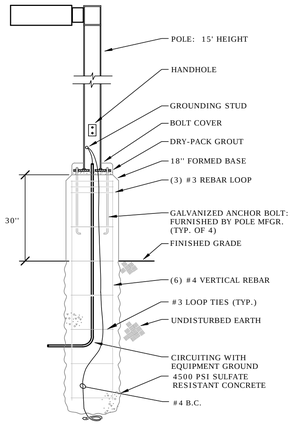
NOTE:
THESE DOCUMENTS ESTABLISH THE GENERAL STANDARDS OF QUALITY AND DETAIL FOR DEVELOPING A NEGOTIATED CONSTRUCTION CONTRACT.



A E1.0 PHOTOMETRIC PLAN
1/16" = 1'-0"

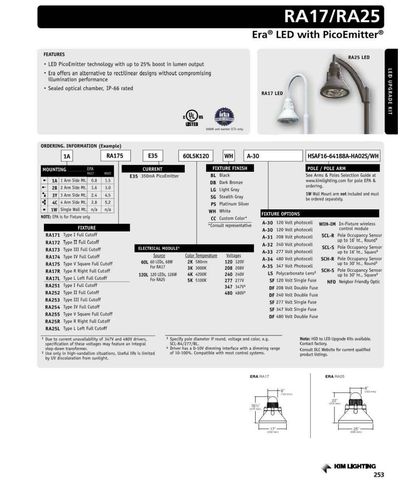
0' 4' 8' 16' 32'

NORTH



NOTE:
ASSEMBLY SHALL BE FACTORY CERTIFIED TO WITHSTAND 110 MPH WINDS (1.3 GUST FACTOR) WITHOUT DAMAGE OR PERMANENT DEFLECTION.
PROVIDE POLE BASE SHOP DRAWING FOR REVIEW. SHOP DRAWING SHALL BE STAMPED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF OREGON.

B E1.0 POLE BASE DIAGRAM
NO SCALE



PLOTTED BY: JUSTIN DAGERMAN ON Tuesday, June 04, 2019AT 8:07 AM FROM C:\Users\jdagerman\Desktop\Temp\A18079-E10 - Standard\A18079-E10.dwg

Page 577 of 897

Revisions

PHOTOMETRIC PLAN

DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

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520.245.4010 phone
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msa
ENGINEERING CONSULTANTS
7878 N 16th Street, Suite 140
Phoenix, AZ 85020
602.943.8424
msa-ec.com

Project 18069
Date 11.21.18
Scale As Noted
Sheet E1.0

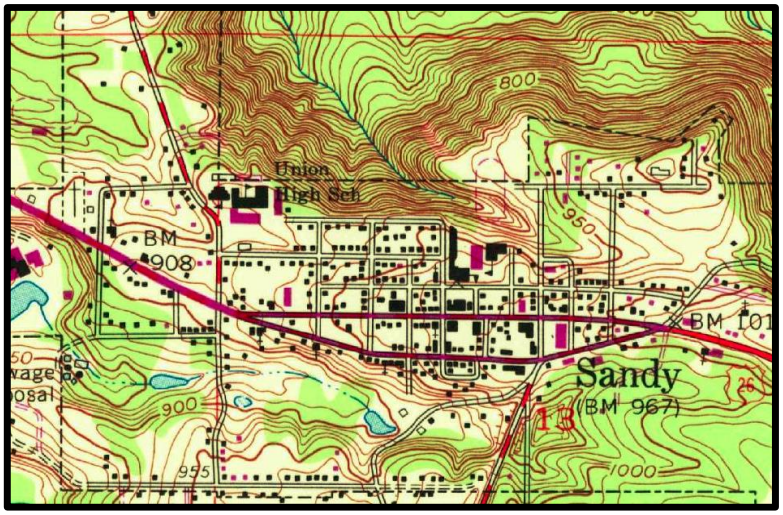
A18079

Exhibit CC

Cascade Environmental Solutions
cascade-environmental.com

Contaminated Media Management Plan

Project Site: Former Sandy Oil
39625 Proctor Boulevard Sandy, Oregon 97055



Prepared For:
CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251 Portland, OR 97212
Attn: John Zachary Bonsall, and tenant:

Dutch Bros. O.C. LLC
1002 Main St. Oregon City, OR 97045
Attn: Abe Menshenfriend

Prepared By:
Cascade Environmental Solutions
Portland, Oregon

Project: Contaminated Media Management Plan
Former Sandy Oil Site

May 5, 2019

Oregon Department of Environmental Quality
Northwest Region Project Manager: Mark Pugh
2020 SE 4th Avenue
Portland, Oregon 97201
pugh.mark@deq.state.or.us

Subject: Contaminated Media Management Plan
Former Sandy Oil
39625 Proctor Boulevard
Sandy, Oregon 97055

Dear Mr. Menshenfriend and Mr. Bonsall:

Cascade Environmental Solutions (Cascade Environmental) has prepared this Contaminated Media Management Plan (CMMP) for the property defined as Former Sandy Oil in Sandy, Oregon (project site). Cascade Environmental prepared a Phase I Environmental Site Assessment (ESA) for the project site in October 2018 and a Phase II ESA in January 2018.

On August 16, 2007, the Oregon Department of Environmental Quality (DEQ) determined that No Further Action was necessary at the project site, subject to the development restrictions in the Easement and Equitable Servitudes (EE&S) recorded for the project site. As described in the EE&S, a CMMP must be completed, reviewed and approved by DEQ prior to site development.

The CMMP is designed for identifying and managing potentially contaminated soil encountered during excavation for redevelopment of the project site. The CMMP includes information on identification, response to, removal, temporary storage, transportation, and disposal of contaminated soil. It outlines the exceedance of the Risk-Based Concentrations for excavation and construction worker receptors (if any), and the potential exposure to contaminated soil during excavation and/or construction activities. Health and safety issues are also described.

If you have any questions regarding this CMMP, please feel free to call us at (503) 805.4846.

Sincerely,
Cascade Environmental Solutions

J Levy

Jennifer Levy, Principal

TABLE OF CONTENTS

TABLES WITHIN THE REPORT

FIGURES

TABLES

APPENDICES

1.0 BACKGROUND

The project site, located at 39625 Proctor Boulevard in Sandy, Oregon, encompasses map tax lot 24E13AC05500. The most recent sale of the property occurred 08/01/2017 to Westfield Properties, LLC. The former Sandy Oil project site is a vacant commercial lot in the city of Sandy, Oregon in Clackamas County. The project site is a 0.65-acre (27,639 sq. ft) lot. It fronts both Highway 26 (Proctor) and Pleasant Street in downtown Sandy. The property is located in Section 13, Township 2 South, Range 4 East of the Willamette Meridian.

Development in the project site's immediate vicinity is a mixture of residential, light commercial and retail. Adjacent to the east, at the corner of Proctor and SE Ten Eyck Road, sits a small retail complex with a 7-Eleven convenience store and a Money Gram storefront. Adjacent to the west is a Mattress World. One residence is located northwest of the project site and another sits northeast of the project site. A funeral home and houses are located across Pleasant Street. Directly across Proctor Boulevard is a landscaped street median and a small one-way turning lane on Proctor. Southwest, across Proctor is an ARCO gas station and convenience store. The project site is shown relative to surrounding physical features on Figure 1. A representative site layout relative to surrounding properties is shown on Figure 2. A summary of the historical and current sampling locations is shown on Figure 3 and representative site photos are shown on Figure 4.

1.1 Historical Environmental Site Activities

The site was used as a bulk petroleum storage and retail service station from the 1930s through the 1980s and was abandoned in 1989. Sandy Oil Company operated a petroleum bulk storage facility and retail service station at the project site, leaving behind 13 underground storage tanks (USTs) containing unknown amounts of diesel, gasoline, and heating fuel oil.

In February 1989, a prospective purchaser discovered petroleum contamination in soils and shallow groundwater during an environmental assessment of the site. In April 1992, the Sandy Fire Department discovered potentially explosive concentrations of gasoline vapors in a storm drain downgradient from the site. The Sandy Oil site was thought to be the source of the vapors, and the Oregon Department of Environmental Quality (DEQ) installed an interceptor trench at the site to try and contain the contamination. (It was later determined that the source of the storm drain contamination was a BP service station at the corner of Revenue Avenue and Proctor Blvd). In February 1994, DEQ contractors removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site. Funding for this removal came from the Orphan Site Account. (The site was officially designated as an orphan site in June 1995). The project site was consequently listed on the DEQs Environmental Cleanup Site Information (ECSI) Database as Site #1691.

In June 1999, DEQ retained Ecology & Environment to conduct a Site Investigation and Removal Assessment of groundwater contamination. Benzene and other gasoline constituents were found to be migrating off-site in groundwater. Low levels of benzene were also found in the indoor air of an adjacent residential property. DEQ installed a vapor barrier at the residence to address the vapor issue. In June 2001, DEQ installed a groundwater treatment system at the site. The evaluation of site was completed in September 2003 with the result that additional information was needed to evaluate a

possible risk of vapor migration from soils to indoor air (commercial). Soil vapor sampling was proposed as the best way to assess the risk posed by remaining site soils. A vapor extraction system/air sparging system was installed and subsequently shut down in early 2004, after groundwater concentrations were dramatically reduced in project site and down-gradient wells. In May 2004, groundwater results indicated some rebound to levels just above RBCs for vapor intrusion to a residence in the wells along the western property line. In October 2004 samples, groundwater concentrations were around the residential vapor intrusion RBC, and are well below occupational RBCs.

In 2007, DEQ issued a conditional No Further Action (NFA) letter and stated that the property may not be used for *residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.*

In 2015, DEQ stated that groundwater usage for purposes other than construction de-watering is prohibited. Any water generated during construction dewatering activities will be subject to management and disposal in accordance with all applicable local, county, state and federal requirements.

After review of the documents and data available for the project site, Cascade Environmental recommended further investigation of the soil, groundwater and soil vapor at the site, to ensure that any remaining contamination that exists remains below occupational levels and that future users of the project site will be protected. The existing NFA, an open DEQ heating oil tank file on the adjacent property to the west and two observed areas of fill material were all considered recognized environmental concerns in the Phase I Environmental Site Assessment (ESA).

Table A below summarizes the recent and historical environmental activities performed at the project site.

Table A: Summary of Environmental Site Activities

DATE	CONSULTANT	ACTIVITIES PERFORMED
01/1994	Oregon DEQ Orphan Program, RZA AGRA, Inc. and Montgomery Development Co.	Decommissioning by removal of twelve USTs from three separate cavities, soil removal and soil sampling
08/1997	Oregon DEQ	Prospective Purchaser Agreement (PPA)
11/1997	Trimatrix	Site characterization (soil sampling)
08/1998	Trimatrix	Monitoring Wells Installation
10/12/1999	Ecology and Environmental, Inc. (E&E)	Soil and groundwater sampling
02/2000	E&E	Draft Focused Risk Assessment and Beneficial Water Use Survey, Sandy Oil Company Site
02/2000	E&E	Final Focused Site Investigation Report, Sandy Oil Company
06/2000	E&E	Site characterization, soil sampling and installation of groundwater monitoring wells
06/00-08/02	E&E	Air sampling

10/2000	Trimatrix	Cleanup Action Site Assessment Work Plan
01/2002	E&E	Groundwater treatment system completed
06/2002	E&E	Sandy Oil Co., Construction Summary Report
12/2002	E&E	Sandy Oil Company Site, October 2002 Air and Groundwater Sampling Reports (a and b)
11/3/2003	Martin S. Burck & Associates	Site Investigation Report, Conceptual Site Model, and Corrective Action Plan
03/2005	Oregon DEQ	Groundwater monitoring
05/9/2005	DEQ	Staff Report, Sandy Oil Purchaser Prospective Agreement and NFA proposal
8/16/2007	DEQ	Conditional NFA issued
10/16/2018	Cascade Environmental	Soil and groundwater sampling
11/02/2018	Cascade Environmental	Phase I Environmental Site Assessment
11/21/2018	Cascade Environmental	Geotechnical and environmental soil sampling
01/10/2019	Cascade Environmental	Phase II Environmental Site Assessment

1.2 Phase II ESA Findings - 2018 and 2019

A Phase I ESA was prepared for the Project Site by Cascade Environmental Solutions, LLC in October 2018. (Phase I Environmental Site Assessment – Former Sandy Oil, October 2018). Based on the findings of the Phase I ESA, Cascade Environmental completed a Phase II investigation on October 16, 2018 and November 21, 2018. The Phase II investigation was completed to determine the potential environmental impacts at the project site based on the RECs identified in the Phase I for the project site. The subsurface investigation included the advancement of five borings and 30 total samples collected.

Figure 1 shows the site vicinity location. Figure 2 shows the site layout map with the project site and the vicinity of the adjacent sites as well as the locations of the former Sandy Oil structures and excavations on the project site. Figure 3 shows the historical sample locations and the Phase II boring locations relative to the project site and surrounding development. The confirmation sample analytical results are included in attached Tables 1, 2 and 3. The chain-of-custody and laboratory analytical report is included in Appendix A.

Of the 42 samples submitted to Apex Laboratory, 18 soil samples and two (2) groundwater samples were analyzed. Three (3) samples were analyzed for gasoline-(GRO), diesel-(DRO) and oil-(ORO) range organics using laboratory method hydrocarbon identification screen by Northwest Total Petroleum Hydrocarbon (TPH)- Hydrocarbon Identification (NWTPH-HCID). Based on field observations and laboratory detections on the submitted samples, 21 samples were run for the follow-ups, including NWTPH-Dx, NWTPH-Gx and selected volatile organic compounds by EPA 5035A/8260C. Table C below summarizes the TPH sample results for soil, and the comparison to the RBCs for the most stringent pathway, Urban Residential.

Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" bgs. No visual or olfactory indications of petroleum contaminated soil (PCS) were identified during the environmental investigation. Based on field observations samples were not analyzed.

Table B: Method NWTPH-HCID

Sample ID & Sample Depth (feet bgs)	Gasoline	Diesel	Oil
	ND= No detection; DET detection; NA= Not analyzed		
OCTOBER 2018 SAMPLES			
S-1-3'	210	645	67
S-1-5'	1090	1450	92
S-2-3'	ND	NA	NA
S-2-10'	80.9	385.0	ND
S-2-12.5'	986.0	NA	NA
S-4-10'	45.4	71.6	ND
S-5-8'	1060	3000	180
NOVEMBER 2018 SAMPLES			
G3-15'	ND	ND	ND
G4-11'	66	397	ND
G4-9'	592	3920	ND
G5-7.5'	ND	DET	ND
G5-8'	ND	364	ND
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential			
RBCss - Soil Ingestion, Dermal Contact, and Inhalation	2,500	2,200	5,700
RBCSO - Volatilization to Outdoor Air	5,900	>Max	>Max
RBCsi - Vapor Intrusion into Buildings	>Max	>Max	>Max
RBCSW - Leaching to Groundwater	31	9,500	> Max
RBCss - Construction Worker	9,700	4,600	11,000
RBCss - Excavation Worker	>Max	>Max	>Max

Three pathways exceeded risked based concentrations (RBCs) for the occupational and urban residential receptor scenario. Based on the zoning and proposed future use of the project site, the occupational and urban residential pathways were considered for the risk-based analysis for the site. Table C below summarizes the findings from the environmental investigations.

Table C: Risk-Based Analysis

Contaminant	Contaminated Medium	Pathway	Receptor Scenario	Depth of detections
Gasoline	Soil	Occupational, Urban Residential	RBCsw	3' to 12.5'
Diesel	Soil	Urban Residential	RBCss	8' to 9'
Benzene	Groundwater	Occupational, Urban Residential	RBCtw	NA
Naphthalene	Groundwater	Occupational, Urban Residential	RBCtw	NA

RBC_{sw}- Leaching to groundwater
RBC_{ss} - Soil ingestion, dermal contact, and inhalation
RBC_{tw} - Ingestion and inhalation from tapwater
NA - not applicable

Soil ingestion, dermal contact, and inhalation (RBCss) pathway exceedances are a concern in soil down to 3 feet below ground surface (bgs). The diesel exceedances were detected at 8' and 9', therefore eliminating these risk-based concern of these exceedances.

Ingestion and inhalation from tapwater (RBC_{tw}) pathway exceedances are a concern where groundwater is used. The project site and surrounding sites in the vicinity are on city water. The closest water well downgradient from the project site is approximately 1/2-mile from the project site, therefore eliminating the risk-based concern of these exceedances.

Leaching to groundwater (RBC_{sw}) pathway exceedances are a concern where contaminated soil is in immediate contact with groundwater. Historic and recent subsurface investigations encountered water as shallow as 20 feet bgs, with seasonal static water levels ranging between 20 to 40 feet bgs. Exceedances for this pathway occurred down to 12.5 feet bgs, therefore eliminating the risk-based concern of these exceedances. Additionally, as stated above, the project site and surrounding sites in the vicinity are on city water.

1.3 Physical Site Setting

Former Sandy Oil is a vacant commercial lot in the city of Sandy, Oregon in Clackamas County. The site was used as a bulk petroleum storage and retail service station from the 1930s through the 1980s and was abandoned in 1989. According to City of Sandy records, the project site is a 0.65-acre (27,639 sq. ft) lot. It fronts both Highway 26 (Proctor) and Pleasant Street in downtown Sandy. The property is located in Section 13, Township 2 South, Range 4 East of the Willamette Meridian.

Development in the project site's immediate vicinity is a mixture of residential, commercial and retail. Adjacent to the east, at the corner of Proctor and SE Ten Eyck Road, a small retail complex with 7-Eleven convenience store and a Money Gram storefront. Adjacent to the west is a Mattress World. Churches and residences also dot the immediate vicinity.

The City of Sandy has a population of approximately 10,855 people in a total area of 3.14 square miles. The Mt. Hood Scenic Byway winds through town, once a stopover on the last leg of the Oregon Trail. The city is considered to be on the eastern edge of the Portland Metro area.

The site lies on the eastern edge of the Portland Basin. The northwest-trending Portland Basin was formed by structural deformation of the underlying Eocene and Miocene volcanic and marine sedimentary rocks. Late Miocene and younger fluvial and lacustrine sediments are overlain by unconsolidated Pleistocene Missoula Flood deposits and Holocene Columbia River alluvium.

The soil in the area is categorized as Cazadero Silty Clay Loam. The Cazadero series consists of deep, well drained soils that formed in colluvium. The basin in general is filled with pleistocene to recent sedimentary formations overlying Columbia River Basalt (CRB). The uppermost deposits at the site consist of approximately 50 feet of silt and clay which have a low water-bearing capacity and generally are not suitable for water supply. The site is underlain by approximately 2 feet of sandy gravel fill underlain by low to medium plasticity silty clay to approximately 25 feet bgs. Compacted native clay was encountered beneath the silty clay from approximately 25 feet to approximately 41 feet, the total depth explored at the site.

The property is located approximately 1016 ft above sea level. The closest body of water is Cedar Creek, an offshoot of the Sandy River, approximately 2,000 feet to the north-northeast. The topography in the area has between 0 to 7 percent slopes. Groundwater gradient varies between west-northwest and northwest at a magnitude of approximately 0.05 foot-per-foot. Historic subsurface investigations encountered water as shallow as 20 feet below ground surface (bgs), with seasonal static water levels ranging between 20 to 40 feet bgs. United State Geological Survey indicates seasonal high groundwater between 160-180 feet in the city of Sandy. The closest body of water is Cedar Creek, an offshoot of the Sandy River, approximately 2,000 feet to the NNE. The Sandy River sits approximately one mile to the north and is sourced in the glaciers of Mt. Hood.

The project site sits in the Sandy River basin and The Sandy River watershed. According to the Sandy River Watershed website, the Sandy is the only major glacial river draining the western Cascades in Oregon. The Bull Run River, an important tributary of the Sandy, serves as the City of Portland's water supply providing high quality drinking water for over 800,000 people. After a 56-mile journey the Sandy flows into the Columbia River near the City of Troutdale. In 2007 and 2008, two dams were removed from the river's tributaries, making the Sandy a free-flowing river from its headwaters to the Columbia River.

A current Site Plan is included as Figure 2.

1.4 Contaminants, Transport and Fate

Based on the data collected from the project site, generally low-level petroleum-related contamination is present across the site in both near surface and deeper soil extending to the zone of groundwater fluctuation (-20 feet deep). The highest levels of residual gasoline and related soil contamination occurs in deeper soil (>10 feet) in the former UST excavation# 3 area (Figure 3). This contamination is represented by recent samples S-2, S-3 and G-4, and historical samples SW-N West, MW-3, and SB-15. The gasoline related contamination has been well defined through soil observation and analysis.

Contaminants of concern for potentially complete exposure pathways are limited to benzene based on recent and historical sampling results, with the vapor intrusion exposure pathway being the potential exposure route of greatest concern. Groundwater contamination in the upper aquifer extends off-site to the northwest to a limited distance.

Concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) showed a substantial decrease following groundwater treatment and natural attenuation and biodegradation from former sampling events. All concentrations in nearby historical groundwater sample locations decreased compared to 2018 and 2019 environmental investigations. All recent sample results were either non-detect or below detection limits for all occupational and urban residential screening criteria, for all pathways except for tap water. Additionally, previous vapor intrusion exceedances dropped below screening criteria in recent 2018 samples collected for BTEX. Vapor intrusion is not a human health risk concern for BTEX or Naphthalene at this site. Furthermore, none of the human health risk concerns are exceeded by BTEX + N or any TPH concentrations in groundwater.

Contaminants in soil and groundwater are expected to biodegrade, disperse, and/or volatilize; however, the rate depends on the subsurface environment (media, availability of nutrients) and the concentration and chemical nature of the contaminant.

1.5 Receptors

The project site is located in a mixed commercial area of Sandy Oregon. The project site is vacant and is zoned C-1 (Central Business District). According to the City of Sandy Municipal Code, this district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core.

Potential human receptors include current and future occupational workers, and future construction and excavation workers. Dermal contact with soil is only likely if excavation occurs at the project site.

Per prior site investigations and the 2018/2019 Phase II investigations, the nature and extent of contamination in site soil and groundwater has been adequately defined. Soil and groundwater contamination do not appear to present a significant threat to human health through direct contact under an occupational or construction/excavation worker exposure scenario. It was determined that

only a limited area of the site may present a threat for direct contact under a residential exposure scenario. In the absence of any engineering or institutional controls, levels of benzene, xylenes, and gasoline in soil and groundwater at the western side of the site may present a significant risk to human health through vapor intrusion into future residential buildings in this area. Since the exceedances of occupational screening criteria are limited to two localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

Since the exceedances of occupational screening criteria are limited to localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

2.0 IDENTIFICATION OF CONTAMINATED SOILS

This section discusses the physical setting of the project site, indicators of potentially contaminated soil and ways field screening methods to be used to identify potentially contaminated soil.

2.1 Potential Contaminant Indicators

Many forms of soil contamination are only detectable with the use of environmental testing equipment or analytical testing. For PCS, however, there are general observable indicators of contaminations such as staining, sheens and odor. Non-soil fill, USTs, piping etc., could also have associated contamination. These indicators are described below.

Staining. Some types of contaminants will produce a visible stain or discoloration in comparison to adjacent soil colors. Staining in soil from contaminants usually results in a darkening of the soil color, often causing soil to appear dark gray to black. In rare cases, other colorations may be present. Stains can range from being difficult to visibly detect to very obvious. Petroleum hydrocarbons are the most commonly encountered contaminants that cause staining, are most likely to be encountered during excavation activities at the project site and could possibly exhibit sheens and odors. Other non-petroleum contaminants may also cause staining, which would require further assessment.

Sheens. Some types of contaminants, such as petroleum hydrocarbons, will produce a sheen on water when contaminated soil is placed in the water. Sheens typically have a silvery, reflective quality. Heavy contamination can result in iridescent, rainbow-like colors. Sheen may also cause the soil to have a shiny or glossy appearance. Sheens can range from being difficult to visibly detect to very obvious. Petroleum hydrocarbons are the most commonly encountered contaminants that will cause a sheen, although other contaminants (typically organic liquids) and naturally occurring organic matter in the soil may also cause sheens. Sheens are often associated with staining or odors, particularly for petroleum products.

Odors. Some contaminants emit odors when exposed to the atmosphere. Odors can be very faint to strong and range from sweet smelling to pungent. Odors are usually detected inadvertently during excavation or stockpiling of soil and are usually noticeably different that typical odors in the air. The most commonly encountered contaminants that cause odors in soil are solvents and petroleum hydrocarbons, although other contaminants may have noticeable odors. Other common contaminant indicators that may occur with odors are staining or sheens.

Unusual Fill Appearance or Condition. Materials that are dumped, used as fill, or otherwise placed in the environment may be contaminated (or could case contamination), and could result in an unusual appearance or condition during excavation. Unusual appearance or conditions to be aware of include layers or zones of non-soil material (e.g., ash, sludge, brick or chemical residue), unanticipated utilities or conduits (which could be unidentified chemical lines, etc.), and/or moisture in the soil that appears to be something other than water.

2.3 Field Screening Tests

Field screening tests will be performed to determine which soil management method is appropriate for the excavated soil. An environmental professional will be present on site to perform field screening at the beginning of major phases of soil excavation and when indications of significant contamination are encountered. During other times, these duties may be assigned to a site worker, provided that environmental professional has trained him/her in deducting field screening. All field observation will be documented, including field screening results and routine observations of potential contamination by on-site personnel. Field screening rests are as follows:

1. *Visual Indications*. Soil will be observed for the occurrence of oily liquids, significant staining or significant odor. If observed, the soil should be considered contaminated.

2. *Sheen Tests*. Field testing of soil for sheen will be conducted by placing soil in a plastic bag or glass jar, adding water to the soil, and mixing the soil and water. If sheen is observed, the soil should be considered contaminated unless testing indicated otherwise.

3. *Vapor monitoring*. Screening of soil for volatile organic compounds (VOCs) using a photoionization detector (PID). If a VOC concentration in excess of 25 parts per million (ppm) is measured in soil, the soil should be considered contaminated.

If these tests indicate that contaminants are present or suspected, additional field screening may be conducted, samples may be collected to confirm presence of contamination, or the soil can be transported directly to an appropriate off-site disposal facility.

3.0 SAMPLING PROTOCOLS

Previous and current data is available that indicates the absence of contamination or the type and magnitude of contamination present in certain areas of the site. Attached Table 1 shows the TPH concentrations in the soil. Table 3 shows the TPH and BTEX-N concentrations in the groundwater. These data can be used to guide the excavation and disposal of excavated soil. Any additional sampling that occurs during excavation activities will be noted and recorded. An environmental professional or a site worker under their supervision will collect samples; all samples will be collected in clean, analyte specific, laboratory-supplied containers.

3.1 Profiling for Off-Site Disposal.

Sampling may also be required by the landfill to obtain their approval for disposal, existing data might be allowed, though landfill operators typically require more recent data (e.g. less than a year old), for profiling. Tables 1 through 3 and the laboratory analytical reports in Appendix A will be used for disposal purposes where applicable. Additionally, a representative sample of the contaminated soil will be obtained where existing data does not exist. Existing data may be used to guide where samples should be collected. Alternatively, the contaminated soil could be excavated, and a composite sample then collected for analysis as described below.

3.2 Assessing Excavated Contaminated Soil

If data is not available and field indications of potential contamination are present in soil from a specific area, soil excavated from that area can be tested on site by a mobile, accredited laboratory prior to disposal. One composite sample for each 500 cubic yards of soil (or portion thereof) will be collected for chemical analysis. Each composite sample will be composed of at least four subsamples obtained at discrete location from the excavation.

3.3 Confirmation Samples from Excavation Limits

After removal of an area of contaminated soil, confirmation samples will be obtained from excavation limits to document that all contaminated soil has been removed (if existing data are not available). If contamination still remains at the limits of excavation necessary for redevelopment, confirmation samples will be obtained to characterize residual contaminant concentrations. Discrete samples should be obtained from excavation sidewalls and bottom at a frequency adequate to characterize the excavation limits. As a guide, samples will be collected for every 20 lineal feet of sidewall and for every 400 square feet of excavation bottom. Multiple samples may also be obtained at various depths from the sidewalls of a deeper excavation. This sampling guideline may be adjusted based on the size and depth of excavation.

3.4 "Clean" Excavated Soil

"Clean" soil can be defined as soil without field indications of contamination based on the above field screening tests. If desired, "clean" excavated soil may also be sampled to confirm the absence of contamination prior to disposal off the site. If sample results indicate detectable levels of contamination, the soil will be transported off-site to a Subtitle D landfill for disposal, or other disposal locations, dependent on the concentrations detected.

3.5 Analytical Protocols

Any facility receiving soil from the site (e.g. landfill) should be contacted to determine their requirements for acceptance. Based on previous environmental investigations, samples will be analyzed for TPH hydrocarbon identification by NWTPH-HCID with qualification of detected fuel types analyzed by Northwest methods for gasoline and diesel-range petroleum hydrocarbons (NWTPH-Gx and NWTPH-Dx). If gasoline is detected at the site, samples will need to be analyzed for VOCs by EPA Method 8260B. Depending on results of the HCID analysis results, additional follow-up analyses for PAHs by EPA Method 8270-SIM, PCBs by EPA Method 8082A, and/or metals using the EPA Method 6000/7000 series will be required.

4.0 MANAGEMENT OF CONTAMINATED SOIL

This section describes the management of contaminated soil excavated during redevelopment of the property. Temporary storage protocols are also discussed followed by transportation and treatment/disposal protocols.

4.1 Soil Management Procedures

Excavated soils should be managed according to the following five steps:

1. *Observations Screening*. Soil should be screened for potential contaminant indicators on a routine basis as excavation proceeds. If potential contaminant indicators are not observed in excavated soil, the suitability of Steps 2 and 3 should be assessed. If contaminant indicators are observed in the soil, management should proceed to Step 4 or 5.

2. *On-Site Fill*. If potential contaminant indicators are not observed, the excavated soil can be considered for use as backfill in on-site excavations or placed elsewhere on the site as fill. Materials unsuitable for on-site fill should be managed according to Step 3, 4, or 5.

3. *Off-Site Fill*. Uncontaminated or "clean" soil can be disposed of at off-site facilities requesting fill.

4. *Analyze*. If potential contaminant indicators are observed, the soil should be analyzed to determine options for treatment/disposal. "Clean" soil may also be analyzed.

5. *Transport to Approved Landfill*. If the soil has already been manifested and approved for disposal at an approved landfill, the soil may be loaded directly into trucks for transport to the landfill.

4.2 Soil Disposal Options.

Options for management of soil include the following:

1. *On-Site Fill*. Uncontaminated or "clean" soil that is suitable (environmentally and geotechnically) for use as fill may be used as backfill on the site.

2. *Off-Site Fill*. "Clean" soil may be used as fill, where suitable, at off-site facilities (should involve evaluation of both the environmental and geotechnical nature of the soil).

3. *Landfill Disposal*. PCS should be disposed of at a permitted solid waste disposal facility (specifically permitted to accept PCS) if the concentrations of contaminants are within the landfill's disposal criteria. Nearby facilities permitted to accept PCS are located in Hillsboro (Hillsboro Landfill); McMinnville (Riverbend landfill); Corvallis (Coffin Butte Landfill); and Wasco County (North Wasco County landfill). Because free liquids are not allowed in materials disposed of at a landfill, any soil with oily liquids would need to be addressed prior to disposal (e.g., mixed with absorbent).

4. *Hazardous Waste Disposal*. Unknown contamination could result in additional disposal constraints should testing indicate that contaminant characteristics designate the soil as a hazardous waste, which would require treatment and/or disposal at an RCRA permitted facility (e.g. Arlington Landfill). If such materials were encountered, additional testing would be required to determine options for its disposal.

Based on the volume and nature of contamination present at the site, hazardous waste disposal and options for disposal/treatment is recommended. Other options are available, including potential re-use of PCS as backfill on the site or disposal at an off-site construction landfill. Both of these options would require acceptance and approval by the DEQ. It would also be necessary to demonstrate that PCS, upon placement or disposal, would not result in an unacceptable risk to human health or the environment.

4.3 Temporary Storage Protocols

Soil may be stock piled on-site during excavation and construction activities, as long as soil erosion socks are used around the entire base of the stock pile and the stock pile is fully covered to prevent migration of the soil. An onsite or offsite mobile laboratory may be used in the event of the presence of contaminated soil or soil samples will be collected and laboratory analysis completed.

4.4 Loading and Transportation Protocols

Transportation of contaminated soil requires specific manifesting, licensing and insurance requirements. Under no circumstances will contaminated soil leave the site without acceptable by the off-site disposal facility. Contaminated soil will be loaded and transported using procedures preventing a release to the environment. Loading of soil will be performed in a manner that maintains a condition of no visible dust in the work area. This may be achieved by the application of water. Prior to departure from the site, all trucks will be tarped, and all loose soil will be brushed from the truck and collected for appropriate disposal.

4.5 Permits and Approvals

All necessary permits and approvals will be obtained related to the excavation, management, transportation, and treatment/disposal of the contaminated soil that might be generated during excavation. Permits may include, but are not limited to, excavation permits, transportation permits and manifests, and approvals and permits for treatment or disposal of contaminated soil.

5.0 HEALTH AND SAFETY

Each individual entity is responsible for the safety of their respective workers. This includes implementation of any training requirements, safety plans, monitoring, certifications and any other action or requirement that may be required or prudent prior to beginning site activities. This CMMP or other notification must be provided to employees while will be working on the site.

Each involved party will make preliminary assessments of potentially contaminated medias as it relates to worker safety. Occupational health guidelines for chemical hazards (i.e. OSHA and NIOSH) can be used to evaluate site conditions. The evaluations should consider exposure limits (i.e., TWA, STEL, PEL), exposure symptoms, and personal protection equipment. Specific recommendations should be provided to protect worker safety.

All entities are responsible for notifying and updating others and their employees of potential site hazards that may be encountered during the project. Testing, management, handling, excavation, transportation, etc., of contaminated media may require persons with 40-hour hazardous Waste Operation and Emergency Response (29 CFR 1910.120). Each party involved should assess the need for this training on the basis of current information for the site.

5.1 Health and Safety Plans

Parties involved should prepare a site-specific health and safety plan for their employees to cover safety issues related to specific environmental hazards that may be encountered.

6.0 DOCUMENTATION

Environmental activities will be documented during the excavation activities. Daily field reports will be prepared that record field screening results on in-place and excavated soil; on-site observations of excavation and soil management activities (including truck logs); disposal weight receipts; sampling and analytical methods; and communication with involved parties and regulatory agencies. At the conclusions of the project, a construction field report will be prepared that will include, but is not limited to:

- Description of excavation and soil management activities, including segregations activities; sampling activities and results; and the amount of contaminated soil excavated and its disposal.
- Site maps indicating areas where contaminated soil or debris was removed and where contaminated media remains, if any.
- Photographs of site activities; and
- Copies of daily field reports, analytical laboratory reports; permits and approvals, and disposal manifests and receipts.

6.1 Chain of Authority and Responsibilities

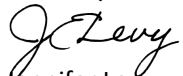
For implementation of this CMMP, several entities will be involved that will likely include the developer, excavation contractor, environmental consultant, DEQ, analytical laboratory, and off-site disposal facilities. Prior to implementation, the roles and responsibilities of each involved entities will be identified, and a list of contacts will be prepared to assist in the timely notification of changing site conditions.

7.0 LIMITATIONS

Cascade Environmental prepared this CMMP in accordance with generally accepted professional practices related to the nature of the work specified in the CMMP, in the same or similar localities, at the time this plan was prepared. This CMMP is for the specific application to the referenced project and for the exclusive use of CVP - Sandy, Oregon, LLC and Dutch Bros. O.C., LLC. Future property owners may use this plan but shall consider changes that may have occurred in environmental practices and regulations since plan preparation. No other warranty, express or implies, is made.

If you have any questions regarding this CMMP, please feel free to call us at (503) 805.4846.

Sincerely,



Jennifer Levy
Principal

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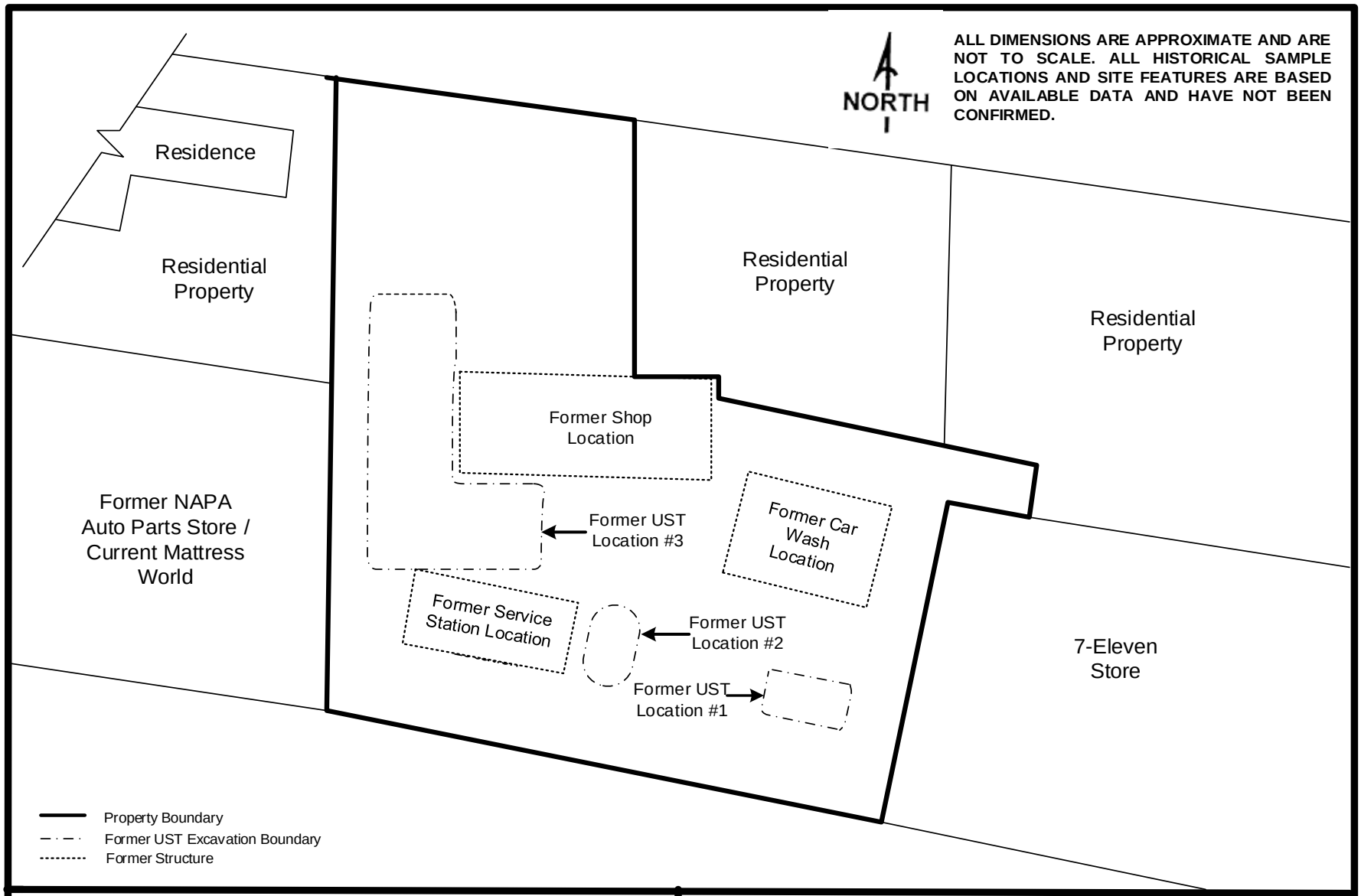
FIGURES

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 1- Sandy Oil Vicinity Map	February 1, 2019
	FORMER SANDY OIL 39625 PROCTOR BOULEVARD SANDY, OREGON 972055	Jennifer Levy



CES
Cascade Environmental Solutions, LLC
Phone: 503.593.5672
www.cascade-environmental.com

FIGURE 2 SITE LAYOUT MAP

FORMER SANDY OIL
SANDY, OREGON

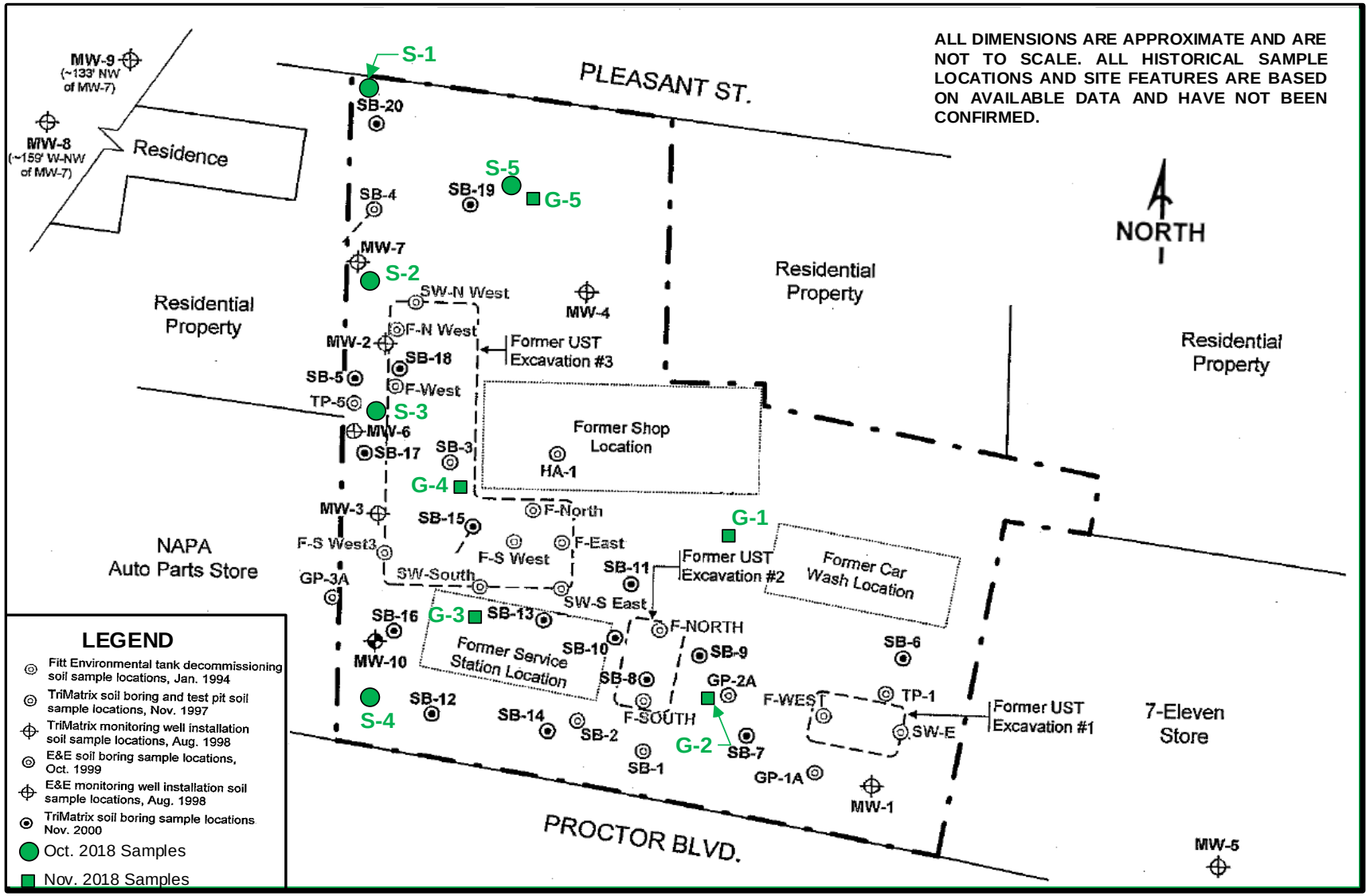


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FIGURE 3 SITE LAYOUT MAP - Historical & Current Sampling Locations

FORMER SANDY OIL SANDY, OREGON

Southern edge of project site fence, looking east.

Western edge of project site southern fence, abutting the residence to the west.

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 4 SITE PHOTOS- PHASE I ESA	January 10, 2019
	FORMER SANDY OIL 39625 PROCTOR BOULEVARD SANDY, OREGON	Jennifer Levy

Western fence, looking northwest

Cement pads on property, leftover from former property operations. Looking southwest.

Mattress World to the west, location of former HOT.

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 4 SITE PHOTOS- PHASE I ESA	January 10, 2019
	FORMER SANDY OIL 39625 PROCTOR BOULEVARD SANDY, OREGON	Jennifer Levy

TABLES

Table 1- Soil Sample Analytical Results- TPH

Table 2- Soil Sample Analytical Results- VOCs

Table 3- Groundwater Sample Results- Total Petroleum Hydrocarbons & BTEX+N

Table 1
Soil Sample Analytical Results - TPH
FORMER SANDY OIL

Soil Sample ID	Sample Depth	Date	NWTPH-Dx (ppm)		
			Gasoline	Diesel	Oil
NOVEMBER 2018 INVESTIGATION					
G3	15'	11/21/2018	ND	ND	ND
G4	11'	11/21/2018	66	397	ND
G4	9'	11/21/2018	592	3920	ND
G5	7.5'	11/21/2018	ND	364	ND
OCTOBER 2018 INVESTIGATION					
S-1	3'	10/16/2018	210	645	67
S-1	5'	10/16/2018	1090	1450	93
S-2	3'	10/16/2018	ND	NA	NA
S-2	10'	10/16/2018	81	385	ND
S-2	12.5'	10/16/2018	986	NA	NA
S-4	10'	10/16/2018	45	72	ND
S-5	8'	10/16/2018	1060	3000	180
Risk-Based Concentrations for Generic Soil Pathways (mg/L) -Occupational					
RBCss - Soil Ingestion, Dermal Contact, and Inhalation			20000	14000	36000
RBCso - Volatilization to Outdoor Air			69000	>Max	>Max
RBCsi - Vapor Intrusion into Buildings			>Max	>Max	>Max
RBCsw - Leaching to Groundwater			130	>Max	>Max
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential					
RBCss - Soil Ingestion, Dermal Contact, and Inhalation			2,500	2,200	5,700
RBCso - Volatilization to Outdoor Air			5,900	>Max	>Max
RBCsi - Vapor Intrusion into Buildings			>Max	>Max	>Max
RBCsw - Leaching to Groundwater			31	9,500	> Max
RBCss - Construction Worker			9,700	4,600	11,000
RBCss - Excavation Worker			>Max	>Max	>Max

Notes: >Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L.
mg/L = micrograms per Liter; ppm = parts per million.
Bold indicates analyte was detected. Shaded cells indicate the analyte exceeded one or more DEQ RBC.
DET = Analyte DETECTED above the method reporting limit
ND = Analyte NOT DETECTED at or above the reporting limit.

Table 2
Soil Sample Analytical Results - VOCs
FORMER SANDY OIL

Soil Sample ID	Sample Depth in Feet	Date	Analyte (ppm) Benzene	1,2 Dibromoethane (EDB)	1,2-Dichlorethane (EDC)	Ethylbenzene	Iso-propylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes
NOVEMBER 2018 INVESTIGATION													
G4	9'	11/21/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OCTOBER 2018 INVESTIGATION													
S1	5'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
S2	12.5'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
S5	8'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Occupational													
RBCss - Soil Ingestion, Dermal Contact, and Inhalatic			37	1	16	1,700	57,000	1,100	23	88,000	6,900	6,900	25,000
RBCSO - Volatilization to Outdoor Air			50	0	8	160	>Csat	1,500	83	> Csat	> Csat	> Csat	> Csat
RBCsi - Vapor Intrusion into Buildings			2	0	1	17	> Csat	110	110	> Csat	> Csat	> Csat	> Csat
RBCSW - Leaching to Groundwater			0	0	0	1	> Csat	1	0	490	48	53	100
RBCss - Construction Worker			380	9	200	1,700	27,000	12,000	580	28,000	2,900	2,900	20,000
RBCss - Excavation Worker			11,000	250	5,600	49,000	750,000	320,000	16,000	770,000	81,000	81,000	560,000
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential													
RBCss - Soil Ingestion, Dermal Contact, and			24	1	12	110	7,000	730	25	12,000	220	1,600	2,900
RBCSO - Volatilization to Outdoor Air			27	0	8	85	> Csat	810	15	> Csat	230	> Max	> Csat
RBCsi - Vapor Intrusion into Buildings			0	0	0	3	> Csat	20	15	> Csat	16	> Max	160
RBCSW - Leaching to Groundwater			0	0	0	1	280	1	0	310	6	110	49

Notes:

mg/L = micrograms per Liter; ppm = parts per million.

NA- NOT ANALYZED

ND = Analyte NOT DETECTED at or above the reporting limit.

DNE = generic risk-based concentrations (RBCs) Do Not Exist for this constiuent

> Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/L. Therefore, this substance is deemed not ot pose risks in this scenario.

> Csat The soil RBC exceeds the limit of 3-phase equillibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

TABLE 3
Groundwater Sample Results - Total Petroleum Hydrocarbons & BTEX+N
FORMER SANDY OIL

Sample I.D.	Date	TPHs by Methods NWTPH-Gx and NWTPH-Dx (µg/L)			VOCs by EPA Method 8260B (µg/L)				
		Gasoline	Diesel	Oil	Benzene	Ethyl-benzene	Toluene	Napthalene	Xylenes-total
OCTOBER 2018 INVESTIGATION									
S-1-GW	10/16/2018	107	1	ND	3.9	ND	ND	4.6	ND
S-3-GW	10/16/2018	ND	ND	ND	0	ND	ND	ND	ND
Risk-Based Concentrations for Groundwater Pathways (ug/L) - Occupational									
RBCtw		450	430	1300	2.1	6	6300	0.7	830
RBCvo		>S	>S	>S	14000	43000	>S	16000	>S
RBCvi		>S	>S	>S	2800	8200	>S	11000	>S
Risk-Based Concentrations for Groundwater Pathways (ug/L) - Urban Residential									
RBCtw		110	100	300	2	7	4400	1	710
RBCvo		>S	>S	>S	7400	23000	>S	8500	>S
RBCvi		22000	>S	>S	510	1500	>S	2000	86000
RBCve		14000	>S	>S	1800	4500	220000	500	23000

Notes: **ND = Analyte NOT DETECTED at or above the reporting limit.**

mg/L = micrograms per Liter; ppm = parts per million.

Bold indicates analyte was detected.

Shaded cells indicate the analyte exceeded one or more DEQ RBC.

DNE = generic risk-based concentrations (RBCs) Do Not Exist for this constiuent

RBCtw - Ingestion & Inhalation from Tapwater

RBCwO - Volatilization to Outdoor Air

RBCwi - Vapor Intrusion into Buildings

APPENDIX A

Chain of Custody and Laboratory Analytical Reports

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Tuesday, October 23, 2018

Jennifer Levy
Cascade Environmental Solutions, LLC
6635 N Baltimore Ave Ste 224
Portland, OR 97203

RE: A8J0516 - Sandy Oil - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8J0516, which was received by the laboratory on 10/17/2018 at 11:05:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Info (See Cooler Receipt Form for Details)

Default Cooler 2.1 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

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Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1-3'	A8J0516-01	Soil	10/16/18 09:45	10/17/18 11:05
S-1-5'	A8J0516-02	Soil	10/16/18 09:50	10/17/18 11:05
S-1-GW	A8J0516-07	Water	10/16/18 11:55	10/17/18 11:05
S-2-3'	A8J0516-08	Soil	10/16/18 12:10	10/17/18 11:05
S-2-10'	A8J0516-10	Soil	10/16/18 12:30	10/17/18 11:05
S-2-12.5'	A8J0516-11	Soil	10/16/18 12:30	10/17/18 11:05
S-4-10'	A8J0516-23	Soil	10/16/18 15:30	10/17/18 11:05
S-3-GW	A8J0516-26	Water	10/16/18 15:55	10/17/18 11:05
S-5-8'	A8J0516-29	Soil	10/16/18 16:20	10/17/18 11:05

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101106**	
Gasoline Range Organics	ND	---	24.0	mg/kg dry	1	10/17/18	NWTPH-HCID	
Diesel Range Organics	DET	---	59.9	mg/kg dry	1	10/17/18	NWTPH-HCID	
Oil Range Organics	ND	---	120	mg/kg dry	1	10/17/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*105 %*	*Limits: 50-150 %*	*1*	*10/17/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*99 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-HCID*	

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

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Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101221**	
Diesel	**645**	---	27.3	mg/kg dry	1	10/23/18	NWTPH-Dx	**F-15**
Oil	**67.0**	---	54.5	mg/kg dry	1	10/23/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 93 %*		*Limits: 50-150 %*	*1*	*10/23/18*	*NWTPH-Dx*	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**1450**	---	25.0	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-15**
Oil	**92.6**	---	50.0	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101181**	
Diesel	**0.882**	---	0.107	mg/L	1	10/20/18	NWTPH-Dx	**F-11**
Oil	ND	---	0.213	mg/L	1	10/20/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 116 %*		*Limits: 50-150 %*	*1*	*10/20/18*	*NWTPH-Dx*	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**385**	---	25.3	mg/kg dry	1	10/19/18	NWTPH-Dx	
Oil	ND	---	50.5	mg/kg dry	1	10/19/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 111 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**71.6**	---	25.0	mg/kg dry	1	10/19/18	NWTPH-Dx	
Oil	ND	---	50.0	mg/kg dry	1	10/19/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101224**	
Diesel	**1.23**	---	0.114	mg/L	1	10/23/18	NWTPH-Dx	**F-11**
Oil	ND	---	0.229	mg/L	1	10/23/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 95 %*		*Limits: 50-150 %*	*1*	*10/23/18*	*NWTPH-Dx*	
S-5-8' (A8J0516-29)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**3000**	---	25.7	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-15**
Oil	**180**	---	51.4	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 107 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	

Apex Laboratories

Lisa Domenighini, Client Services Manager

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Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101208**	
Gasoline Range Organics	**210**	---	9.09	mg/kg dry	50	10/22/18	NWTPH-Gx (MS)	**F-13**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 141 %*	*Limits: 50-150 %*		*1*	*10/22/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*89 %*	*50-150 %*	*1*	*10/22/18*	*NWTPH-Gx (MS)*	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**1090**	---	90.9	mg/kg dry	500	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 141 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101128**	**V-04**
Gasoline Range Organics	**107**	---	100	ug/L	1	10/18/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 94 %*	*Limits: 50-150 %*		*1*	*10/18/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*110 %*	*50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
S-2-3' (A8J0516-08)				**Matrix: Soil**			**Batch: 8101208**	**V-16**
Gasoline Range Organics	ND	---	7.21	mg/kg dry	50	10/22/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 100 %*	*Limits: 50-150 %*		*1*	*10/22/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*91 %*	*50-150 %*	*1*	*10/22/18*	*NWTPH-Gx (MS)*	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**80.9**	---	11.0	mg/kg dry	50	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 124 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*92 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-2-12.5' (A8J0516-11)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**986**	---	372	mg/kg dry	1000	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 108 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*90 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**45.4**	---	8.43	mg/kg dry	50	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 109 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Gasoline Range Organics	ND	---	100	ug/L	1	10/18/18	NWTPH-Gx (MS)	

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*114 %*	*50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
S-5-8' (A8J0516-29RE1)				**Matrix: Soil**			**Batch: 8101169**	
Gasoline Range Organics	**1060**	---	39.8	mg/kg dry	200	10/19/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 193 %*	*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Gx (MS)*	*S-08*
1,4-Difluorobenzene (Sur)			*95 %*	*50-150 %*	*1*	*10/19/18*	*NWTPH-Gx (MS)*	

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Apex Laboratories, LLC
12232 S.W. Garden Place
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503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-5' (A8J0516-02RE1)				**Matrix: Soil**			**Batch: 8101130**	**R-04**
Benzene	ND	---	0.0728	mg/kg dry	200	10/18/18	5035A/8260C	
Toluene	ND	---	0.364	mg/kg dry	200	10/18/18	5035A/8260C	
Ethylbenzene	ND	---	0.182	mg/kg dry	200	10/18/18	5035A/8260C	
Xylenes, total	ND	---	0.546	mg/kg dry	200	10/18/18	5035A/8260C	
Naphthalene	ND	---	1.09	mg/kg dry	200	10/18/18	5035A/8260C	R-02
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*91 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*91 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101128**	**V-04**
Benzene	**3.87**	---	0.200	ug/L	1	10/18/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	10/18/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	10/18/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	10/18/18	EPA 8260C	
Naphthalene	**4.59**	---	2.00	ug/L	1	10/18/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
S-2-12.5' (A8J0516-11RE1)				**Matrix: Soil**			**Batch: 8101130**	**R-04**
Benzene	ND	---	0.0744	mg/kg dry	100	10/18/18	5035A/8260C	
Toluene	ND	---	0.372	mg/kg dry	100	10/18/18	5035A/8260C	
Ethylbenzene	ND	---	0.186	mg/kg dry	100	10/18/18	5035A/8260C	
Xylenes, total	ND	---	0.558	mg/kg dry	100	10/18/18	5035A/8260C	
Naphthalene	ND	---	0.744	mg/kg dry	100	10/18/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*90 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*92 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Benzene	**0.359**	---	0.200	ug/L	1	10/18/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	10/18/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	10/18/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	10/18/18	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	10/18/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*113 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Surrogate: 4-Bromofluorobenzene (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
S-5-8' (A8J0516-29RE1)				**Matrix: Soil**			**Batch: 8101169**	**R-04**
Benzene	ND	---	0.0797	mg/kg dry	200	10/19/18	5035A/8260C	
Toluene	ND	---	0.398	mg/kg dry	200	10/19/18	5035A/8260C	
Ethylbenzene	ND	---	0.199	mg/kg dry	200	10/19/18	5035A/8260C	
Xylenes, total	ND	---	0.598	mg/kg dry	200	10/19/18	5035A/8260C	
Naphthalene	ND	---	0.797	mg/kg dry	200	10/19/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 91 %*	*Limits: 80-120 %*	*1*	*10/19/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*92 %*	*80-120 %*	*1*	*10/19/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*	*1*	*10/19/18*	*5035A/8260C*	

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**72.2**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**73.5**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-2-3' (A8J0516-08)				**Matrix: Soil**			**Batch: 8101201**	
% Solids	**78.6**	---	1.00	% by Weight	1	10/23/18	EPA 8000C	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**75.3**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-2-12.5' (A8J0516-11)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**74.4**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**75.6**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-5-8' (A8J0516-29)				**Matrix: Soil**			**Batch: 8101220**	
% Solids	**72.8**	---	1.00	% by Weight	1	10/22/18	EPA 8000C	

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101106 - NWTPH-HCID (Soil)							Soil					
Blank (8101106-BLK1)		Prepared: 10/17/18 14:21		Analyzed: 10/17/18 21:21								
NWTPH-HCID												
Gasoline Range Organics	ND	---	16.7	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	41.7	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	83.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 109 %*		*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*107 %*		*50-150 %*		"					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101139 - EPA 3546 (Fuels)							**Soil**					
Blank (8101139-BLK1)		Prepared: 10/18/18 12:17 Analyzed: 10/18/18 22:45										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Mineral Oil	ND	---	33.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 96 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8101139-BS1)		Prepared: 10/18/18 12:17 Analyzed: 10/18/18 23:08										
NWTPH-Dx												
Diesel	121	---	25.0	mg/kg wet	1	125	---	97	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 107 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101181 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (8101181-BLK1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:13								
NWTPH-Dx												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 97 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8101181-BS1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:36								
NWTPH-Dx												
Diesel	0.428	---	0.0800	mg/L	1	0.500	---	86	52-120%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 105 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (8101181-BSD1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:59								
NWTPH-Dx												
Diesel	0.403	---	0.0800	mg/L	1	0.500	---	81	52-120%	6	20%	Q-19
Surr: o-Terphenyl (Surr)		*Recovery: 102 %*		*Limits: 50-150 %*			*Dilution: 1x*					Q-19

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101221 - EPA 3546 (Fuels)							**Soil**					
Blank (8101221-BLK1)		Prepared: 10/22/18 13:21		Analyzed: 10/22/18 22:57								
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 113 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8101221-BS1)		Prepared: 10/22/18 13:21		Analyzed: 10/22/18 23:18								
NWTPH-Dx												
Diesel	117	---	25.0	mg/kg wet	1	125	---	93	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 108 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101224 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (8101224-BLK1)		Prepared: 10/22/18 13:37		Analyzed: 10/22/18 22:54								
NWTPH-Dx												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.145	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 97 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS (8101224-BS1)		Prepared: 10/22/18 13:37		Analyzed: 10/22/18 23:17								
NWTPH-Dx												
Diesel	0.446	---	0.0800	mg/L	1	0.500	---	89	52-120%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS Dup (8101224-BSD1)		Prepared: 10/22/18 13:37		Analyzed: 10/22/18 23:40								**Q-19**
NWTPH-Dx												
Diesel	0.377	---	0.0800	mg/L	1	0.500	---	75	52-120%	17	20%	
Surr: o-Terphenyl (Surr)		*Recovery: 96 %*		*Limits: 50-150 %*		*Dilution: 1x*						

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101080 - EPA 5035A							**Soil**					
Blank (8101080-BLK1)			Prepared: 10/17/18 09:11 Analyzed: 10/17/18 11:16									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 97 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*92 %*	*50-150 %*			*"*					
LCS (8101080-BS2)			Prepared: 10/17/18 09:11 Analyzed: 10/17/18 10:49									
NWTPH-Gx (MS)												
Gasoline Range Organics	23.0	---	5.00	mg/kg wet	50	25.0	---	92	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 97 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*	*50-150 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101128 - EPA 5030B							**Water**					
Blank (8101128-BLK1)			Prepared: 10/18/18 10:05 Analyzed: 10/18/18 11:33									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*113 %*	*50-150 %*			*"*					
LCS (8101128-BS2)			Prepared: 10/18/18 10:05 Analyzed: 10/18/18 11:03									
NWTPH-Gx (MS)												
Gasoline Range Organics	445	---	100	ug/L	1	500	---	89	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101130 - EPA 5035A							**Soil**					
Blank (8101130-BLK1)			Prepared: 10/18/18 09:30 Analyzed: 10/18/18 12:01									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*91 %*	*50-150 %*			*"*					
LCS (8101130-BS2)			Prepared: 10/18/18 09:30 Analyzed: 10/18/18 11:34									
NWTPH-Gx (MS)												
Gasoline Range Organics	24.0	---	5.00	mg/kg wet	50	25.0	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*	*50-150 %*			*"*					
Duplicate (8101130-DUP1)			Prepared: 10/16/18 16:20 Analyzed: 10/18/18 18:01									
QC Source Sample: S-5-8' (A8J0516-29)												
NWTPH-Gx (MS)												
Gasoline Range Organics	**1430**	---	204	mg/kg dry	1000	---	1240	---	---	14	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 121 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*88 %*	*50-150 %*			*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101169 - EPA 5035A							**Soil**					
Blank (8101169-BLK1)			Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:31									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*91 %*	*50-150 %*			*"*					
LCS (8101169-BS2)			Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:04									
NWTPH-Gx (MS)												
Gasoline Range Organics	24.9	---	5.00	mg/kg wet	50	25.0	---	100	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*	*50-150 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101208 - EPA 5035A							**Soil**					
Blank (8101208-BLK1)		Prepared: 10/22/18 09:30 Analyzed: 10/22/18 12:25										
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 108 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*93 %*		*50-150 %*			*"*					
LCS (8101208-BS2)		Prepared: 10/22/18 09:30 Analyzed: 10/22/18 11:58										
NWTPH-Gx (MS)												
Gasoline Range Organics	24.9	---	5.00	mg/kg wet	50	25.0	---	99	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*94 %*		*50-150 %*			*"*					
Duplicate (8101208-DUP1)		Prepared: 10/22/18 13:14 Analyzed: 10/22/18 16:04										**V-16**
QC Source Sample: S-2-3' (A8J0516-08)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	7.12	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 106 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*92 %*		*50-150 %*			*"*					

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101128 - EPA 5030B							**Water**					
Blank (8101128-BLK1)		Prepared: 10/18/18 10:05		Analyzed: 10/18/18 11:33								
EPA 8260C												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 111 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*96 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*98 %*		*80-120 %*			*"*					
LCS (8101128-BS1)		Prepared: 10/18/18 10:05		Analyzed: 10/18/18 10:33								
EPA 8260C												
Benzene	19.0	---	0.200	ug/L	1	20.0	---	95	80-120%	---	---	
Toluene	18.4	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
Ethylbenzene	19.3	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Xylenes, total	58.4	---	1.50	ug/L	1	60.0	---	97	80-120%	---	---	
Naphthalene	16.3	---	2.00	ug/L	1	20.0	---	82	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 104 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*93 %*		*80-120 %*			*"*					

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101130 - EPA 5035A							**Soil**					
Blank (8101130-BLK1)		Prepared: 10/18/18 09:30 Analyzed: 10/18/18 12:01										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 96 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*93 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
LCS (8101130-BS1)		Prepared: 10/18/18 09:30 Analyzed: 10/18/18 10:35										
5035A/8260C												
Benzene	0.919	---	0.0100	mg/kg wet	50	1.00	---	92	80-120%	---	---	
Toluene	0.951	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
Ethylbenzene	0.948	---	0.0250	mg/kg wet	50	1.00	---	95	80-120%	---	---	
Xylenes, total	2.86	---	0.0750	mg/kg wet	50	3.00	---	95	80-120%	---	---	
Naphthalene	0.962	---	0.100	mg/kg wet	50	1.00	---	96	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 95 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
Duplicate (8101130-DUP1)		Prepared: 10/16/18 16:20 Analyzed: 10/18/18 18:01										
QC Source Sample: S-5-8' (A8J0516-29)												
5035A/8260C												
Benzene	ND	---	0.408	mg/kg dry	1000	---	ND	---	---	---	30%	
Toluene	ND	---	2.04	mg/kg dry	1000	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	1.02	mg/kg dry	1000	---	ND	---	---	---	30%	
Xylenes, total	ND	---	3.06	mg/kg dry	1000	---	ND	---	---	---	30%	
Naphthalene	ND	---	4.08	mg/kg dry	1000	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 92 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*92 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					

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503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101169 - EPA 5035A							**Soil**					
Blank (8101169-BLK1)		Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:31										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 97 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*94 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*104 %*		*80-120 %*			*"*					
LCS (8101169-BS1)		Prepared: 10/19/18 10:00 Analyzed: 10/19/18 10:37										
5035A/8260C												
Benzene	0.892	---	0.0100	mg/kg wet	50	1.00	---	89	80-120%	---	---	
Toluene	0.894	---	0.0500	mg/kg wet	50	1.00	---	89	80-120%	---	---	
Ethylbenzene	0.909	---	0.0250	mg/kg wet	50	1.00	---	91	80-120%	---	---	
Xylenes, total	2.73	---	0.0750	mg/kg wet	50	3.00	---	91	80-120%	---	---	
Naphthalene	0.981	---	0.100	mg/kg wet	50	1.00	---	98	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 96 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*93 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101079 - Total Solids (Dry Weight)							**Soil**					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101201 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8101201-DUP6)		Prepared: 10/22/18 18:50		Analyzed: 10/23/18 08:25								
QC Source Sample: S-2-3' (A8J0516-08)												
EPA 8000C												
% Solids	**79.0**	---	1.00	% by Weight	1	---	78.6	---	---	0.5	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101220 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8101220-DUP1)		Prepared: 10/22/18 11:57		Analyzed: 10/22/18 13:24								
QC Source Sample: S-5-8' (A8J0516-29)												
EPA 8000C												
% Solids	**72.7**	---	1.00	% by Weight	1	---	72.8	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101106							
A8J0516-01	Soil	NWTPH-HCID	10/16/18 09:45	10/17/18 17:22	11.56g/10mL	10g/10mL	0.87

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101181							
A8J0516-07	Water	NWTPH-Dx	10/16/18 11:55	10/19/18 12:16	750mL/2mL	1000mL/2mL	1.33
Batch: 8101224							
A8J0516-26	Water	NWTPH-Dx	10/16/18 15:55	10/22/18 13:37	700mL/2mL	1000mL/2mL	1.43

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101139							
A8J0516-02	Soil	NWTPH-Dx	10/16/18 09:50	10/18/18 12:17	10.87g/5mL	10g/5mL	0.92
A8J0516-10	Soil	NWTPH-Dx	10/16/18 12:30	10/18/18 12:17	10.52g/5mL	10g/5mL	0.95
A8J0516-23	Soil	NWTPH-Dx	10/16/18 15:30	10/18/18 12:17	10.69g/5mL	10g/5mL	0.94
A8J0516-29	Soil	NWTPH-Dx	10/16/18 16:20	10/18/18 12:17	10.69g/5mL	10g/5mL	0.94
Batch: 8101221							
A8J0516-01	Soil	NWTPH-Dx	10/16/18 09:45	10/22/18 13:21	10.16g/5mL	10g/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101128							
A8J0516-07	Water	NWTPH-Gx (MS)	10/16/18 11:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00
A8J0516-26	Water	NWTPH-Gx (MS)	10/16/18 15:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101080							
A8J0516-02	Soil	NWTPH-Gx (MS)	10/16/18 09:50	10/16/18 09:50	4.66g/5mL	5g/5mL	1.07
A8J0516-10	Soil	NWTPH-Gx (MS)	10/16/18 12:30	10/16/18 12:30	3.56g/5mL	5g/5mL	1.40
A8J0516-11	Soil	NWTPH-Gx (MS)	10/16/18 12:30	10/16/18 12:30	1.99g/5mL	5g/5mL	2.51

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A8J0516-23	Soil	NWTPH-Gx (MS)	10/16/18 15:30	10/16/18 15:30	4.85g/5mL	5g/5mL	1.03
Batch: 8101169							
A8J0516-29RE1	Soil	NWTPH-Gx (MS)	10/16/18 16:20	10/16/18 16:20	4.24g/5mL	5g/5mL	1.18
Batch: 8101208							
A8J0516-01	Soil	NWTPH-Gx (MS)	10/16/18 09:45	10/16/18 09:45	4.83g/5mL	5g/5mL	1.04
A8J0516-08	Soil	NWTPH-Gx (MS)	10/16/18 12:10	10/22/18 13:14	5.44g/5mL	5g/5mL	0.92

BTEX+N Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101128							
A8J0516-07	Water	EPA 8260C	10/16/18 11:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00
A8J0516-26	Water	EPA 8260C	10/16/18 15:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101130							
A8J0516-02RE1	Soil	5035A/8260C	10/16/18 09:50	10/16/18 09:50	4.66g/5mL	5g/5mL	1.07
A8J0516-11RE1	Soil	5035A/8260C	10/16/18 12:30	10/16/18 12:30	1.99g/5mL	5g/5mL	2.51
Batch: 8101169							
A8J0516-29RE1	Soil	5035A/8260C	10/16/18 16:20	10/16/18 16:20	4.24g/5mL	5g/5mL	1.18

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101079							
A8J0516-01	Soil	EPA 8000C	10/16/18 09:45	10/17/18 18:00			NA
A8J0516-02	Soil	EPA 8000C	10/16/18 09:50	10/17/18 18:00			NA
A8J0516-10	Soil	EPA 8000C	10/16/18 12:30	10/17/18 18:00			NA
A8J0516-11	Soil	EPA 8000C	10/16/18 12:30	10/17/18 18:00			NA
A8J0516-23	Soil	EPA 8000C	10/16/18 15:30	10/17/18 18:00			NA
Batch: 8101201							
A8J0516-08	Soil	EPA 8000C	10/16/18 12:10	10/22/18 18:50			NA

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101220							
A8J0516-29	Soil	EPA 8000C	10/16/18 16:20	10/22/18 11:57			NA

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Lisa A Domenighini

Lisa Domenighini, Client Services Manager

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Cascade Environmental Solutions, LLC	Project:	**Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number:	**[none]**	**Report ID:**
Portland, OR 97203	Project Manager:	**Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

F-11	The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
F-15	Results for diesel are estimated due to overlap from the reported oil result.
F-16	Results for oil are estimated due to overlap from the reported diesel result.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
S-08	TPH-Gx Surrogate recovery cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract. See 8260B results for accurate Surrogate recovery.
V-04	Composite of VOA vials analyzed due to sediment in vials.
V-16	Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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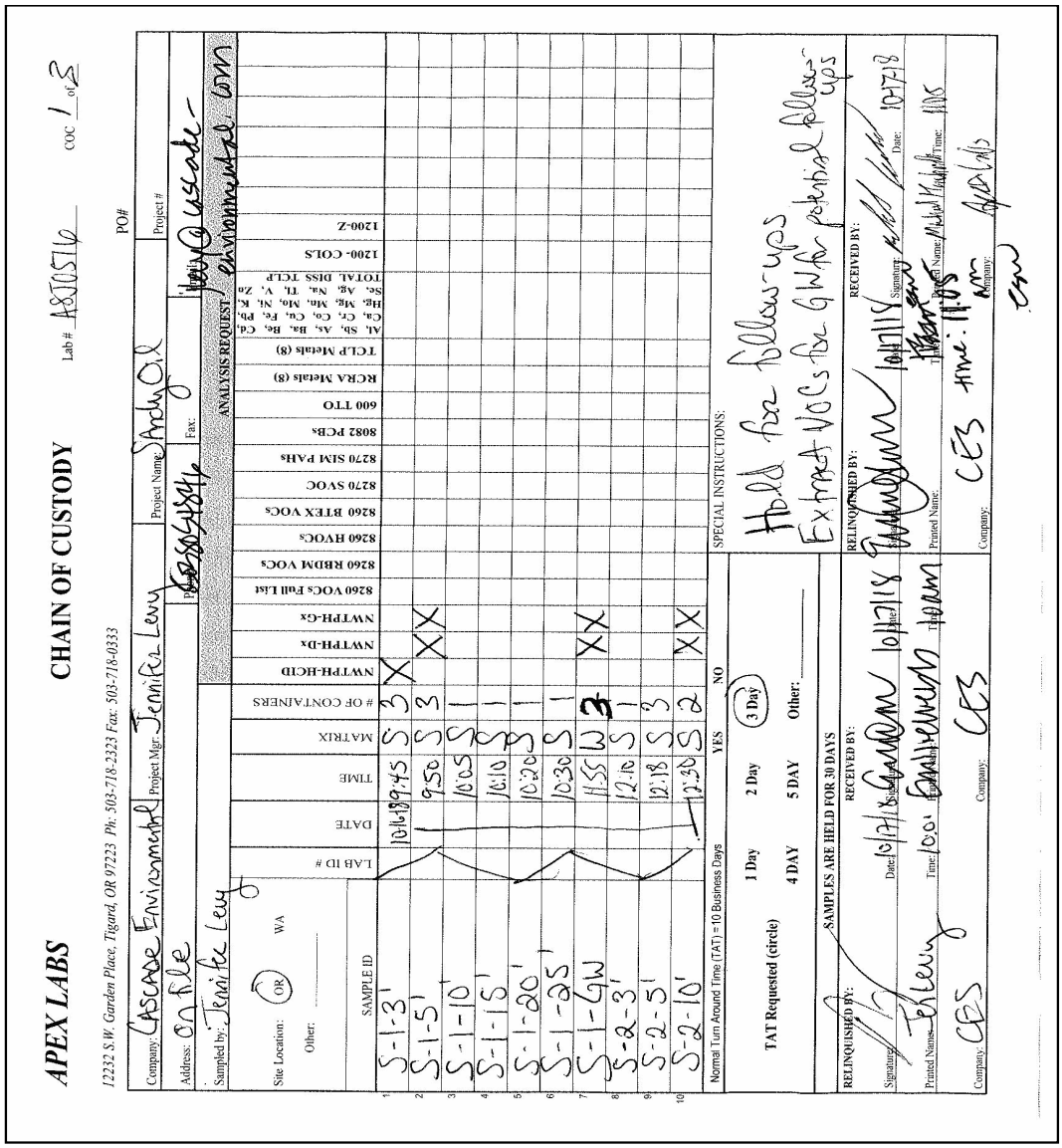

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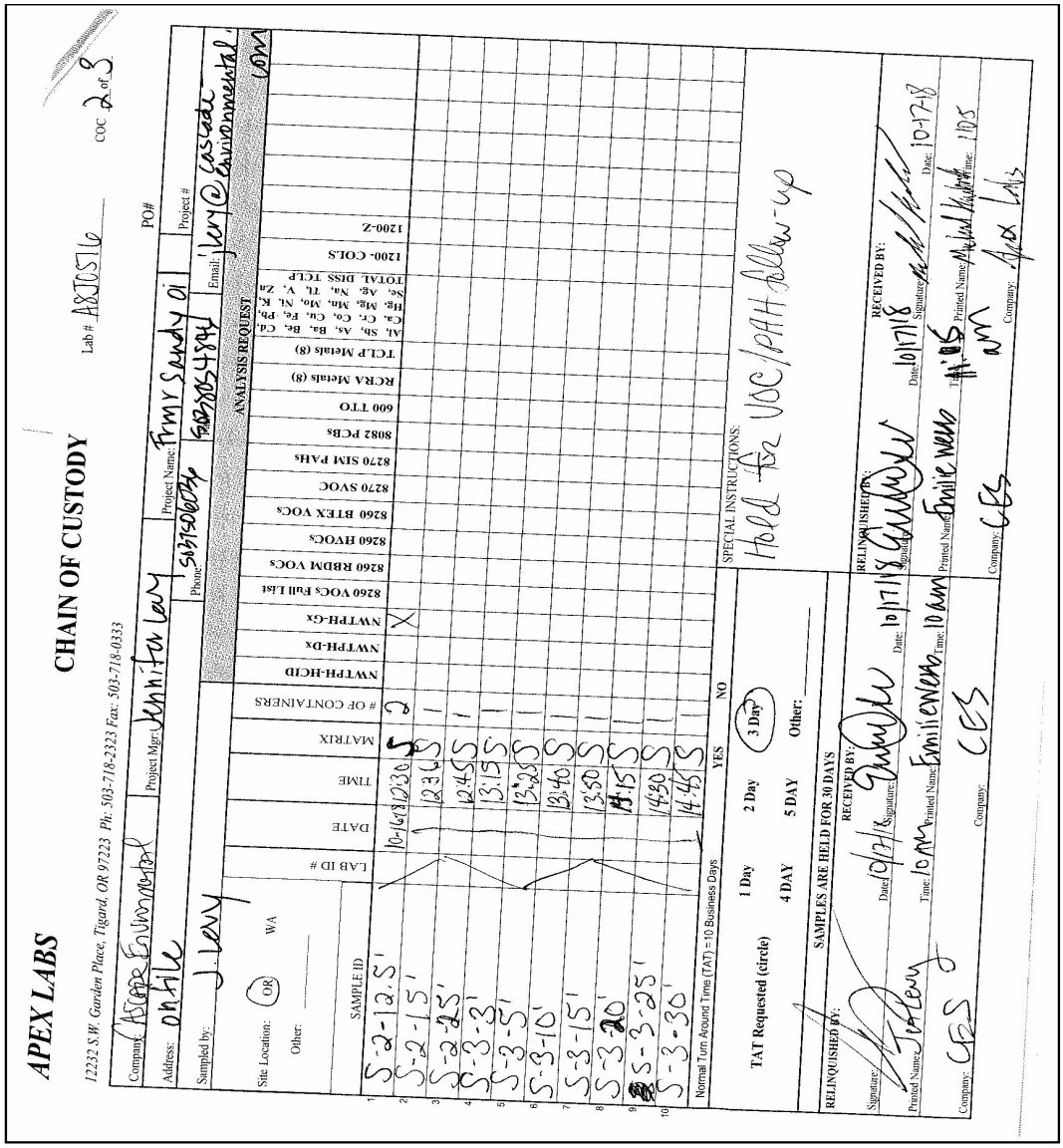

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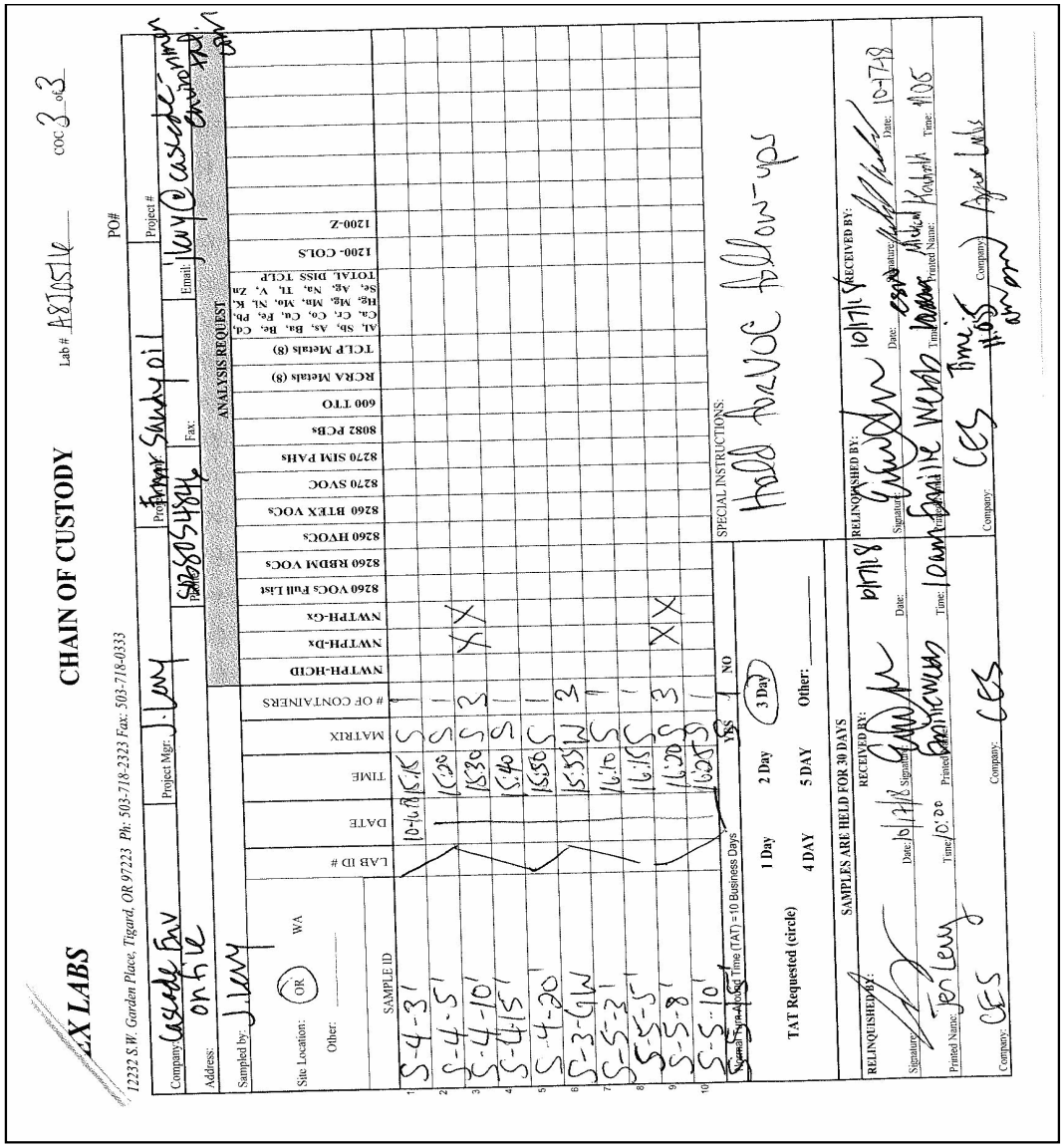

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APEX LABS COOLER RECEIPT FORM

Client: Cascade Env. Element WO#: A8 JO516

Project/Project #: Fmr Sandy Oil/Sandy Oil

Delivery Info:

Date/time received: 10-17-18 @ 1105 By: MK

Delivered by: Apex X Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 10-17-18 @ 1300 By: MK

Chain of Custody included? Yes X No Custody seals? Yes No X

Signed/dated by client? Yes X No

Signed/dated by Apex? Yes X No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.1						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition:	good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 10/17/18 @ 1555 By: [illegible]

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes No X Comments: No D/T on jars, no T on any containers; extra soil sample S-1-30' received but not listed on CoC, no T on CoC or container

COC/container discrepancies form initiated? Yes No NA X S-5-15'

Containers/volumes received appropriate for analysis? Yes X No Comments:

Do VOA vials have visible headspace? Yes No X NA

Comments Sediment in all voas

Water samples: pH checked: Yes X No NA pH appropriate? Yes X No NA

Comments:

Additional information:

Labeled by: [illegible] Witness: [illegible] Cooler Inspected by: [illegible] See Project Contact Form: Y

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Lisa A Domenighini

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
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EPA ID: OR01039

Friday, December 7, 2018

Jennifer Levy
Cascade Environmental Solutions, LLC
6635 N Baltimore Ave Ste 224
Portland, OR 97203

RE: A8K0783 - Sandy/Dutch Bros - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8K0783, which was received by the laboratory on 11/26/2018 at 12:50:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1 4.7 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G2-20'	A8K0783-01	Soil	11/21/18 10:30	11/26/18 12:50
G3-5'	A8K0783-02	Soil	11/21/18 10:48	11/26/18 12:50
G3-15'	A8K0783-03	Soil	11/21/18 10:55	11/26/18 12:50
G3-20'	A8K0783-04	Soil	11/21/18 11:10	11/26/18 12:50
G4-9'	A8K0783-05	Soil	11/21/18 11:48	11/26/18 12:50
G4-11'	A8K0783-06	Soil	11/21/18 11:52	11/26/18 12:50
G5-5'	A8K0783-07	Soil	11/21/18 12:18	11/26/18 12:50
G5-7.5'	A8K0783-08	Soil	11/21/18 12:24	11/26/18 12:50
G5-10'	A8K0783-09	Soil	11/21/18 12:35	11/26/18 12:50
G5-20'	A8K0783-10	Soil	11/21/18 12:50	11/26/18 12:50
G5-15'	A8K0783-11	Soil	11/21/18 00:00	11/26/18 12:50

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G3-15' (A8K0783-03)				**Matrix: Soil**			**Batch: 8111224**	
Gasoline Range Organics	ND	---	29.1	mg/kg dry	1	11/29/18	NWTPH-HCID	
Diesel Range Organics	ND	---	72.7	mg/kg dry	1	11/29/18	NWTPH-HCID	
Oil Range Organics	ND	---	145	mg/kg dry	1	11/29/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*92 %*	*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*94 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111224**	
Gasoline Range Organics	ND	---	25.2	mg/kg dry	1	11/29/18	NWTPH-HCID	
Diesel Range Organics	DET	---	63.0	mg/kg dry	1	11/29/18	NWTPH-HCID	
Oil Range Organics	ND	---	126	mg/kg dry	1	11/29/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*107 %*	*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*109 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE1)				**Matrix: Soil**			**Batch: 8111221**	
Diesel	**3920**	---	221	mg/kg dry	10	11/29/18	NWTPH-Dx	
Oil	ND	---	442	mg/kg dry	10	11/29/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 120 %*		*Limits: 50-150 %*	*10*	*11/29/18*	*NWTPH-Dx*	*S-05*
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111221**	
Diesel	**397**	---	26.1	mg/kg dry	1	11/29/18	NWTPH-Dx	
Oil	ND	---	52.1	mg/kg dry	1	11/29/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 108 %*		*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-Dx*	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111324**	
Diesel	**364**	---	27.0	mg/kg dry	1	11/30/18	NWTPH-Dx	**Q-42**
Oil	ND	---	54.0	mg/kg dry	1	11/30/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 94 %*		*Limits: 50-150 %*	*1*	*11/30/18*	*NWTPH-Dx*	

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE2)				**Matrix: Soil**			**Batch: 8111248**	
Gasoline Range Organics	**592**	---	42.6	mg/kg dry	100	11/29/18	NWTPH-Gx (MS)	**F-09**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 133 %*	*Limits: 50-150 %*		*1*	*11/29/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-Gx (MS)*	
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111193**	
Gasoline Range Organics	**66.0**	---	12.4	mg/kg dry	50	11/28/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 128 %*	*Limits: 50-150 %*		*1*	*11/28/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*104 %*	*50-150 %*	*1*	*11/28/18*	*NWTPH-Gx (MS)*	

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Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE2)				**Matrix: Soil**			**Batch: 8111248**	**R-04**
Benzene	ND	---	0.0852	mg/kg dry	100	11/29/18	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	0.213	mg/kg dry	100	11/29/18	5035A/8260C	
Ethylbenzene	ND	---	0.213	mg/kg dry	100	11/29/18	5035A/8260C	
Isopropylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Naphthalene	ND	---	0.852	mg/kg dry	100	11/29/18	5035A/8260C	
Toluene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,2,4-Trimethylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Xylenes, total	ND	---	0.639	mg/kg dry	100	11/29/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*113 %*	*Limits: 80-120 %*	*1*	*11/29/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*11/29/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*106 %*	*80-120 %*	*1*	*11/29/18*	*5035A/8260C*	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G3-15' (A8K0783-03)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**66.4**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G4-9' (A8K0783-05)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**86.9**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**71.3**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**72.7**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	

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Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111224 - NWTPH-HCID (Soil)							Soil					
Blank (8111224-BLK1)		Prepared: 11/28/18 13:43		Analyzed: 11/29/18 03:13								
NWTPH-HCID												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)		*99 %*		*50-150 %*			*"*					
Duplicate (8111224-DUP1)		Prepared: 11/28/18 13:43		Analyzed: 11/29/18 03:59								
QC Source Sample: G3-15' (A8K0783-03)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	29.1	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	72.7	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	145	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 94 %*		*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)		*95 %*		*50-150 %*			*"*					

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111221 - EPA 3546 (Fuels)							Soil					
Blank (8111221-BLK1)		Prepared: 11/28/18 13:23 Analyzed: 11/28/18 21:29										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 111 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8111221-BS1)		Prepared: 11/28/18 13:23 Analyzed: 11/28/18 21:52										
NWTPH-Dx												
Diesel	122	---	25.0	mg/kg wet	1	125	---	98	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 114 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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Apex Laboratories, LLC
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503-718-2323
EPA ID: OR01039

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111324 - EPA 3546 (Fuels)							**Soil**					
Blank (8111324-BLK1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 21:55										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8111324-BS1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 22:16										
NWTPH-Dx												
Diesel	110	---	25.0	mg/kg wet	1	125	---	88	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 103 %*		*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (8111324-DUP1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 22:59										
QC Source Sample: G5-7.5' (A8K0783-08)												
NWTPH-Dx												
Diesel	**245**	---	27.2	mg/kg dry	1	---	364	---	---	**39**	**30%**	Q-04
Oil	ND	---	54.3	mg/kg dry	1	---	27.4	---	---	***	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111193 - EPA 5035A							**Soil**					
Blank (8111193-BLK1)			Prepared: 11/28/18 09:00		Analyzed: 11/28/18 12:39							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 118 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*104 %*		*50-150 %*		*"*					
LCS (8111193-BS3)			Prepared: 11/28/18 09:00		Analyzed: 11/28/18 12:12							
NWTPH-Gx (MS)												
Gasoline Range Organics	27.4	---	5.00	mg/kg wet	50	25.0	---	110	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 114 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*		*50-150 %*		*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111248 - EPA 5035A							**Soil**					
Blank (8111248-BLK1)			Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:53									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 120 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
LCS (8111248-BS2)			Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:26									
NWTPH-Gx (MS)												
Gasoline Range Organics	27.7	---	5.00	mg/kg wet	50	25.0	---	111	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*107 %*	*50-150 %*			*"*					

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Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111193 - EPA 5035A							**Soil**					
Blank (8111193-BLK1)		Prepared: 11/28/18 09:00 Analyzed: 11/28/18 12:39										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 112 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*97 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*			*"*					
LCS (8111193-BS2)		Prepared: 11/28/18 09:00 Analyzed: 11/28/18 11:45										
5035A/8260C												
Benzene	1.05	---	0.0100	mg/kg wet	50	1.00	---	105	80-120%	---	---	
1,2-Dibromoethane (EDB)	0.966	---	0.0500	mg/kg wet	50	1.00	---	97	80-120%	---	---	
1,2-Dichloroethane (EDC)	1.08	---	0.0250	mg/kg wet	50	1.00	---	108	80-120%	---	---	
Ethylbenzene	0.912	---	0.0250	mg/kg wet	50	1.00	---	91	80-120%	---	---	
Isopropylbenzene	0.982	---	0.0500	mg/kg wet	50	1.00	---	98	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1.02	---	0.0500	mg/kg wet	50	1.00	---	102	80-120%	---	---	
Naphthalene	1.04	---	0.100	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Toluene	0.924	---	0.0500	mg/kg wet	50	1.00	---	92	80-120%	---	---	
1,2,4-Trimethylbenzene	0.980	---	0.0500	mg/kg wet	50	1.00	---	98	80-120%	---	---	
1,3,5-Trimethylbenzene	1.01	---	0.0500	mg/kg wet	50	1.00	---	101	80-120%	---	---	
Xylenes, total	2.84	---	0.0750	mg/kg wet	50	3.00	---	95	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 112 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*97 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111248 - EPA 5035A							**Soil**					
Blank (8111248-BLK1)		Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:53										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 113 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*			*"*					
LCS (8111248-BS1)		Prepared: 11/29/18 09:30 Analyzed: 11/29/18 10:43										
5035A/8260C												
Benzene	1.05	---	0.0100	mg/kg wet	50	1.00	---	105	80-120%	---	---	
1,2-Dibromoethane (EDB)	0.946	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
1,2-Dichloroethane (EDC)	1.09	---	0.0250	mg/kg wet	50	1.00	---	109	80-120%	---	---	
Ethylbenzene	0.867	---	0.0250	mg/kg wet	50	1.00	---	87	80-120%	---	---	
Isopropylbenzene	0.925	---	0.0500	mg/kg wet	50	1.00	---	92	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1.04	---	0.0500	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Naphthalene	1.04	---	0.100	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Toluene	0.889	---	0.0500	mg/kg wet	50	1.00	---	89	80-120%	---	---	
1,2,4-Trimethylbenzene	0.949	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
1,3,5-Trimethylbenzene	0.966	---	0.0500	mg/kg wet	50	1.00	---	97	80-120%	---	---	
Xylenes, total	2.67	---	0.0750	mg/kg wet	50	3.00	---	89	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 113 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111230 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8111230-DUP2)		Prepared: 11/28/18 16:13		Analyzed: 11/29/18 09:10								
QC Source Sample: G5-7.5' (A8K0783-08)												
EPA 8000C												
% Solids	**73.1**	---	1.00	% by Weight	1	---	72.7	---	---	0.5	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111224							
A8K0783-03	Soil	NWTPH-HCID	11/21/18 10:55	11/28/18 13:43	10.36g/10mL	10g/10mL	0.97
A8K0783-08	Soil	NWTPH-HCID	11/21/18 12:24	11/28/18 13:43	10.91g/10mL	10g/10mL	0.92

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111221							
A8K0783-05RE1	Soil	NWTPH-Dx	11/21/18 11:48	11/28/18 13:30	10.41g/5mL	10g/5mL	0.96
A8K0783-06	Soil	NWTPH-Dx	11/21/18 11:52	11/28/18 13:30	10.77g/5mL	10g/5mL	0.93
Batch: 8111324							
A8K0783-08	Soil	NWTPH-Dx	11/21/18 12:24	11/30/18 13:26	10.18g/5mL	10g/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111193							
A8K0783-06	Soil	NWTPH-Gx (MS)	11/21/18 11:52	11/21/18 11:52	3.39g/5mL	5g/5mL	1.47
Batch: 8111248							
A8K0783-05RE2	Soil	NWTPH-Gx (MS)	11/21/18 11:48	11/21/18 11:48	1.4g/5mL	5g/5mL	3.57

Selected Volatile Organic Compounds by EPA 5035A/8260C

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111248							
A8K0783-05RE2	Soil	5035A/8260C	11/21/18 11:48	11/21/18 11:48	1.4g/5mL	5g/5mL	3.57

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111230							
A8K0783-03	Soil	EPA 8000C	11/21/18 10:55	11/28/18 16:13			NA

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SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A8K0783-05	Soil	EPA 8000C	11/21/18 11:48	11/28/18 16:13			NA
A8K0783-06	Soil	EPA 8000C	11/21/18 11:52	11/28/18 16:13			NA
A8K0783-08	Soil	EPA 8000C	11/21/18 12:24	11/28/18 16:13			NA

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

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F-09	Results in the Gasoline Range are primarily due to overlap from a heavier fuel hydrocarbon product.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Lisa Domenighini, Client Services Manager

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Cascade Environmental Solutions, LLC	Project:	**Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number:	**[none]**	**Report ID:**
Portland, OR 97203	Project Manager:	**Jennifer Levy**	**A8K0783 - 12 07 18 0852**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

APEX LABS — CHAIN OF CUSTODY

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

COC 1 of 1
Lab # A8K0783

Company: Cascade Environmental Solutions | Project Mgr: Jen Levy | Project Name: Sandy/Dutch Bros | Project #:
Address: PO Box 83924 8420 N Ivanhoe St, Portland OR 97203 | Phone: 503.805.4846 | Fax: | Email: jlevy@cascade-environmental.com
Sampled by: Jen Levy/Rhiro

Site Location: (OR) WA
Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Total Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200-COLS	1200-Z
G2-20'	1	11-21-18	10:30																	
G3-5'	2		10:48																	
G3-15'	3		10:55			X														
G3-20'	4		11:10																	
G4-9'	5		11:48				X	X		X										
G4-11'	6		11:52				X	X												
G5-5'	7		12:18																	
G5-7.5'	8		12:24			X														
G5-10'	9		12:35																	
G5-20'	10		12:50																	

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: ______

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:
G4-11 hold for VOCs tlu
Extract for VOCs: G5-7.5' tlu

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 11-26-18	Signature: [signature] Date: 11-26-18	Signature: Date:	Signature: Date:
Printed Name: Jen Levy Time: 12:50	Printed Name: Michael Kuchnik Time: 1250	Printed Name: Time:	Printed Name: Time:
Company:	Company: Apex Labs	Company:	Company:

Apex Laboratories

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

APEX LABS COOLER RECEIPT FORM

Client: Cascade Env. Solutions Element WO#: A8K0783

Project/Project #: Sandy/Dutch Bros

Delivery Info:

Date/time received: 11-26-18 @ 1250 By: MK

Delivered by: Apex X Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 11-26-18 @ 1325 By: MK

Chain of Custody included? Yes X No Custody seals? Yes No X

Signed/dated by client? Yes X No

Signed/dated by Apex? Yes X No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	4.7						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Gel						
Condition:	good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 11/27/18 @ 19:16 By: TAG

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes No X Comments: received extra sample G5-15', NO T/D on jars, no T on voas, no D on 1/2 G4-9 voas

COC/container discrepancies form initiated? Yes No X NA

Containers/volumes received appropriate for analysis? Yes X No Comments:

Do VOA vials have visible headspace? Yes No NA X

Comments

Water samples: pH checked: Yes No NA X pH appropriate? Yes No NA X

Comments:

Additional information:

Labeled by: TAG Witness: GM Cooler Inspected by: See Project Contact Form: Y

Apex Laboratories

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Lisa A Domenighini

Lisa Domenighini, Client Services Manager

Exhibit DD

#25840

AGREEMENT CREATING MUTUAL EASEMENTS

THIS AGREEMENT made this 19 day of April, 1984, between THE SOUTHLAND CORPORATION, a Texas corporation (herein "Southland"), with principal offices at 2828 N. Haskell Ave., Dallas, Texas 75204, and FRANCES CALKINS, residing in Sandy, Oregon.

WHEREAS, Southland is the owner of real estate located in Clackamas County, Oregon; more particularly described as Parcel I in Exhibit A attached hereto and made a part hereof (herein "Parcel I"); and,

WHEREAS, FRANCES CALKINS is the owner of real estate located in Clackamas County, Oregon; more particularly described in Parcel II in Exhibit A attached hereto and made a part hereof (herein "Parcel II"); and,

WHEREAS, Southland and Frances Calkins (collectively "Parties") by this Agreement desire to create certain reciprocal mutual easements over and across a portion of Parcel I (herein "Parcel III") more particularly described in Exhibit A attached hereto and made a part hereof, and a portion of Parcel II (herein Parcel IV") more particularly described in Exhibit A attached hereto and made a part hereof. .(Parcel III and Parcel IV are collectively referred to as the "Easement Area".)

NOW THEREFORE for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration paid by each to the other, and the mutual benefits to be derived herefrom, Southland and Frances Calkins do hereby agree as follows:

1. Southland and Frances Calkins hereby grant to each other a mutual, reciprocal, and non-exclusive easement, right, and privilege of ingress and egress, both pedestrian and vehicular, over and across the Easement Area from Parcel I to Parcel II and from Parcel II to Parcel I.
2. Southland and Frances Calkins agree that no barriers, fences, curbs, walls, ditches, barricades or other structures or obstacles will be erected on, along or adjacent to the common boundary line between Parcel III and Parcel IV so as to unreasonably burden or interfere with, impede, slow, divert or in any way prevent vehicular and pedestrian traffic from freely passing across the Easement Area to Parcel I and to Parcel II. This Agreement is not to be interpreted as being intended to prevent Southland from ~~constructing, operating and maintaining a self-service gasoline installation on Parcel I or the further or~~ additional development on or use of Parcel I or Parcel II from time to time, so long as such development does not unreasonably interfere with the rights and privileges granted and created herein. The easements, rights and privileges hereinbefore granted shall be used and enjoyed in such a manner as to cause the least possible interference with the conduct and operations of any business now or hereinafter existing on Parcel I or Parcel II.
3. The easements created and granted hereby shall be easements and covenants running with the land, and shall enure to the benefit of, and be binding upon Southland and Frances Calkins and all future owners of all or any portion of Parcel I or Parcel II and their respective heirs, successors and assigns. The owner or owners from time to time of Parcel I or Parcel II may grant the benefit of such easement to its tenants, franchisees, or affiliates, now or hereafter occupying a building or portions thereof on said Parcels for the period of such tenancy, and to the customers, employees, and business invitees of said owner or owners and tenants, franchisees or affiliates, but the same is not intended, and shall not be construed as creating any rights in and for the benefit of the general public.
4. The parties agree that Southland shall be solely responsible for the maintenance and repair of Parcel III, and that Frances Calkins shall be solely responsible for the maintenance and repair of Parcel IV.
5. Southland covenants with respect to Parcel III and Frances Calkins covenants with respect to Parcel IV that it owns said parcel in fee simple, that it has full power and authority to grant the easement provided for herein, and that it will forever warrant and defend the easement interest herein granted against all those claiming by, through or under it, but not otherwise.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

ATTEST:

Frances Calkins
Frances Calkins

DATED : April 19, 1984

84 13677

APR 25 1984

#25840

STATE OF TEXAS §
§
COUNTY OF DALLAS §

BEFORE ME, the undersigned, a Notary Public, on this day personally appeared Rulon Brough, Vice President, and Bryan F. Smith, Jr., Assistant Secretary, known to me to be the persons and officers whose names are subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said The Southland Corporation, and that they have executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 17th day of April, A.D. 1984.

(Notarial Seal)

Notary Public

KATHY E. HARRISON, Notary Public
in and for the State of Texas
My Commission Expires 3-12-88

APR 25 1984

FORM NO. 23 — ACKNOWLEDGMENT

STATE OF OREGON,
County of Clackamas } ss.

BE IT REMEMBERED, That on this 19 *day of* April *, 19* 84 *before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named* Frances Calkins

known to me to be the identical individual described in and who executed the within instrument and acknowledged to me that she *executed the same freely and voluntarily.*

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

Notary Public for Oregon.
My Commission expires 6/23/87

(SEAL)

(Notarial Seal)

2

#25840

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

Attest:

Assistant Secretary

THE SOUTHLAND CORPORATION

By: _____
Vice President

Attest:

_____
Secretary

CALIFORNIA ASSOCIATES, INC.

By: _____
President

APR 25 1984

3

#25840

APR 25 1984

EXHIBIT A

Parcel I

Beginning at an iron pipe which is 40 feet east of the northeast corner of Block 2 of the Otto Meinig's Third Addition to Sandy, Oregon, as recorded in Volume 11, page 30, records of Town Plats of Clackamas County, Oregon; thence South 83° 57' East 190 feet to an iron pipe and the true point of beginning for the tract herein described; thence South 43° 57' East 20 feet to an iron pipe; thence South 77.4 feet to an iron pipe; thence South 89° East 89.2 feet to an iron pipe; thence South 7° West 5.9 feet to an iron pipe; thence South 89° East 7.2 feet to an iron pipe; thence South 1° 30' West 5.8 feet to an iron pipe; thence South 79° East 98.3 feet to an iron pipe; thence South 9° West 125.2 feet more or less to the North boundary line of Highway 26; thence North 79° 42' West along the north boundary line of Highway 26, 201.8 feet to an iron pipe; thence North 188 feet to the place of beginning, being situated in the County of Clackamas and State of Oregon.

Beginning at an iron pipe which is 40 feet East of the northeast corner of Block 2 of Otto Meinig's Third Addition to Sandy, Oregon, as recorded in Volume 11, page 30, records of Town Plats of Clackamas County, Oregon; thence South 83° 57' East 190 feet to an iron pipe and the true point of beginning for the tract herein described; thence South 83° 57' East 20 feet to an iron pipe; thence South 77.4 feet to an iron pipe, thence South 89° East 89.2 feet to an iron pipe; thence North 1° 32' East 69.4 feet to an iron pipe; thence North 83° 57' West 96.6 feet to the point of beginning, all in the County of Clackamas, State of Oregon.

LESS AND EXCEPT:

A tract of land situated in the N.E. 1/4 of Section 13, T 2S, R 4E, W.M. City of Sandy, Clackamas County, Oregon, being described as follows:

Beginning at an iron pipe at the intersection of the south R/W line of Pleasant Avenue with the westerly R/W line of Ten Eyck Rd., County Road No. 675; thence S 39° 58' 37" W along the westerly R/W line of Ten Eyck Road, a distance of 115.99 feet to an iron pipe; said point being the true point of beginning of the tract herein to be described; thence leaving said westerly R/W line and running N 81° 27' 08" W a distance of 143.05 feet to an iron rod; thence S 9° 00' 00" W a distance of 109.36 feet to an iron rod in the northerly R/W line of Mt. Hood Highway 26, Westbound, also known as Proctor Avenue; thence S 78° 22' 15" E along said northerly R/W line a distance of 74.74 feet to an iron rod at the intersection of said northerly R/W line with the westerly R/W line of Ten Eyck Road; thence N 39° 58' 37" E along said westerly R/W line a distance of 132.86 feet to the true point of beginning.

Parcel II

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence N 81° 00' W a distance of 30.00 feet; thence S 9° 00' W a distance of 28.70 feet to a point in the northerly R/W line of Mt. Hood Highway 26; thence tracing said R/W line a distance of 21.17 feet along the arc of a 2904.79 foot radius curve to the right through a central angle of 0° 25' 03" (the chord of which bears S 78° 22' 15" E, 21.17 feet) to a point of tangency; thence S 78° 22' 15" E along said northerly R/W line a distance of 8.86 feet to the point of beginning.

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#25840

Parcel III

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence S 81° 00' E a distance of 70.00 feet; thence N 9° 00' E a distance of 26.59 feet; thence S 81° 00' E a distance of 40.69 feet to a point in the westerly R/W line of Ten Eyck Road, County Road No. 675; thence S 39° 58' 37" W along said westerly R/W line a distance of 64.32 feet; thence leaving said westerly R/W line and running N 78° 22' 15" W a distance of 32.70 feet; thence S 11° 37' 45" W a distance of 5.00 feet to a point in the northerly R/W line of Mt. Hood Highway 26, Westbound, also known as Proctor Avenue; thence N 78° 22' 15" W along said northerly R/W line a distance of 44.74 feet to the point of beginning.

Parcel IV

Beginning at the southwest corner of the hereinbefore described tract; thence N 9° 00' E along the westerly boundary thereof a distance of 30.00 feet; thence N 81° 00' W a distance of 30.00 feet; thence S 9° 00' W a distance of 28.70 feet to a point in the northerly R/W line of Mt. Hood Highway 26; thence tracing said R/W line a distance of 21.17 feet along the arc of a 2904.79 foot radius curve to the right through a central angle of 0° 25' 03" (the chord of which bears S 78° 22' 15" E, 21.17 feet) to a point of tangency; thence S 78° 22' 15" E along said northerly R/W line a distance of 8.86 feet to the point of beginning.

APR 25 1984

5

STATE OF OREGON)
County of Clackamas) ss.

I, Juanita N. Orr, County Clerk, Ex-Officio Recorder of Conveyances of the State of Oregon, for the County of Clackamas, do hereby certify that the instrument of writing was received for recording in the records of said County at

'84 APR 25 PM 4:00

Witness my hand and seal affixed.

JUANITA N. ORR
County Clerk

Recording Certificate

CCP-R4 84 13677

Exhibit EE

MEMORANDUM

RhinoOne GEOTECHNICAL

December 03, 2018

Cole Valley Partners
Attn: Mr. Nate Dick
3519 NE 15th Avenue, Suite 251
Portland, Oregon 97212

Submitted Via Email: nate.dick@cvpre.com

Re: Draft Report of Geotechnical Engineering Services
New Coffee Shop and Related Improvements
Proctor Boulevard and SE Ten Eyck Road, Sandy, Oregon
RhinoOne Project No. CVP-2018-001

Dear Mr. Dick:

This technical memorandum presents Rhino One Geotechnical's (ROG) geotechnical engineering study for the proposed Coffee Shop located north of Proctor Boulevard and west of SE Ten Eyck Road in Sandy, Oregon (Figure 1 – Site Location Map). The project site is approximately ¾ acres. The proposed plans are for an approximately 824 square foot Coffee Shop with associated drive-through and parking areas (Figure 2 – Site Exploration Map). This work is being completed in accordance with our proposal dated October 26, 2018.

This technical memorandum summarizes our review of previous study, field exploration program, field and laboratory testing, engineering analysis, geotechnical design criteria and construction recommendations.

FIELD EXPLORATION AND SUBSURFACE CONDITIONS

Geologic Mapping

Site geology at the project site was evaluated based on a review of geologic reports, site reconnaissance, and subsurface explorations. Appendix A, Figure 2 (Site Exploration Map) shows the approximate locations of the borings drilled for this project.

The site is located in Sandy, Oregon west of the Sandy River drainage and the foothills of the Cascade Mountains. The project is located on Ancient River Rock deposits between Boring Lava basalt flows to the west and the foothills of the Cascade Mountain Range to the east. The area is part of the larger Puget Sound-Willamette Valley physiographic province, a tectonically active lowland situated between the Coast Range to the west and the Cascade Mountains to the east[1].

Published mapping indicates the site is underlain by Ancient River Rock consisting of sandstones, siltstones, and conglomerates created from sediment deposits from ancient rivers which flowed through the region[2]. Fine-grained sediment deposits of clay were observed in our field explorations. A review of well logs in the vicinity of the site suggest the clay layer extend to about 25 feet below ground surface (BGS) and are underlain by sandy and gravels with clay[3]. The well logs suggest bedrock is approximately 50 feet BGS. Basement rock in the vicinity of the site are similar to those exposed in the Boring Lavas and foothills of the Cascade Mountains, which primarily consist of the Miocene Epoch (20 million to 10

[1] Orr, E.L. and Orr, W.N. (1999). *Geology of Oregon*. Kendall/Hunt Publishing, Iowa. Page 254.
[2] Ma, L., Madin, I.P., Duplantis, S., and Williams, K.J., (2012). *Lidar-Based Surficial Geologic Map and Database of the Greater Portland Area, Clackamas, Columbia, Marion, Multnomah, Washington, and Yamhill Counties, Oregon and Clark County, Washington*. Oregon Department of Geology and Mineral Industries. Open-File Report O-12-02.
[3] Oregon Water Resources Department. Well Log Query Report. Website Address: https://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx. Accessed November 29, 2018.

million years before present) Columbia River Basalt Group (CRBG). The CRBG consists of thick flows of basalt which have been folded and faulted from the compressional tectonics of the region.

Field Explorations

The subsurface exploration program for this project consisted of drilling five (5) borings using a trailer-mounted drill rig operated by Dan J. Fischer Excavating, Inc. of Forest Grove, Oregon on November 21, 2018. The borings were drilled at the approximate locations shown on the Site Exploration Map (Figure 2). The borings were advanced using continuous-flight auger drilling techniques. The borings were drilled to a depth of 11.5 to 21.5 feet below ground surface (BGS). Standard Penetration Test (SPT) soil samples were obtained at regular 2.5-foot intervals using a 140-pound Manual Hammer to a depth of 10 feet and at 5-foot intervals thereafter. Uncorrected blow counts from the SPT sampling are reported on the boring logs. Corrected blow counts [$(N_1)_{60}$] were used for our analysis unless otherwise noted.

The subsurface materials encountered were logged and field classified in general accordance with the Manual-Visual Classification Method (ASTM D 2488). The SPT samples were collected at desired depths and packaged in moisture-tight bags. The soil samples were reviewed in the laboratory in order to supplement field classifications. Interpreted borings logs are attached.

Natural moisture content laboratory testing of selected samples obtained from the borings were completed in general accordance with guidelines presented in ASTM D 2216. The results of these tests are attached and presented on the attached interpreted boring logs.

Subsurface Conditions

Five borings were completed across the site. The approximate boring locations are shown on Figure 2 of Appendix A. Boring logs are attached in Appendix B. The borings were drilled to depths ranging from 11.5 feet to 21.5 feet BGS. Borings B-1 through B-4 were completed within the proposed development area. Boring B-5 was completed for potential future development of the northern portion of the property. One of the borings (B-4) was terminated before the planned depth of 21.5 feet due to the possibility of contamination.

The site is generally level with an elevation of 1016 feet above mean sea level (AMSL) (± 2 feet). The property is bound by Mt. Hood Highway on the south, commercial properties to the east and west, and the undeveloped grass lot of the northern portion of the lot. The site is covered with asphalt concrete, gravel, and several concrete pads. The gravel/asphalt is underlain by fill consisting of loose to medium dense, sand, silty sand with gravel, to sandy gravel with silt to depths ranging from 1 foot to 10 feet BGS. The fill is underlain by fine-grained sediment consisting of very soft to very stiff, medium to high plasticity clay in borings B-1 through B4 to the termination depths between 11.5 to 21.5 feet BGS. Boring B-5 consisted of stiff to very stiff, medium to high plasticity clay below the grass root zone to the termination depth of 21.5 feet BGS (no fill was encountered in boring B-5).

The moisture contents of the samples within the fill were between 10% to 19%. The moisture contents of the samples within the native sediment were between 23% to 58%.

Groundwater

Perched groundwater was observed in borings B-2 and B-4 during our investigation. The perched groundwater was encountered within the fill between 7 feet and 10 feet BGS. Based on the information provided by the US Geological Survey (USGS) *Estimated Depth to Groundwater Study of the Portland Metro Area*[4] the estimated depth to groundwater at the project location is on the order of 160 feet BGS or greater.

[4] US Geological Survey (USGS). *Estimated Depth to Ground Water in the Portland, Oregon Area*. Accessed from website http://or.water.usgs.gov/projs_dir/puz/ on November 29, 2018.

SEISMIC DESIGN CRITERIA

This section discusses the seismic ground motion criteria for the design of this buildings in accordance with 2015 International Building Code (2015 IBC) and 2014 Oregon Structural Specialty Code (2014 OSSC). The U.S. Geological Survey (USGS) Earthquake Hazard Maps Data set[5], as required by 2015 IBC and 2014 OSSC, was used to estimate the short period (0.2 seconds) and long period (1 second) spectral acceleration values for site class B for the various building sites. Based on the soil types encountered, a Site Class of D can be used for the design of this building.

Table 1 IBC 2015 (OSSC 2014) Seismic Design Parameters

	Short Period	1 Second
Maximum Credible Earthquake Spectral Acceleration	S_s = 0.766 g	S_1 = 0.334 g
Site Class	D	
Site Coefficient	F_a = 1.193	F_v = 1.731
Adjusted Spectral Acceleration	S_{MS} = 0.915 g	S_{M1} = 0.579 g
Design Spectral Response Acceleration Parameters	S_{DS} = 0.610 g	S_{D1} = 0.386 g
Design Spectral Peak Ground Acceleration	0.244 g	
Additional Parameters for Liquefaction Analysis per ASCE 7-10, Section 11.8.3		
Mapped MCE_G Peak Ground Acceleration	PGA = 0.324 g	
Site Coefficient	F_{PGA} = 1.176	
MCE_G Peak Ground Acceleration Adjusted for Site Class	PGA_M = 0.381 g	

The soils at the project site consist of stiff to hard, low to medium plasticity clay to the depth explored of 21.5 feet. Groundwater is interpreted at depths on the order of 160 feet or greater BGS. Based on analysis using 1998 NCEER suggested methods, the on-site soils are not susceptible to liquefaction or earthquake-induced settlement and are not discussed any further.

FOUNDATION DESIGN RECOMMENDATIONS

The native soils or the fill prepared in accordance with our recommendations are suitable for support of spread footings. Continuous wall and isolated spread footings should be at least 18 and 24 inches wide, respectively. The bottom of exterior footings should be at least 18 inches below the lowest adjacent exterior grade. The bottom of interior footings should be established at least 12 inches below the base of the floor slab.

Footings bearing on firm native soils should be sized for an allowable bearing capacity of 2,000 psf. This is a net bearing pressure. The weight of the footing and overlying backfill can be disregarded in calculating footing sizes. The recommended allowable bearing pressure applies to the total of dead plus long-term-live loads and this bearing pressure may be doubled for short-term loads such as those resulting from wind or seismic forces.

Based on our analysis, total post-construction settlements were calculated to be less than 1-inch, with post-construction differential settlement of less than 0.5-inch over a 50-foot span for maximum column and perimeter footing loads of less than 100 kips and 4 kips per linear foot.

Lateral loads on footings can be resisted by passive earth pressure on the sides of the structures and by friction at the base of the footings. An allowable passive earth pressure of 225 pounds per cubic foot (pcf) may be used for footings confined by native soils. Adjacent floor slabs, pavements, or the upper 24-inch depth of adjacent, unpaved areas should not be considered when calculating passive resistance. For

[5] US Geological Survey (USGS). *Seismic Hazard Maps*. Accessed from website https://earthquake.usgs.gov/hazards/hazmaps/ on November 26, 2018.

footings in contact with native material, use a coefficient of friction equal to 0.35 when calculating resistance to sliding. Both of these numbers include a factor of safety of 1.5.

The footings should be founded below an imaginary line projecting at a 1-horizontal to 1-vertical (1H: 1V) slope from the base of any adjacent, parallel utility trenches. The footings must be embedded so there is a minimum of 10 feet of horizontal distance between the base of the footings and any adjacent slope. In wet-weather a 2- to 4-inch layer of granular material may be required at the footing base to provide a firm surface for the construction of the new footings.

A geotechnical engineer or their representative from ROG should confirm suitable bearing conditions and evaluate footing subgrades. Observations should also confirm loose or soft material, organics, unsuitable fill, and old topsoil zones were removed. Localized deepening of excavations may be required to penetrate deleterious or unsuitable fill materials. The resulting excavations should be backfilled with granular material.

RETAINING WALL DESIGN RECOMMENDATIONS

Minor on site retaining walls less than 5 feet may be needed at the site. We have provided design recommendations based on the following assumptions: (1) the walls consist of conventional, cantilevered retaining walls; (2) the walls are less than 5 feet in height; (3) the backfill is drained; and (4) the backfill has a slope flatter than 4H:1V. Re-evaluation of our recommendations will be required if the retaining wall design criteria for the project varies from these assumptions.

Unrestrained site walls that retain native soils or new fills should be designed to resist active fluid unit weight of 35 pounds per cubic foot (pcf) where supporting slopes are flatter than 4H:1V. If other surcharges (e.g., slopes steeper than 4H:1V, foundations, vehicles, etc.) are located within a horizontal distance from the back of a wall equal to twice the height of the wall, then additional pressures will need to be accounted for in the wall design. Contact our office for the appropriate wall surcharges based upon the actual magnitude and configuration of the applied loads. The wall footings should be designed in accordance with the guidelines provided in the “Foundation Design Recommendation” section of this report.

The design parameters provided assume that back-of-wall drains will be installed to prevent buildup of hydrostatic pressures behind all walls. A minimum 12-inch wide zone of drain rock, extending from the base of the wall to within 6 inches of finished grade, should be placed against the back of all retaining walls. Perforated collector pipes should be embedded at the base of the drain rock. The perforated collector pipes should discharge at an appropriate location away from the base of the wall. The backfill material placed behind the walls and extending a horizontal distance equal to at least the height of the retaining wall should consist of granular retaining wall backfill material meeting specifications provided in ODOT-SS 510.12. We recommend the select granular wall backfill be separated from general fill, native soil and/or topsoil using a geotextile fabric that meets the requirements provided in ODOT-SS 2320.10 for drainage geotextiles. The wall backfill should be compacted to a minimum of 92 percent of the maximum dry density, as determined by ASTM D 1557. Backfill placed within 3 feet of the wall should be compacted in lifts less than 6 inches thick using hand-operated tamping equipment (e.g., jumping jack or vibratory plate compactors).

Settlements of up to 1% of the wall height commonly occur immediately adjacent to the wall as the wall rotates and develops active lateral earth pressures. Consequently, we recommend that construction of flat work adjacent to retaining walls be postponed at least four (4) weeks after backfilling of the wall, unless survey data indicates that settlement is complete prior to that time.

PAVEMENT DESIGN RECOMMENDATIONS

Our pavement recommendations are based on the following assumptions:

- A resilient modulus of 4,500 psi for the native site soils.
- A resilient modulus of 20,000 psi estimated for the base rock.
- Initial and terminal serviceability index of 4.2 and 2.5, respectively.
- Reliability and standard deviation of 85% and 0.45, respectively.
- Structural coefficient of 0.42 and 0.10 for the asphalt and base rock, respectively.
- We assumed several Equivalent Single Axle Loads (ESALs) for pavement design. The actual ESALs should be selected based on traffic levels anticipated as the project moves forward.

If any of these assumptions are incorrect, contact our office with the appropriate information so we may revise the pavement designs. Pavement designs were based on the 1993 AASHTO pavement design equations. The development of pavement designs for the project pavements are in general accordance with the design guidelines and procedures of the American Association of State Highway and Transportation Officials (AASHTO) and the Oregon Department of Transportation (ODOT) Pavement Design Manual. Summary of our pavement design recommendations are in the table below.

Table 2 Minimum Pavement Sections

Traffic Loading (ESALs)	Asphalt Cement Concrete (inch)	Aggregate Base Rock (inch)
10,000 (Parking Lots)	3	8
50,000 (Driveways)	4	10

The thicknesses shown in Table 2 are intended to be minimum acceptable values.

The asphalt cement (AC) binder should be PG 64-22 Performance Grade Asphalt Cement according to ODOT-SS 00744.11 – Asphalt Cement and Additives. The AC should consist of dense graded Level 3, ½-inch hot mix asphalt. The minimum lift thicknesses should be 2.0 inches. The AC should conform to ODOT-SS 00744.13 and be compacted to 91% of Rice Density of the mix, as determined in accordance with ASTM D 2041.

The pavement subgrade should be prepared in accordance with the “Site Preparation” and “Structural Fill” sections of this report.

Construction traffic should be limited to non-building, unpaved portions of the project site or haul roads. Construction traffic should be prohibited on new pavements. If construction traffic is allowable on newly constructed road sections, an allowance for this additional traffic is necessary in the design pavement section.

If moist soil conditions make it difficult to properly moisture condition and compact the roadway subgrade, the use of cement amendment should be considered as alternative to moisture conditioning and compaction. The use of cement amendment will allow for construction of the pavement sections without disturbing the sensitive soil subgrade. If this method is chosen, contact ROG for additional recommendations and alternative pavement sections.

CONSTRUCTION RECOMMENDATIONS

Specifications referenced in this report refer to the 2018 version of Oregon State Standard Specifications for Construction (ODOT-SS, 2018) and the latest ODOT Special Provision (SP). We assume these specifications will serve, in part, as the project specifications for items contained within and for those not included in this report.

The existing near-surface root zone and gravels should be stripped and removed from the project site in all proposed building, fill, and pavement areas and for a 5-foot margin around such areas. We anticipate an average stripping depth of 4 to 6 inches with some localized deeper areas. The actual stripping depth should be based on field observations at the time of construction. Stripped material should be transported off site for disposal or stockpiled for use in landscaped areas.

Trees and shrubs should be removed from all pavement and improvement areas. In addition, root balls should be grubbed out to the depth of the roots, which could exceed 3 feet BGS. Depending on the methods used to remove the root balls, considerable disturbance and loosening of the subgrade could occur during site grubbing. We recommend soil disturbed during grubbing operations be removed to expose firm undisturbed subgrade. The resulting excavations should be backfilled with structural fill. The on-site soils are suitable for use as general fill, provided they are properly moisture conditioned and meet the requirements of ODOT-SS 00330.12 – Borrow Material and ODOT-SS 00330.13 – Selected General Backfill. Laboratory testing indicates the moisture content of the near-surface silts is greater than the soil's optimum moisture content required for satisfactory compaction. In order to adequately compact the soil, it may be necessary to moisture condition the soil to within 2 to 3 percentage points of the optimum moisture content. The native soils should be placed in lifts with a maximum uncompacted thickness of 6 to 8 inches and compacted to at least 92 percent of the maximum dry density, as determined by ASTM D 1557.

Imported granular material should be pit or quarry run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in ODOT-SS 00330.14 – Selected Granular Backfill and 00330.15 – Selected Stone Backfill. The imported granular material should be fairly well graded between coarse and fine material and have less than 5 percent by weight passing the U.S. Standard No. 200 Sieve. Imported granular material should be placed in lifts with a maximum uncompacted thickness of 8 to 12 inches and be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D 1557. During the wet season or when wet subgrade conditions exist, the initial lift should be approximately 18 inches in uncompacted thickness and should be compacted with a smooth-drum roller without using vibratory action. Where imported granular material is placed over wet or soft soil subgrades, we recommend a geotextile be placed as a barrier between the subgrade and imported granular material. The geotextile should meet ODOT-SS 2320.10 for soil separation and/or stabilization. The geotextile should be installed in conformance with ODOT-SS 00350.40 – Geosynthetic Construction.

Track-mounted excavating equipment may be required during wet weather. Care should be taken by providing adequate haul roads and staging areas. A 12 to 18 inch-thick mat of stabilization material (4 to 6 inch minus clean rock) is sufficient for light staging areas. The stabilization material for haul roads and areas with repeated heavy construction traffic typically needs to be increased to between 18 to 24 inches. The actual thickness of haul roads and staging areas should be based on the Contractor's approach to site development and the amount and type of construction traffic. The stabilization material should be placed in one lift over the prepared, undisturbed subgrade, and compacted using a smooth-drum, non-vibratory roller. Additionally, a geotextile fabric should be placed as a barrier between the subgrade and stabilization material in areas of repeated construction traffic.

Cuts should stand vertical to a depth of approximately 4 feet, provided no groundwater seepage is encountered in the cut walls. Open excavation may be used to excavate trenches with depths of between 4 and 8 feet, provided the walls of the excavation are cut at a slope of 1H:1V, groundwater seepage is not present, and with the understanding that some sloughing may occur. The walls should be flattened to 1.5H: 1V if excessive sloughing occurs or seepage is present.

Use of approved temporary shoring is recommended for cuts which extend below groundwater seepage or for vertical wall cuts deeper than 4 feet. We recommend the type and design of the shoring system be the responsibility of the Contractor, who is in the best position to choose a system which fits the overall

plan of operation. All excavations should be made in accordance with applicable OSHA and State regulations.

CONSTRUCTION OBSERVATIONS

Satisfactory earthwork performance depends on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining if the work is completed in accordance with the construction drawings and specifications. We recommend a geotechnical engineer from ROG be retained to observe geotechnical related construction efforts.

Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations discussed above. Recognition of changed conditions requires experience. Therefore, qualified personnel should visit the site with sufficient frequency in order to detect whether subsurface conditions have changed significantly from those anticipated.

LIMITATIONS

This technical memorandum has been prepared exclusively for the Project design team for the above-mentioned project, in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The geotechnical strength parameters described herein are based on subsurface conditions available from field explorations as documented in this report. Simplifying assumptions are made for data interpretation. These data indicate subsurface conditions only at specific locations and times, and only to the depths penetrated. The data do not necessarily reflect variations which may exist between such locations. If variations in subsurface condition from those described are noted during supplemental exploration or construction, the recommendations in this technical memorandum must be reevaluated.

Rhino One hopes this submittal meets your requirements at this time. Please call us if you need further information.

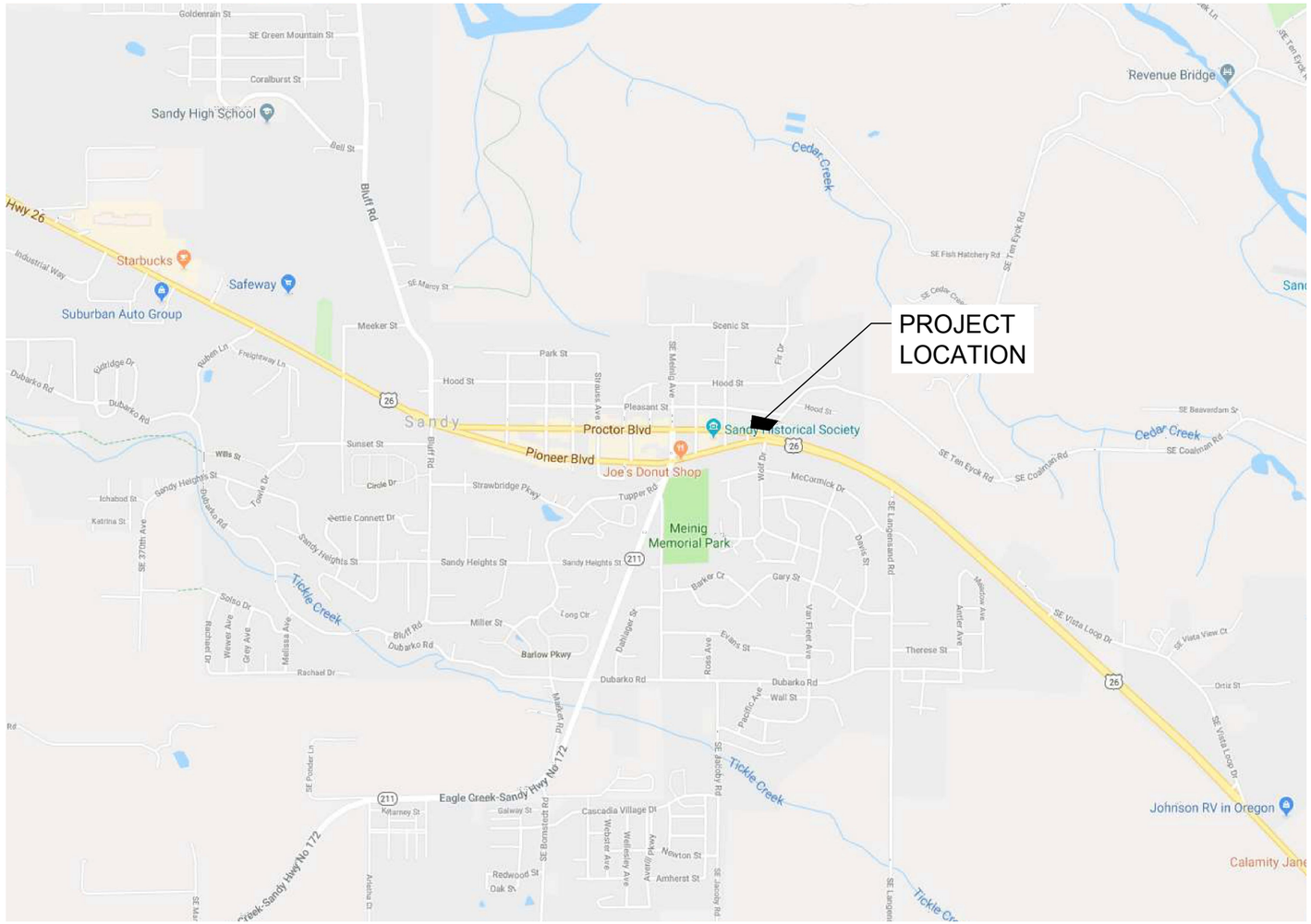
Sincerely,
RhinoOne Geotechnical

Christina Hemberry, PE
Staff Geotechnical Engineer

Rajiv Ali, PE GE (OR)
Principal Geotechnical Engineer

Attachments

Figure 1: Site Location Map
Figure 2: Site Exploration Map
Boring Logs: B-1 to B-5
Laboratory Test Data (2 sheets)



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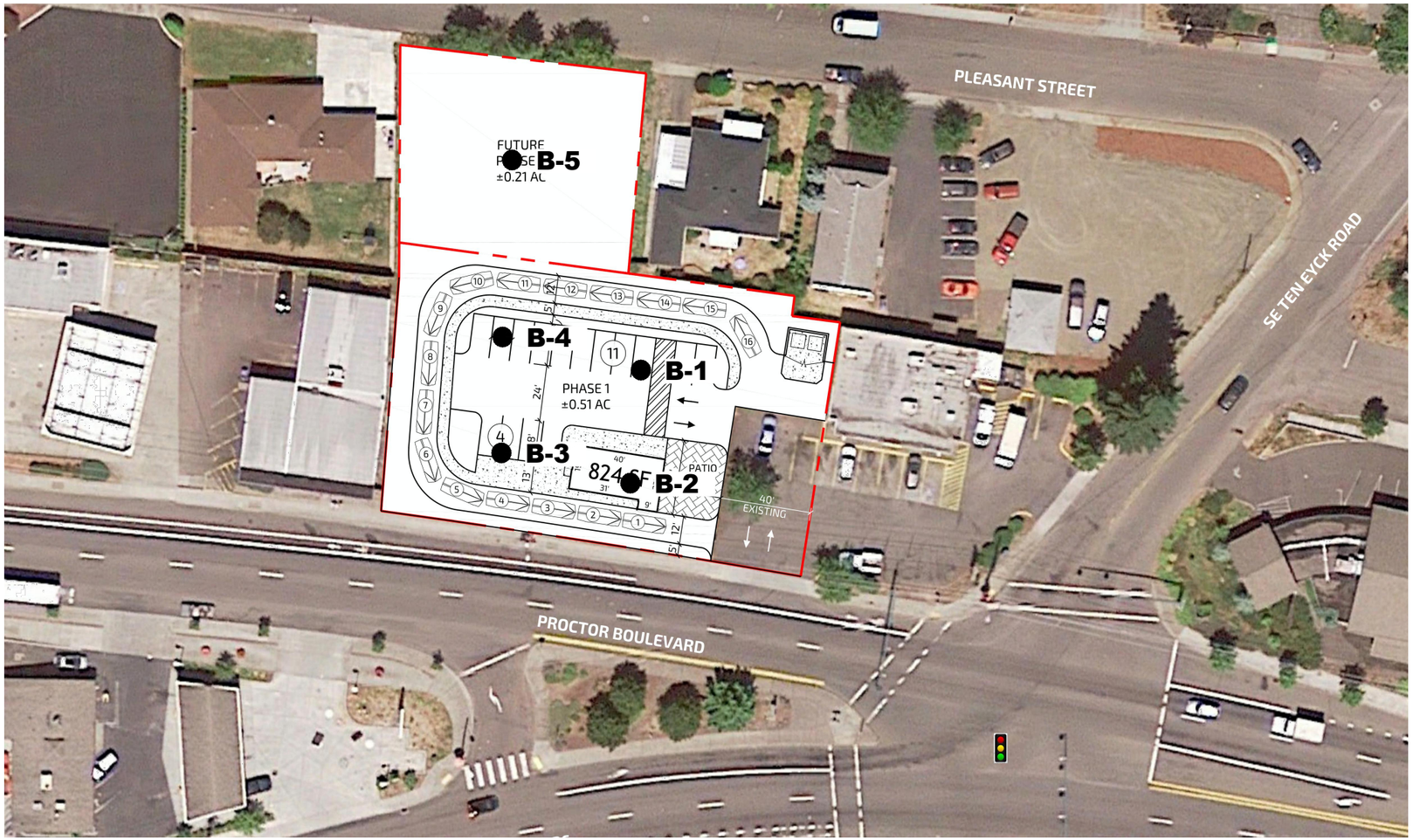
NEW COFFEE SHOP AND RELATED IMPROVEMENTS
PROCTOR BOULEVARD AND SE TEN EYCK ROAD, SANDY, OREGON 97055

PROJECT
CVP-2018-001

FIGURE 1 - SITE LOCATION MAP

DATE
DEC 2018



LEGEND

● **B-#**

BORING NUMBER AND APPROXIMATE LOCATION

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Vancouver, Washington 98662
360-258-1738

NEW COFFEE SHOP AND RELATED IMPROVEMENTS
PROCTOR BOULEVARD AND SE TEN EYCK ROAD, SANDY, OREGON 97055

PROJECT
CVP-2018-001

FIGURE 2 - SITE EXPLORATION MAP

DATE
DEC 2018

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BORING NUMBER B-1

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), damp (Fill)					
		CLAY with trace sand (CH), red-brown, high plasticity, damp to moist, medium stiff, sand is mostly coarse-grained	SPT 1	11	3-3-4 (7)		
5		becomes stiff	SPT 2	100	3-4-7 (11)		
		becomes very stiff	SPT 3	100	5-7-11 (18)		
10		becomes with light tan mottling	SPT 4	100	8-8-12 (20)		
15		becomes with heavy grey mottling 2-inch layer of silty SAND (SM), brown	SPT 5	100	5-7-9 (16)		
20		becomes stiff	SPT 6	100	3-5-6 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

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BORING NUMBER B-2

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1017 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ **AT TIME OF DRILLING** 7.00 ft / Elev 1010.00 ft
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), grey, damp, loose to medium dense, subangular to angular (Fill)					
		2-inch layer of CLAY (CH), red	SPT 1	56	5-5-5 (10)		
5			SPT 2	67	5-5-5 (10)		
		▽ becomes wet becomes loose, with odor	SPT 3	33	6-4-4 (8)		
10		CLAY with trace sand (CH), red-brown, medium to high plasticity, moist, very stiff, moderate distinct grey mottling	SPT 4	100	5-8-13 (21)		
			SPT 5	100	4-8-12 (20)		
15			SPT 6	100	5-6-12 (18)		
20		becomes stiff	SPT 7	100	3-6-6 (12)		

Bottom of borehole at 21.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER B-3

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Silty SAND with gravel (SM), dark brown, moist, loose (Fill)					
		CLAY with sand (CH), brown, medium plasticity, moist, soft	SPT 1	100	2-1-2 (3)		
5		becomes red-brown, medium stiff	SPT 2	78	2-3-4 (7)		
		becomes brown					
		becomes stiff with odor	SPT 3	100	4-5-6 (11)		
10		becomes red-brown, high plasticity, very stiff, with moderate grey mottling	SPT 4	89	5-9-13 (22)		
15		becomes stiff	SPT 5	100	4-4-8 (12)		
20			SPT 6	100	4-4-8 (12)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.5 feet.

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RhinoOne GEOTECHNICAL

BORING NUMBER B-4

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ **AT TIME OF DRILLING** 7.50 ft / Elev 1008.50 ft
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), grey, moist, loose (Fill)					
			SPT 1	83	4-4-4 (8)		
5			SPT 2	33	2-2-3 (5)		
		▽ SAND (SP), grey, wet, loose, strong odor	SPT 3	33	2-2-4 (6)		
10		CLAY with sand (CL), brown, medium plasticity, moist, very soft	SPT 4	44	2-0-1 (1)		

Bottom of borehole at 11.5 feet.

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

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BORING NUMBER B-5

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1012 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Grass root zone (4-inches)					
		CLAY with sand (CH), brown, medium to high plasticity, damp, stiff	SPT 1	100	4-4-7 (11)		
5		becomes stiff to very stiff	SPT 2	100	6-7-8 (15)		
		becomes red-brown, high plasticity, stiff	SPT 3	100	3-5-9 (14)		
10		becomes very stiff, moderate grey mottling	SPT 4	100	4-6-11 (17)		
15		becomes stiff	SPT 5	100	6-5-7 (12)		
20			SPT 6	100	6-5-7 (12)		

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 21.5 feet.

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Laboratory Results
Oven Dry Moisture Content (ASTM D 2216)

Project Name:	New Coffee Shop	Date:	21-Nov-18
Project Number:	CVP-2018-001	Tested By:	RA
Location:	39625 Proctor Boulevard, Sandy, Oreogn	Laboratory Number:	2018-00067

Boring Number	Depth	Tare Number	Weight of Tare	Weight of Tare + Wet Soil	Weight of Tare + Dry Soil	Weight of Dry Soil	Weight of Water	Water Content by Weight
B-1	2.5 - 4	001	51.25	139.08	121.51	70.26	17.57	25.0%
B-1	5 - 6.5	002	51.58	167.63	139.51	87.93	28.12	32.0%
B-1	7.5 - 9	013	50.26	158.35	130.14	79.88	28.21	35.3%
B-1	10 - 11.5	015	51.55	157.43	130.28	78.73	27.15	34.5%
B-1	15 - 16.5	016	51.66	160.53	125.1	73.44	35.43	48.2%
B-1	20 - 21.5	007	51.72	155.95	121.8	70.08	34.15	48.7%
B-2	2.5 - 4	026	51.42	168.49	157.68	106.26	10.81	10.2%
B-2	5 - 6.5	018	51.58	161.13	150.01	98.43	11.12	11.3%
B-2	7.5 - 9	006	51.12	168.15	149.64	98.52	18.51	18.8%
B-2	10 - 11.5	025	51.55	166.16	134.8	83.25	31.36	37.7%
B-2	12.5 - 14	004	51.36	156.25	124.62	73.26	31.63	43.2%
B-2	15 - 16.5	008	51.82	172.83	131.03	79.21	41.8	52.8%
B-2	20 - 21.5	019	51.37	159.83	120.48	69.11	39.35	56.9%
B-3	2.5 - 4	020	51.76	174.41	143.52	91.76	30.89	33.7%
B-3	5 - 6.5	021	51.01	161.01	132.76	81.75	28.25	34.6%
B-3	7.5 - 9	022	51.79	153.01	126.14	74.35	26.87	36.1%
B-3	10 - 11.5	023	51.7	176.04	143.39	91.69	32.65	35.6%
B-3	15 - 16.5	027	51.54	162.79	125.38	73.84	37.41	50.7%
B-3	20 - 21.5	009	51.49	159.35	122.4	70.91	36.95	52.1%
B-4	2.5 - 4	011	51.61	175.06	161.44	109.83	13.62	12.4%
B-4	5 - 6.5	003	51.25	180.09	161.44	110.19	18.65	16.9%
B-4	10 - 11.5	024	51.66	104.36	90.45	38.79	13.91	35.9%
B-5	2.5 - 4	028	51.48	170.17	148.17	96.69	22	22.8%
B-5	5 - 6.5	029	51.55	173.86	145.68	94.13	28.18	29.9%

RhinoOne GEOTECHNICAL

Laboratory Results
Oven Dry Moisture Content (ASTM D 2216)

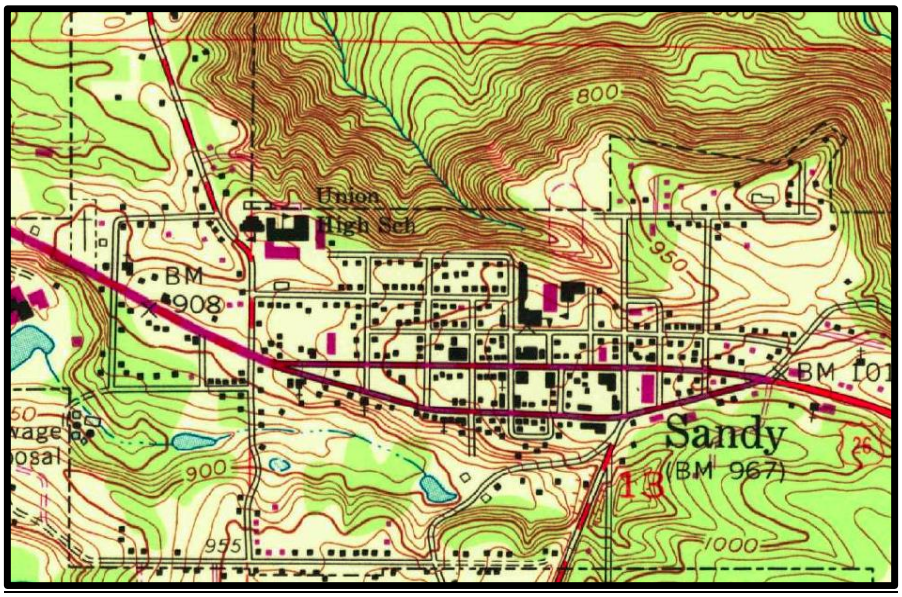
Project Name:	New Coffee Shop	Date:	21-Nov-18
Project Number:	CVP-2018-001	Tested By:	RA
Location:	39625 Proctor Boulevard, Sandy, Oreogn	Laboratory Number:	2018-00067

Boring Number	Depth	Tare Number	Weight of Tare	Weight of Tare + Wet Soil	Weight of Tare + Dry Soil	Weight of Dry Soil	Weight of Water	Water Content by Weight
B-5	7.5 - 9	030	51.68	172.36	140.56	88.88	31.8	35.8%
B-5	10 - 11.5	012	51.54	179.93	145.38	93.84	34.55	36.8%
B-5	15 - 16.5	032	51.45	160.84	126.03	74.58	34.81	46.7%
B-5	20 21.5	031	51.68	157.8	118.89	67.21	38.91	57.9%

Exhibit FF

Cascade Environmental Solutions
cascade-environmental.com

Phase II Environmental Site Assessment
Project Site: Former Sandy Oil
39625 Proctor Boulevard
Sandy, Oregon 97055



Prepared For:
CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212
Attn: John Zachary Bonsall, and tenant:

Dutch Bros. O.C. LLC
1002 Main St.
Oregon City, OR 97045
Attn: Abe Menshenfriend

Prepared By:
Cascade Environmental Solutions
Portland, Oregon

Project: Former Sandy Oil Phase II ESA
39625 Proctor Boulevard
Sandy, Oregon 97055

April 13, 2019

Attn: CVP - Sandy, Oregon, LLC
C/O Cole Valley Partners, LLC
3519 NE 15th Ave, Suite 251
Portland, OR 97212

Attn: John Zachary Bonsall, and tenant:
Dutch Bros. O.C. LLC
1002 Main St.
Oregon City, OR 97045
Attn: Abe Menshenfriend

Dear Mr. Menshenfriend and Mr. Bonsall:

Cascade Environmental Solutions (Cascade Environmental) has prepared this Phase II Environmental Site Assessment (ESA) report for the properties located at 39625 Proctor Boulevard in Sandy, Oregon (Project Site). A Phase I ESA was prepared prior to this Phase II ESA for the Project Site by Cascade Environmental Solutions (Cascade Environmental) in October 2018.

Phase I Executive Summary:

- The former Sandy Oil project site is a vacant commercial lot in the city of Sandy, Oregon in Clackamas County. The project site is a 0.65-acre (27,639 sq. ft) lot. It fronts both Highway 26 (Proctor) and Pleasant Street in downtown Sandy. The property is located in Section 13, Township 2 South, Range 4 East of the Willamette Meridian.

- The site was used as a bulk petroleum storage and retail service station from the 1930s through the 1980s and was abandoned in 1989. In February 1989, a prospective purchaser discovered petroleum contamination in soils and shallow groundwater during an environmental assessment of the site. In April 1992, the Sandy Fire Department discovered potentially explosive concentrations of gasoline vapors in a storm drain downgradient from the site. In February 1994, DEQ contractors removed 13 underground storage tanks and 1,000 cubic yards of contaminated soil from the site. The site was officially designated as an Orphan by DEQ in June 1995. The project site was then listed on the Department of Environmental Quality's Environmental Cleanup Site Information Database as Site #1691. Multiple environmental investigation activities have been completed at the project site in order to evaluate the potential of environmental impacts. Below is a summary table of the work performed to date:

Summary of Environmental Site Activities

DATE	CONSULTANT	ACTIVITIES PERFORMED
01/1994	Oregon DEQ Orphan Program, RZA AGRA, Inc. and Montgomery Development Co.	Decommissioning by removal of twelve USTs from three separate cavities, soil removal and soi sampling
08/1997	Oregon DEQ	Prospective Purchaser Agreement (PPA)
11/1997	Trimatrix	Site characterization (soil sampling)
08/1998	Trimatrix	Monitoring Wells Installation
10/12/1999	Ecology and Environmental, Inc. (E&E)	Soil and groundwater sampling
02/2000	E&E	Draft Focused Risk Assessment and Beneficial Water Use Survey, Sandy Oil Company Site
02/2000	E&E	Final Focused Site Investigation Report, Sandy Oil Company
06/2000	E&E	Site characterization, soil sampling and installation of groundwater monitoring wells
06/00-08/02	E&E	Air sampling
10/2000	Trimatrix	Cleanup Action Site Assessment Work Plan
01/2002	E&E	Groundwater treatment system completed
06/2002	E&E	Sandy Oil Co., Construction Summary Report
12/2002	E&E	Sandy Oil Company Site, October 2002 Air and Groundwater Sampling Reports (a and b)
11/3/2003	Martin S. Burck & Associates	Site Investigation Report, Conceptual Site Model, and Corrective Action Plan
03/2005	Oregon DEQ	Groundwater monitoring
05/9/2005	Oregon DEQ	Draft Staff Report, Sandy Oil Purchaser Prospective Agreement and NFA proposal
04/21/2007	Oregon DEQ	NFA Finalized
05/15/2007	Oregon DEQ	Staff Report Finalized
10/16/2018	Cascade Environmental	Soil and groundwater sampling
11/02/2018	Cascade Environmental	Phase I Environmental Site Assessment
11/21/2018	Cascade Environmental	Geotechnical and environmental soil sampling

Per site investigations beginning in 1994 through 2005, the Oregon Department of Environmental Quality (DEQ) issued the No Further Action (NFA) letter stating that the nature and extent of contamination in site soil and groundwater has been adequately defined. Soil and groundwater contamination do not appear to present a significant threat to human health through direct contact under an occupational or construction/excavation worker exposure scenario. It was determined that only a limited area of the site may present a threat for direct contact under a residential exposure scenario. In the absence of any engineering or institutional controls, levels of benzene, xylenes, and gasoline in soil and groundwater at the western side of the site may present a significant risk to human health through vapor intrusion into future residential buildings in this area. Since the exceedances of occupational screening criteria are limited to two localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer

installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

The Phase I ESA identified the following RECs in connection with the Project Site that warranted further investigation:

> ***REC #1****) The NFA for the project site constitutes a HREC. Additionally, after review of the documents and data available for the project site, further investigation is warranted to ensure that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected.*
>
> ***REC #2****) Two areas of fill material were observed at the project site in the vicinity of the former tank cavities. Evidence of undocumented fill is indicative of a potential REC for the project site. Cascade Environmental recommends testing of the fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment of the site.*
>
> ***REC #3****) The cleanup on the adjacent site to the west is a HREC for the project site. Cascade Environmental recommends investigation on the western boundary, near the Mattress World site, to ensure no environmental risk exists for the project site. Additionally, due to the proximity of the project site, Cascade Environmental recommends contacting Oregon DEQ and inquiring about the unassigned regulatory status of the adjacent site.*

Phase II Executive Summary:

- For purposes of redevelopment the project site has been divided into two sections, the northern parcel and the southern parcel. The southern parcel has been slated to be redeveloped into a Dutch Bros Coffee drive through. Most of the southern portion of the site will be asphalt and landscaping with an approximate 800-square foot structure. The northern portion of the site will likely be a mixed-use development with commercial on the first floor and residential above. A vapor barrier and potentially a vapor extraction system will be installed if needed.

- A beneficial water use survey for the site was completed by DEQ's contractor under the Orphan Program (E&E, 2000). The site is zoned "Central Business District" by the City of Sandy. Acceptable site use includes Mixed Use Projects defined as developments which combine both commercial and residential uses and structures on a single lot, or as components of a single project. Residential uses not part of a commercial development and are prohibited, including rowhouses, duplexes, single family units, and multi-family housing units. The properties adjacent to the northern portion of the site are currently used for residential purposes. The beneficial land use determination concluded that it would be unlikely that the property or properties adjacent to the southern portion of the site would be used for residential purposes because they front Highway 26. However, since residential use may be allowed, residential exposure scenarios in addition to occupational and construction worker

exposure scenarios, were considered in the risk evaluation presented in the Phase II report. The beneficial water use survey indicated that the uppermost water-bearing unit at the site does not currently, or is not reasonably likely in the future, to provide a beneficial use as a water supply (E&E, 2000).

- Cascade Environmental completed a Phase II investigation on October 16th and November 21st, 2018. The Phase II investigation was completed to determine the potential environmental impacts at the project site based on the RECs discussed in the Phase I executive summary discussed above.

- Cascade Environmental advanced five (5) subsurface borings (S1 – S5) at the project site on October 16, 2018. The Phase II ESA included the advancement of four (4) borings located on the west side of the project site. Two borings (S-1 and S-2) were down gradient of the former UST Excavation #3 (area with the highest historical concentrations of contamination) and upgradient of the residential property to the west, northwest of the project site. One boring, S-3, was directly west of the former UST excavation #3. One boring, S-4, was upgradient of the former service station and former UST excavation #3. Boring S-5 is located on Parcel #2 of project site, located north of the former Sandy Oil structures and UST excavations.

- The investigation was conducted using a push-probe drill rig owned and operated by ESN Northwest. Cascade Environmental representatives observed the borings and collected soil and groundwater samples for chemical analysis. Groundwater was encountered in two soil borings during the 2018 subsurface investigations, at 26 and 30 feet in borings S-1 and S-3, respectively. Soil morphology consisted of compacted and stiff clay from approximately 5 feet to 35 feet. Due to the soil makeup, groundwater was unable to be successfully collected in the other borings completed in 2018. Generally low-level petroleum-related contamination is present across the site in both near surface and deeper soil extending to the zone of groundwater fluctuation (20 feet bgs). Groundwater flow is north to the northwest based on multiple previous subsurface investigations performed by other environmental firms.

- On November 21, 2018, Cascade Environmental accompanied RhinoOne Geotechnical to observe and collect samples at five geotechnical locations. Soil samples were collected at four of the five geotechnical locations (G-1 – G-5). G-1 was in the location of the former shop location and no evidence of contamination was observed during the geotechnical investiong. G-2 was between former UST excavation #1 and #2. G-3 was located north of the former UST excavation #3 and near the former service station location. G-4 was located in the former UST Excavation #3. G-5 was located on Parcel #2 of the project site, located north of the former Sandy Oil structures and UST excavations.

  The investigation was conducted using a direct push drill rig owned and operated by Dan J. Fischer Excavating, Inc, hired by RhinoOne Geotechnical. Cascade Environmental representatives observed the borings and collected soil samples for chemical analysis. A perched layer of groundwater was encountered in the five borings; however, samples were not able to be collected.

Phase II Results and Conclusions:

Below is a summary of the Phase II work completed by Cascade Environmental to address the Phase I RECs.

Phase I REC #1:

- The Figure 2 site layout map shows the Project Site and the vicinity of the adjacent sites as well as the locations of the former Sandy Oil structures and excavations on the Project Site. Figure 3 shows the historical sample locations and the Phase II boring locations relative to the Project Site and surrounding development. The chain-of-custody and laboratory analytical report is included in Appendix A. The confirmation sample analytical results are included in attached Tables 1, 2 and 3. Boring logs are included in Appendix B.

- Of the 42 samples submitted to Apex Laboratory, 18 soil samples and two (2) groundwater samples were analyzed. Three (3) samples were analyzed for gasoline-(GRO), diesel-(DRO) and oil-(ORO) range organics using laboratory method hydrocarbon identification screen by Northwest Total Petroleum Hydrocarbon- Hydrocarbon Identification (NWTPH-HCID). Based on field observations and laboratory detections on the submitted samples, 21 samples were run for the follow-ups, including NWTPH-Dx, NWTPH-Gx and selected volatile organic compounds by EPA 5035A/8260C.

- Three pathways exceeded risked based concentrations (RBCs) for the occupational and urban residential receptor scenario. Based on the zoning and proposed future use of the project site, the occupational and urban residential pathways were considered for the risk-based analysis for the site. The table below summarizes the findings from the environmental investigations. NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.

Risk-based Analysis

Contaminant	Contaminated Medium	Pathway	Receptor Scenario	Depth o detections
Gasoline	Soil	Occupational, Urban Residential	RBCsw	3' to 12.5'
Diesel	Soil	Urban Residential	RBCss	8' to 9'
Benzene	Groundwater	Occupational, Urban Residential	RBCtw	NA
Naphthalene	Groundwater	Occupational, Urban Residential	RBCtw	NA

Notes: RBC_{sw}- Leaching to groundwater
RBC_{ss} - Soil ingestion, dermal contact, and inhalation
RBC_{tw} - Ingestion and inhalation from tapwater
NA - not applicable

Soil ingestion, dermal contact, and inhalation (RBCss) pathway exceedances are a concern in soil down to 3 feet below ground surface (bgs). The diesel exceedances were detected at 8' and 9', therefore eliminating these risk-based concern of these exceedances.

Ingestion and inhalation from tapwater (RBC_{tw}) pathway exceedances are a concern where groundwater is used. The project site and surrounding sites in the vicinity are on city water. The closest water well downgradient from the project site is approximately 1/2-mile from the project site, therefore eliminating the risk-based concern of these exceedances.

Leaching to groundwater (RBC_{sw}) pathway exceedances are a concern where contaminated soil is above the groundwater. Historic and recent subsurface investigations encountered water as shallow as 20 feet bgs, with seasonal static water levels ranging between 20 to 40 feet bgs. Exceedances for this pathway occurred down to 12.5 feet bgs, therefore eliminating the risk-based concern of these exceedances. Additionally, the project site and surrounding sites in the vicinity are on city water. The beneficial water use survey indicated that the uppermost water-bearing unit at the site does not currently, or is not reasonably likely in the future, to provide a beneficial use as a water supply.

Phase I REC #2:

- Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" bgs. No visual or olfactory indications of PCS were identified during the environmental investigation. Based on field observations samples were not analyzed.

Phase I REC #3:

- Cascade Environmental contacted the Oregon DEQ to clarify the significance of the unassigned status. On November 8, 2018, Ash Desmond, a Natural Resource Specialist with DEQ's heating oil tank program, responded to Cascade Environmental's inquiry. He stated that although there is a report, the owner of the site had not paid the fees for a DEQ review and there is no site diagram. He stated that the site may need to be re-evaluated for closure by a licensed UST decommissioner, but that it does not look like there was a lot of contamination at the site, and the tank was removed from the property.

Phase II Environmental Investigation Results and Recommendations:

- *Phase I REC #1 - thirteen (13) decommissioned underground storage tanks (ECSI #1691), historical removal of 1000-cubic yards of Petroleum Contaminated Soil (PCS), and 2007 DEQ issued NFA status for the Project Site. The NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.*

  Phase II Investigation Results – RBCs were exceeded for three pathways, for the occupational and urban residential receptor scenario. The risk-based analysis determined that the three pathways (RBC_{sw}, RBC_{ss} and RBC_{tw}) were not applicable for the project site, therefore the exceedances are not an environmental concern for the project site. The NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to site development.

  Recommendation – A contaminated media management plan (CMMP) should be completed for the project site and approved by DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.

- *Phase I REC #2 – Undocumented fill in the vicinity of the former UST excavation #3 and #1.*

  Phase II Investigation Results – Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" bgs. No visual or olfactory indications of PCS were identified during the environmental investigation. Based on field observation samples were not analyzed.

Recommendation – A CMMP should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.

- *Phase I REC #3– Potential environmental impact related to the historical cleanup adjacent to the Mattress World site, to the west of the project site.*

  Phase II Investigation Results – Oregon DEQ was contacted, and the status of the site was verified. Due to the removal of the historic tank and PCS, the status of the site does not pose an environmental concern to the project site.

  Recommendation – None.

REPORT CONCLUSION

Based on the results of this Report, it is our opinion that the following occur:

Recommendation – A CMMP should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during excavation activities.

We appreciate the opportunity to be of service to you. Please contact us if you have questions regarding this report.

Sincerely,
Cascade Environmental Solutions

Jennifer Levy
Principal

J Levy

Brent Bergeron, R.G.
Registered Geologist

Brent Bergeron

Expires 5/31/19

TABLE OF CONTENTS

TABLES WITHIN THE REPORT

FIGURES

TABLES

APPENDICES

ACRONYMS

ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability System
CFR	Code of Federal Regulations
CRB	Columbia River Basalt
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Sit Information Database
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
FR	Federal Register
LUST	Leaking Underground Storage Tank
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
NWI	The National Wetland Inventory
PCB	Polychlorinated Biphenyl
PCS	Petroleum Contaminated Soil
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RPSPILLS	Environmental Response Program Spills
SPILLS	Hazmat/Incidents Database
TPH	Total Petroleum Hydrocarbons
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Cascade Environmental Solutions (Cascade Environmental) has prepared this Phase II Environmental Site Assessment (ESA) report for the Project Site located at 39625 Proctor Boulevard in Sandy, Oregon (Project Site). Cascade Environmental prepared a Phase I for the Project Site in October 2018. The Phase I ESA identified recognized environmental conditions (RECs) in connection with the Project Site that warranted further investigation. The Phase II activities presented in this report were conducted to evaluate potential petroleum impacts to the subsurface soils and potential soil vapor impacts at the Project Site. The sampling methods and procedures described in this Phase II ESA report were conducted in accordance with current Oregon Department of Environmental Quality (DEQ) guidance. Definitions of all acronyms used in this report are included after the Table of Contents.

1.1 SITE LOCATION & DESCRIPTION

According to City of Sandy records, the former Sandy Oil project site is a vacant commercial lot in the city of Sandy, Oregon in Clackamas County. The project site is a 0.65-acre (27,639 sq. ft) lot. It fronts both Highway 26 (Proctor) and Pleasant Street in downtown Sandy. The property is located in Section 13, Township 2 South, Range 4 East of the Willamette Meridian.

Development in the project site's immediate vicinity is a mixture of residential, light commercial and retail. Adjacent to the west, at the corner of Proctor and SE Ten Eyck Road, sits a small retail complex with a 7-Eleven convenience store and a Money Gram storefront. Adjacent to the east is a Mattress World. One residence is located northeast of the project site and another sits northwest of the project site. A funeral home and houses are located across Pleasant Street. Directly across Proctor Boulevard is a landscaped street median and a small one-way turning lane on Proctor. Southwest, across Proctor is an ARCO gas station and convenience store. See Figure 2 for site map details.

The City of Sandy has a population of approximately 10,855 people in a total area of 3.14 square miles. The Mt. Hood Scenic Byway (Highway 26) winds through town, once a stopover on the last leg of the Oregon Trail. The city is considered to be on the eastern edge of the Portland Metro area.

The Project Site is zoned C-1 (Central Business District). According to the City of Sandy Municipal Code, this district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. This district is not intended for intensive automobile or industrial uses. This commercial district is intended for civic uses and to provide all basic services and amenities required to keep the downtown the vital center of the community. While the district does not permit new low-density building types, it is not intended to preclude dwelling units in buildings containing commercial activities. All development and uses shall be consistent with the intent of the district, as well as compatible with the space, access and exposure constraints and opportunities of the central city.

The location of the Project Site is shown relative to surrounding physical features on Figure 1. The location of the project site relative to the surrounding properties is shown on Figure 2. Sample locations are shown on Figure 3. Definitions of all acronyms used in this report are attached after the Table of Contents.

1.2 PHYSICAL SETTING

The site lies on the eastern edge of the Portland Basin. The northwest-trending Portland Basin was formed by structural deformation of the underlying Eocene and Miocene volcanic and marine sedimentary rocks. Late Miocene and younger fluvial and lacustrine sediments are overlain by unconsolidated Pleistocene Missoula Flood deposits and Holocene Columbia River alluvium.

The soil in the area is categorized as Cazadero Silty Clay Loam. The Cazadero series consists of deep, well drained soils that formed in colluvium. The basin in general is filled with pleistocene to recent sedimentary formations overlying Columbia River Basalt (CRB). The uppermost deposits at the site consist of approximately 50 feet of silt and clay which have a low water-bearing capacity and generally are not suitable for water supply.

The site is underlain by approximately 2 feet of sandy gravel fill underlain by low to medium plasticity silty clay to approximately 25 feet bgs. Compacted native clay was encountered beneath the silty clay from approximately 25 feet to approximately 41 feet, the total depth explored at the site.

Groundwater gradient varies between west-northwest and northwest at a hydraulic gradient of approximately 0.05 feet-per-foot. Historic subsurface investigations encountered water as shallow as 20 feet below ground surface (bgs), with seasonal static water levels ranging between 20 to 40 feet bgs. United States Geological Survey indicates seasonally high groundwater depths between 160-180 feet bgs in the city of Sandy.

The closest body of water is Cedar Creek, an offshoot of the Sandy River, approximately 2,000 feet to the north-northeast. The Sandy River sits approximately one mile to the north and is sourced in the glaciers of Mt. Hood.

The project site sits in the Sandy River basin and The Sandy River Watershed. The Bull Run River, an important tributary of the Sandy, serves as the City of Portland's water supply providing high quality drinking water for over 800,000 people. After a 56-mile journey the Sandy River flows into the Columbia River near the City of Troutdale. In 2007 and 2008, two dams were removed from the river's tributaries, making the Sandy a free-flowing river from its headwaters to the Columbia River.

The property is located approximately 1016 ft above sea level. The closest body of water is Cedar Creek, an offshoot of the Sandy River, approximately 2,000 feet to the north-northeast. The topography in the area has between 0 to 7 percent slopes.

1.3 BENEFICIAL LAND AND WATER USE DETERMINATIONS

A beneficial water use survey for the site was completed by DEQ's contractor under the Orphan Program (E&E, 2000). The site is zoned "Central Business District" by the City of Sandy. Acceptable site use includes Mixed Use Projects defined as developments which combine both commercial and residential uses and structures on a single lot, or as components of a single project. Residential uses not part of a commercial development and are prohibited, including rowhouses, duplexes, single family units, and multi-family housing units. The properties adjacent to the northern portion of the site are currently used for residential purposes. The beneficial land use determination concluded that it would be unlikely that the property or properties adjacent to the southern portion of the site would be used for residential purposes because they front Highway 26. However, since residential use may be allowed, residential exposure scenarios in addition to occupational and construction worker exposure scenarios, were considered in the risk evaluation presented in the Phase II report. The beneficial water use survey indicated that the uppermost water-bearing unit at the site does not currently, or is not reasonably likely in the future, to provide a beneficial use as a water supply (E&E, 2000).

1.4 SITE HISTORY

Historical aerial photos, historical topographic maps, city directory abstracts and historical correspondence were reviewed for the Phase II assessment. No historical Sanborn fire insurance maps were available for the site.

The site was used as a bulk petroleum storage and retail service station from the 1930s through the 1980s and was abandoned in 1989. Sandy Oil Company operated a petroleum bulk storage facility and retail service station at the project site, leaving behind 13 underground storage tanks (USTs) containing unknown amounts of diesel, gasoline, and heating fuel oil.

In February 1989, a prospective purchaser discovered petroleum contamination in soils and shallow groundwater during an environmental assessment of the site. In October 1991, a seepage of groundwater with petroleum odor was noted emanating from a retaining wall at the Ogden residence immediately northwest of the former Sandy Oil site. A sample of the water was analyzed for petroleum hydrocarbons, and degraded gasoline and diesel range petroleum hydrocarbons were identified. Diesel was identified in the soil at up to 31,000 parts per million (ppm). Gasoline was identified in the soil up to 5,300 ppm.

In February 1994, DEQ contractors removed 13 USTs and 1,000 cubic yards of contaminated soil from the site. The soil was transported to Marion County for treatment in a thermal desorption unit. Funding for this removal came from the Orphan Site Account (the site was officially designated as an Orphan in June 1995). The project site was listed on the DEQ Environmental Cleanup Site Information Database as Site #1691.

In June 1999, DEQ retained Ecology & Environment (E&E) to conduct a Site Investigation and Removal Assessment of groundwater contamination. Benzene and other gasoline constituents were found to be migrating off-site in groundwater. Low levels of benzene were also found in the indoor air of an adjacent residential property to the northwest. DEQ installed a vapor barrier at the residence to address the vapor problem. In June 2001, DEQ installed a groundwater treatment system at the site. The evaluation of site soils (to fulfill term of the PPA) was completed in September 2003 with the result that additional information was needed to evaluate a possible risk of vapor migration from soils to indoor air (commercial). Soil vapor sampling was proposed as the best way to assess the risk posed by remaining site soils. The question of whether engineering controls would be needed due to remaining GW contamination (DEQ's responsibility) was a complicating factor, along with the property owner's uncertainty about how to proceed. The Vapor Extraction System/air sparging system was shut down in early 2004 after groundwater concentrations were dramatically reduced on site and in down-gradient groundwater monitoring wells. In October 2004 samples, groundwater concentrations were around the residential vapor intrusion RBC, and were well below occupational RBCs.

In April 2007, the Oregon DEQ issued the NFA letter stating that the nature and extent of contamination in site soil and groundwater has been adequately defined. Soil and groundwater contamination does not appear to present a significant threat to human health through direct contact under an occupational or construction/excavation worker exposure scenario. ***It was determined that only a limited area of the site may present a threat for direct contact under a residential exposure scenario. In the absence of any engineering or institutional controls, levels of benzene, xylenes, and gasoline in soil and groundwater at the western side of the site may present a significant risk to human health through vapor intrusion into future residential buildings in this area. Since the exceedances of occupational screening criteria are limited to two localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.***

In 2015, DEQ stated that *groundwater usage for purposes other than construction de-watering is prohibited. Any water generated during construction dewatering activities will be subject to management and disposal in accordance with all applicable local, county, state and federal requirements.*

1.5 CURRENT USE OF PROJECT SITE

The project site is currently an undeveloped lot.

1.6 ADJACENT PROPERTY LAND USE

The project site fronts both Proctor Boulevard and Pleasant Street, in a largely commercial section of the City of Sandy. Residences and light industrial spaces also populate the area.

All County Surveyors & Planners, Inc. is located just east of the home care business, at the corner of SE Ten Eyck Road and Pleasant. On the western corner of the block, beyond Mattress World, is a 76-gas station and convenience store. Table A below summarizes the adjacent property uses.

TABLE A: Adjacent Property Uses

LOCATION	ADDRESS	OCCUPANT OR USE
East	39695 Proctor Blvd	7-Eleven and MoneyGram
South	39555 Pioneer Blvd	Proctor Boulevard and a landscaped traffic median, just west of which is an ARCO gas station with convenience store
West	39565 Proctor Blvd	Mattress World Northwest
Northwest	39560 Pleasant St	Four-bedroom house
Northeast	39630 Pleasant St	Sandy Home Care Services, Inc.

2.0 BACKGROUND

A Phase I ESA was prepared for the Project Site by Cascade Environmental in October 2018 (Phase I Environmental Site Assessment – Former Sandy Oil, October 2018). The Phase I report is available upon request. The Phase I ESA identified the following RECs associated with the Project Site:

1) The NFA for the project site constitutes a HREC. Additionally, after review of the documents and data available for the project site, further investigation is warranted to ensure that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected.

2) Two areas of fill material were observed at the project site in the vicinity of the former tank cavities. Evidence of undocumented fill is indicative of a potential REC for the project site. Cascade environmental recommends testing of the fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment of the site.

3) The cleanup on the adjacent site to the west is a HREC for the project site. Cascade Environmental recommends investigation on the western boundary, near the Mattress World site, to ensure no environmental risk exists for the project site. Additionally, due to the proximity of the project site, Cascade Environmental recommends contacting Oregon DEQ and inquiring about the unassigned regulatory status of the adjacent site.

3.0 SCOPE OF SERVICES

The general scope of work for the Phase II ESA at the Project Site was to investigate specific RECs identified in the Phase I ESA. The purpose of the Phase II investigation was to evaluate potential petroleum impacts to the subsurface soils and groundwater, and potential soil vapor impacts at the Project Site. The sampling methods and procedures described in this Phase II ESA report were conducted in accordance with current Oregon DEQ guidance.

Specifically, the objective of the Phase II investigation was to evaluate the RECs identified in the October 2018 Phase I ESA, including: (1) the historical activities at the project site and the remaining contamination covered in the 2007 NFA; (2) evaluate fill material areas observed at the project site; and (3) evaluate the impacts of the historical activities and respective cleanups on the project site and the adjacent site to the west. The scope included the following tasks: completion of a geophysical survey; private and public utility notification; subsurface soil, vapor and groundwater testing, and completion of this Phase II ESA report.

3.1 REGULATORY COMPLIANCE

The environmental site investigation activities were conducted in accordance with current Oregon DEQ guidance and Oregon Administrative Rules (OAR) Chapter 340, Division 122 Hazardous Substance Remedial Action Rules. These rules establish the standards and procedures to be used under Oregon Revised Statutes 465.200 through 465.455 and 465.900 for the determination of removal and remedial action necessary to assure protection of the present and future public health, safety and welfare, and the environment in the event of a release or threat of a release of a hazardous substance.

3.2 PHASE II ESA

Cascade Environmental completed a Phase II investigation on October 16, 2018 and November 21, 2018. The Phase II investigation was completed to determine the potential environmental impacts at the project site based on the RECs identified in the Phase I for the project site.

Cascade Environmental advanced five (5) subsurface borings (S1 – S5) at the Project Site on October 16, 2018. Boring locations are shown relative to the Project Site and surrounding development on Figure 3. The chain-of-custody and laboratory analytical report is included in Appendix A. The confirmation sample analytical results are included in attached

Tables 1-3.

3.2.1 Underground Utility Location

Cascade Environmental arranged to have underground utilities located and marked prior to collecting subsurface soil samples. On October 11, 2018 at 14:00, Cascade Environmental contacted Oregon One Call), who in turn notified the various utilities in the area to mark any underground installations in the vicinity of the site; One Call Ticket # 18278008.

3.2.2 Geophysical Survey

A geophysical survey was completed at the Project Site by Locates Down Under, Inc. (Locates) at noon on Monday October 15, 2018. Utilizing ground penetrating radar (GPR) and a magnetic gradiometer, Locates Down Under performed a private utility locate and tank sweep. Locates Down Under swept the area and found some debris, but no utilities or underground anomalies were found.

3.2.3 Subsurface Investigation

Cascade Environmental advanced five (5) subsurface borings (S1 – S5) at the project site on October 16, 2018. The Phase II ESA included the advancement of four (4) borings located on the west side of the project site. Two borings (S-1 and S-2) were down gradient of the former UST Excavation #3 (area with the highest historical concentrations of contamination) and upgradient of the residential property to the west, northwest of the project site. One boring, S-3, was directly west of the former UST excavation #3. One boring, S-4, was upgradient of the former service station and former UST excavation #3. Boring S-5 is located on Parcel #2 of project site, located north of the former Sandy Oil structures and UST excavations.

The investigation was conducted using a push-probe drill rig owned and operated by ESN Northwest. Cascade Environmental representatives observed the borings and collected soil samples for chemical analysis. Groundwater was collected in two borings where it was encountered. Due to the geology of the site (dense clay) groundwater was extremely slow to recharge for sample collection.

On November 21, 2018, Cascade Environmental accompanied RhinoOne Geotechnical to observe and collect samples at five geotechnical locations. Samples were collected at four of the five geotechnical sample locations (G-2, G-3, G-4 and G-5). G-1 was in the location of the former shop location and no evidence of contamination was observed during the geotechnical sample. G-2 was between former UST excavation #1 and #2. G-3 was located north of the former UST excavation #3 and near the former service station location. G-4 was located in the former UST excavation #3. G-5 was located on Parcel #2 of project site, located north of the former Sandy Oil structures and UST excavations.

The investigation was conducted using a direct push drill rig owned and operated by Dan J Fischer Excavating, Inc, hired by RhinoOne Geotechnical. Cascade Environmental representatives observed the borings and collected soil samples for chemical analysis. Groundwater was not encountered in the five borings.

Below is Table B, describing the current borings sampled during this Phase II investigation, the sample IDs of the historical samples previously collected and the date they were collected, the matrix that this Phase II investigation focused, and the Phase I REC associated with the related boring. Groundwater was encountered in two soil borings during the 2018 subsurface investigations, at 26 and 30 feet in borings S-1 and S-3, respectively. Soil morphology consisted of compacted and stiff clay from approximately 3 feet to 35 feet. Due to the soil makeup groundwater was unable to be successfully collected in the other three (3) borings or in the geotechnical borings. Generally low-level petroleum-related contamination is present across the site in both near surface and deeper soil extending to the zone of groundwater fluctuation (~20 feet deep). Boring logs are included in Appendix B.

TABLE B: Boring Sample Data

Boring ID	Previous Sample IDs/ Date of Sample in Vicinity of Boring	Matrix Analyzed	Associated REC
S-1	SB-20 (Nov. 2000)	Soil, soil vapor, and groundwater depth 26'	Groundwater downgradient from former Sandy Oil cleanup and former UST Excavation #3 located on Project Site.
S-2	SW-N West (Jan. 1994) MW-7 (Aug. 1998 SB-4 (Nov. 2000)	Soil and soil vapor No groundwater encountered	Soil directly downgradient of the former UST Excavation #3 located at the Project Site. Soil near the Mattress World site to the west and upgradient of the residence located to the northwest of the project site.
S-3	SB-17 (Nov. 2000) MW-6 (Aug. 1998	Soil, soil vapor, and groundwater depth at 30'	Soil directly west of the former UST Excavation #3. Soil adjacent to the Mattress World site to the west and upgradient to the residence located to the northwest of the project site.
S-4	SB-16 (Nov. 2000) MW-10 (Aug. 1998)	Soil and soil vapor No groundwater encountered	Soil upgradient of the former service station and former UST excavation #3.
S-5	SB-19 (Nov. 2000)	Soil and soil vapor No groundwater encountered	Soil located on Parcel #2 of project site, located north of the former Sandy Oil structures and UST excavations.
G-2	SB-7 (Nov. 2000) GP-2A (Oct. 1999)	Soil No groundwater encountered	Soil between former UST excavation #1 and excavation #2
G-3	SB-13 (Nov. 2000) SW-South (Jan.1994)	Soil No groundwater encountered	Soil north of the former UST excavation #3 and near the former service station location
G-4	SB-3 (Oct. 1999)	Soil No groundwater encountered	Soil located in the former UST Excavation #3
G-5	SB-19 (Nov. 2000) S-5 (Oct. 2018)	Soil No groundwater encountered	Soil located on Parcel #2 of project site, located north of the former Sandy Oil structures and UST excavations.

Figure 2 shows the site layout map with the project site and the vicinity of the adjacent sites as well as the locations of the former Sandy Oil structures and excavations on the project site. Figure 3 shows the historical sample locations and the Phase II boring locations relative to the project site and surrounding development. The chain-of-custody and laboratory analytical report is included in Appendix A. The confirmation sample analytical results are included in attached Tables 1, 2 and 3.

3.2.4 Sample Collection

The subsurface investigation included the advancement of five borings. All soil samples were collected using nitrile gloves and placed into new laboratory provided jars with Teflon-lined lids. The samples were placed into a cooler with ice and transported to Apex Laboratory in Tigard, Oregon following industry standard chain-of-custody procedures. Soil cuttings from the drilling operations were placed into an 18-gallon drum for proper disposal.

A summary of the laboratory analytical results reported above the laboratory method reporting limits is provided in the table below. Laboratory analytical reports are included in Table 1 attached and Appendix A attached.

Of the 42 samples submitted to Apex Laboratory, 18 soil samples and two (2) groundwater samples were analyzed. Three (3) samples were analyzed for gasoline-(GRO), diesel-(DRO) and oil-(ORO) range organics using laboratory method hydrocarbon identification screen by Northwest Total Petroleum Hydrocarbon (TPH)- Hydrocarbon Identification (NWTPH-HCID). Based on field observations and laboratory detections on the submitted samples, 21 samples were run for the follow-ups, including NWTPH-Dx, NWTPH-Gx and selected volatile organic compounds by EPA 5035A/8260C. Table C below summarizes the TPH sample results for soil, and the comparison to the RBCs for the most applicable stringent pathway, Urban Residential.

Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" bgs. No visual or olfactory indications of PCS were identified during the environmental investigation. Based on field observations, samples were not submitted for laboratory analysis.

Table C: Method NWTPH-HCID

Sample ID & Sample Depth (feet bgs)	Gasoline	Diesel	Oil
	ND= No detection; DET detection; NA= Not analyzed		
OCTOBER 2018 SAMPLES			
S-1-3'	210	645	67
S-1-5'	1090	1450	92
S-2-3'	ND	NA	NA
S-2-10'	80.9	385.0	ND
S-2-12.5'	986	NA	NA
S-4-10'	45.4	71.6	ND
S-5-8'	1060	3000	180
NOVEMBER 2018 SAMPLES			
G3-15'	ND	ND	ND
G4-11'	66	397	ND
G4-9'	592	3920	ND
G5-7.5'	ND	DET	ND
G5-8'	ND	364	ND
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential			
RBCss - Soil Ingestion, Dermal Contact, and Inhalation	2,500	2,200	5,700
RBCSO - Volatilization to Outdoor Air	5,900	>Max	>Max
RBCsi - Vapor Intrusion into Buildings	>Max	>Max	>Max
RBCSW - Leaching to Groundwater	31	9,500	> Max
RBCss - Construction Worker	9,700	4,600	11,000
RBCss - Excavation Worker	>Max	>Max	>Max

Of the 42 samples submitted to Apex Laboratory, 18 soil samples and two (2) groundwater samples were analyzed. Three (3) samples were analyzed for gasoline-(GRO), diesel-(DRO) and oil-(ORO) range organics using laboratory method hydrocarbon identification screen by Northwest Total Petroleum Hydrocarbon- Hydrocarbon Identification (NWTPH-HCID). Based on field observations and laboratory detections on the submitted samples, 21 samples were run for the follow-ups, including NWTPH-Dx, NWTPH-Gx and selected volatile organic compounds by EPA 5035A/8260C.

Three pathways exceeded risked based concentrations (RBCs) for the occupational and urban residential receptor scenario. Based on the zoning and proposed future use of the project site, the occupational and urban residential pathways were considered for the risk-based analysis for the site. Table D below summarizes the findings from the environmental investigations.

Table D: Risk-Based Analysis

Contaminant	Contaminated Medium	Pathway	Receptor Scenario	Depth of detections
Gasoline	Soil	Occupational, Urban Residential	RBCsw	3' to 12.5'
Diesel	Soil	Urban Residential	RBCss	8' to 9'
Benzene	Groundwater	Occupational, Urban Residential	RBCtw	NA
Naphthalene	Groundwater	Occupational, Urban Residential	RBCtw	NA

RBC_{sw}- Leaching to groundwater
RBC_{ss} - Soil ingestion, dermal contact, and inhalation
RBC_{tw} - Ingestion and inhalation from tapwater
NA - not applicable

Soil ingestion, dermal contact, and inhalation (RBCss) pathway exceedances are a concern in soil down to 3 feet below ground surface (bgs). The diesel exceedances were detected at 8' and 9', therefore eliminating these risk-based concern of these exceedances.

Ingestion and inhalation from tapwater (RBC_{tw}) pathway exceedances are a concern where groundwater is used. The project site and surrounding sites in the vicinity are on city water. The closest water well downgradient from the project site is approximately 1/2-mile from the project site, therefore eliminating the risk-based concern of these exceedances.

Leaching to groundwater (RBC_{sw}) pathway exceedances are a concern where contaminated soil can impact groundwater. Historic and recent subsurface investigations encountered water as shallow as 20 feet bgs, with seasonal static water levels ranging between 20 to 40 feet bgs. Additionally, as stated above, the project site and surrounding sites in the vicinity are on city water. The beneficial water use survey indicated that the uppermost water-bearing unit at the site does not currently, or is not reasonably likely in the future, to provide a beneficial use as a water supply.

Per prior site investigations and the 2018 Phase II investigations the nature and extent of contamination in site soil and groundwater has been adequately defined. Soil and groundwater contamination do not appear to present a significant threat to human health through direct contact under an occupational or construction/excavation worker exposure scenario. It was determined that only a limited area of the site may present a threat for direct contact under a residential exposure scenario. In the absence of any engineering or institutional controls, levels of benzene, xylenes, and gasoline in soil and groundwater at the western side of the site may present a significant risk to human health through vapor intrusion into future residential buildings in this area. Since the exceedances of occupational screening criteria are limited to two localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer

installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

3.2.5 PHASE I REC - HISTORICAL ADJACENT CLEANUP

Cascade Environmental contacted the Oregon DEQ to clarify the significance of the unassigned status. On November 8, 2018, Ash Desmond, a Natural Resource Specialist with DEQ's heating oil tank program, responded to Cascade Environmental's inquiry. He stated that although there is a report, the owner of the site had not paid the fees for a DEQ review and there is no site diagram. He stated that the site may need to be reevaluated for closure by a licensed service provider, but that it does not look like there was a lot of contamination at the site, and the tank was removed from the property.

3.3 PHASE II ESA INVESTIGATION RESULTS AND RECOMMENDATIONS

The below sections summarize the RECs discovered in the Phase I ESA, the Phase II investigation results and the final recommendation for the relative RECS.

3.3.1 PHASE I REC - Historical NFA at the Project Site

In February 1993, thirteen (13) underground storage tanks were decommissioned (ECSI #1691), and 1000-cubic yards of PCS was removed from the project site. In 2007, DEQ issued no further action (NFA status) for the project site. The NFA letter stated that the property may not be used for residential purposes unless the owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrates their effectiveness. Future buildings are restricted to slab-on-grade construction. In addition, a soil management plan must be prepared prior to any site development.

Phase II Investigation Results – RBCs were exceeded for three pathways (RBC_{SW}, RBC_{SS} and RBC_{TW}), for the occupational and urban residential receptor scenario. The risk-based analysis determined that the three pathways were not applicable for the project site, therefore the exceedances are not an environmental concern for the project site.

It is recommended that a contaminated media management plan (CMMP) should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.

Since the exceedances of occupational screening criteria are limited to localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

3.3.2 PHASE I REC - UNDOCUMENTED FILL

Undocumented fill exists at the project site in the vicinity of the former UST excavation #3 and UST excavation #1.

Phase II Investigation Results – Grab samples were collected in the fill areas near the former UST excavation areas #1 and #3, down to approximately 18" bgs. No visual or olfactory indications of PCS were identified during the environmental investigation. Based on field observations samples were not analyzed.

It is recommended that a CMMP should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during development activities.

3.3.3 PHASE I REC - ADJACENT HISTORICAL UNDERGROUND TANK

A potential environmental impact for the project site exists related to the historical cleanup adjacent to the Mattress World site, to the west of the project site.

Phase II Investigation Results – Oregon DEQ was contacted, and the status of the site was verified. Due to the removal of the historic tank and PCS, the status of the site does not pose an environmental concern to the project site.

There is no recommendation or follow-up required for this REC at this time.

REPORT CONCLUSION

Based on the results of this Report, it is our opinion that a CMMP should be completed for the project site and approved by the Oregon DEQ prior to development at the site. The CMMP should be used during development to handle any potentially contaminated media encountered during excavation activities. Since the exceedances of occupational screening criteria are limited to localized samples, the site appears protective for occupational use. Residential use may be allowed provided the property owner/developer installs vapor barriers to control the vapor intrusion pathway and demonstrate their effectiveness.

4.0 NATURE AND EXTENT OF CONTAMINATION

This section summarizes the current understanding of the nature and extent of residual soil and groundwater contamination following completion for remedial measures for groundwater at the facility.

4.1 SOIL

Generally low-level petroleum-related contamination is present across the site in both near surface and deeper soil extending to the zone of groundwater fluctuation (~20 feet deep). The highest levels of residual gasoline and related soil contamination occurs in deeper soil (>10 feet) in the former UST excavation #3 area (Figure 3). This contamination is represented by recent samples S-2, S-3 and G-4, and historical samples SW-N West, MW-3, and SB-15. The gasoline related contamination has been well defined through soil observation and analysis.

4.2 GROUNDWATER

Contaminants of concern for potentially complete exposure pathways are limited to benzene based on recent and historical sampling results, with vapor intrusion exposure pathway being the potential exposure route of greatest concern. Groundwater contamination in the upper aquifer extends off-site to the northwest to a limited distance.

Concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) showed a substantial decrease following groundwater treatment described above and natural attenuation and biodegradation from former sampling events. All concentrations in nearby historical groundwater sample locations and recent 2018 samples decreased as indicated by Table E below. All recent sample results were either non-detect or below detection limits for all occupational and urban residential screening criteria, for all pathways except for tap water. Additionally, previous vapor intrusion exceedances dropped below screening criteria in recent 2018 samples collected for BTEX.

Table E: Groundwater Sample Results - Total Petroleum Hydrocarbons & BTEX+N

2018 Sample I.D.	Nearest Historic Sample ID	VOCs by EPA Method 8260B (µg/L)									
		Benzene Historic High	Benzene October 2018	Ethyl-benzene Historic High	Ethyl-benzene October 2018	Toulene Historic High	Toluene October 2018	Xylenes-total Historic High	Xylenes-total October 2018	Naphthalene Historic High	Naphthalene October 2018
S-1-GW	MW 7	***1850***	***3.9***	***7.7***	ND	4.5	ND	86.0	ND	***200***	***4.6***
S-3-GW	MW 6	***3110***	**0.36**	***1600***	ND	***11000***	ND	***7900***	ND	***460***	ND
CURRENT Risk-Based Concentrations for Groundwater Pathways (ug/L) - Occupational											
RBCtw		2.1		6		6300		830		0.7	
RBCvo		14000		43000		>S		>S		16000	
RBCvi		2800		8200		>S		>S		11000	
Risk-Based Concentrations for Groundwater Pathways (ug/L) - Urban Residential											
RBCtw		2		7		4400		710		1	
RBCvo		7400		23000		>S		>S		8500	
RBCvi		510		1500		>S		86000		2000	
RBCve		1800		4500		220000		23000		500	

Notes: ND = Analyte NOT DETECTED at or above the reporting limit.

mg/L = micrograms per Liter; ppm = parts per million.

Bold indicates analyte was detected. RBCwi - Vapor Intrusion into Buildings

Shaded cells indicate the analyte exceeded one or more DEQ RBC.

NA- not analyzed / not available RBCwO - Volatilization to Outdoor Air

RBCtw - Ingestion & Inhalation from Tapwater

5.0 LIMITATIONS AND QUALIFICATIONS

While this Phase II Environmental Site Assessment study prepared for the Project Site addressed at 39625 Proctor Boulevard in Sandy, Oregon (the Project Site) has been a judiciously thorough attempt to investigate the potential presence of contamination at the Project Site, the possibility remains that additional sources of contamination have escaped detection due to the limitations of this study, the inaccuracy of governmental records, and the presence of undetected and unreported environmental incidents. Cascade Environmental reserves the right to alter our findings based on our review of any information obtained and reviewed subsequently following the date of this report.

The professional services of Cascade Environmental have been performed using the degree of care and skill ordinarily exhibited, under similar conditions, by reputable environmental consultants practicing in this or comparable localities. No additional warranty, expressed or implied, is made as to the professional information included in this report. Should you have any questions regarding this report, please contact our office at (503) 805-4846.

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FIGURES

Figure 1 Vicinity Map

Figure 2 Site Plan

Figure 3 Site Map with Boring Locations

Figure 4 Site Photographs

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 1- Sandy Oil Vicinity Map	October 5, 2018
	PHASE I ENVIRONMENTAL SITE ASSESSMENT 39625 PROCTOR BOULEVARD SANDY, OREGON 972055	Jennifer Levy

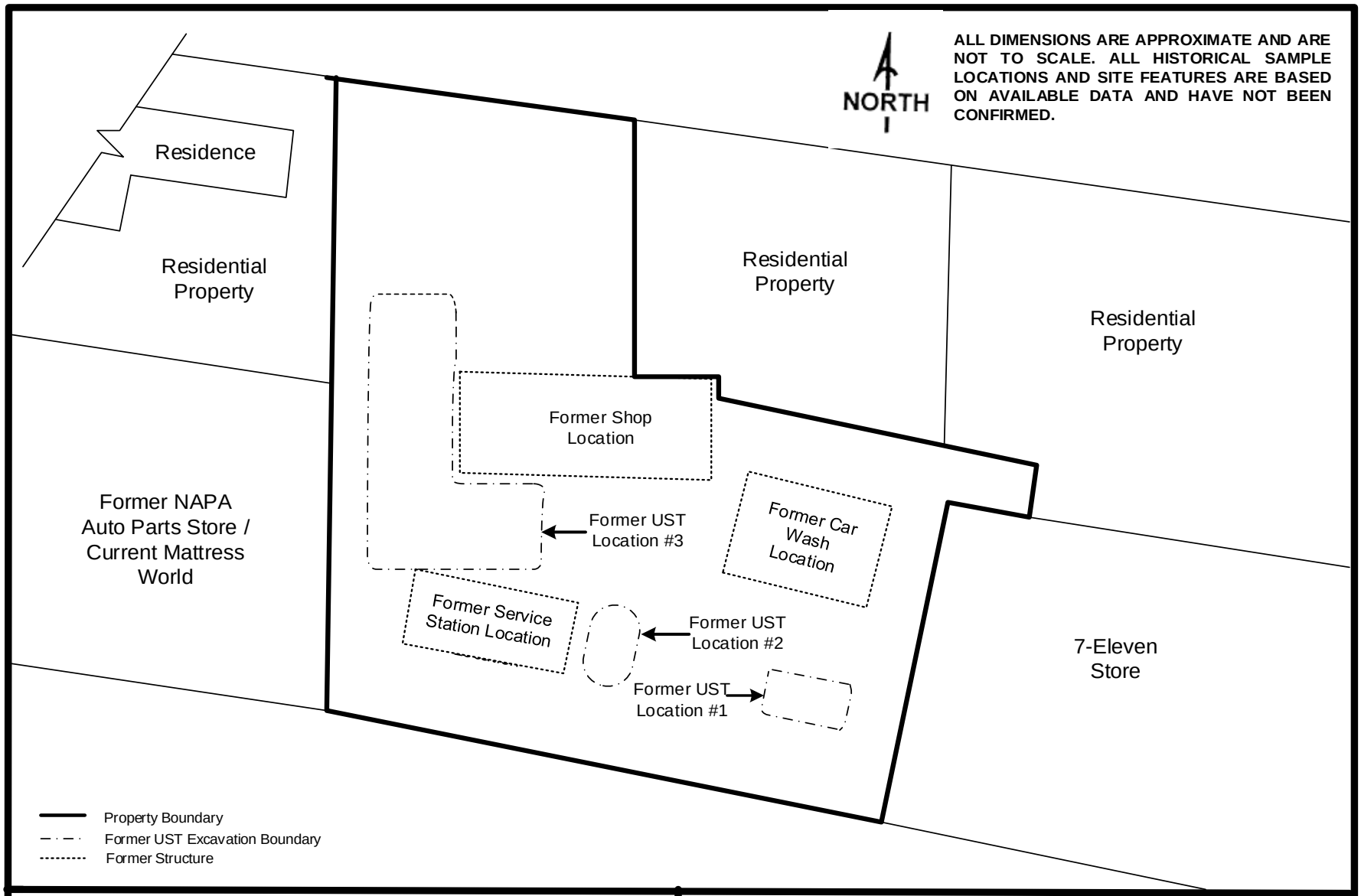

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FIGURE 2 SITE LAYOUT MAP

FORMER SANDY OIL
SANDY, OREGON

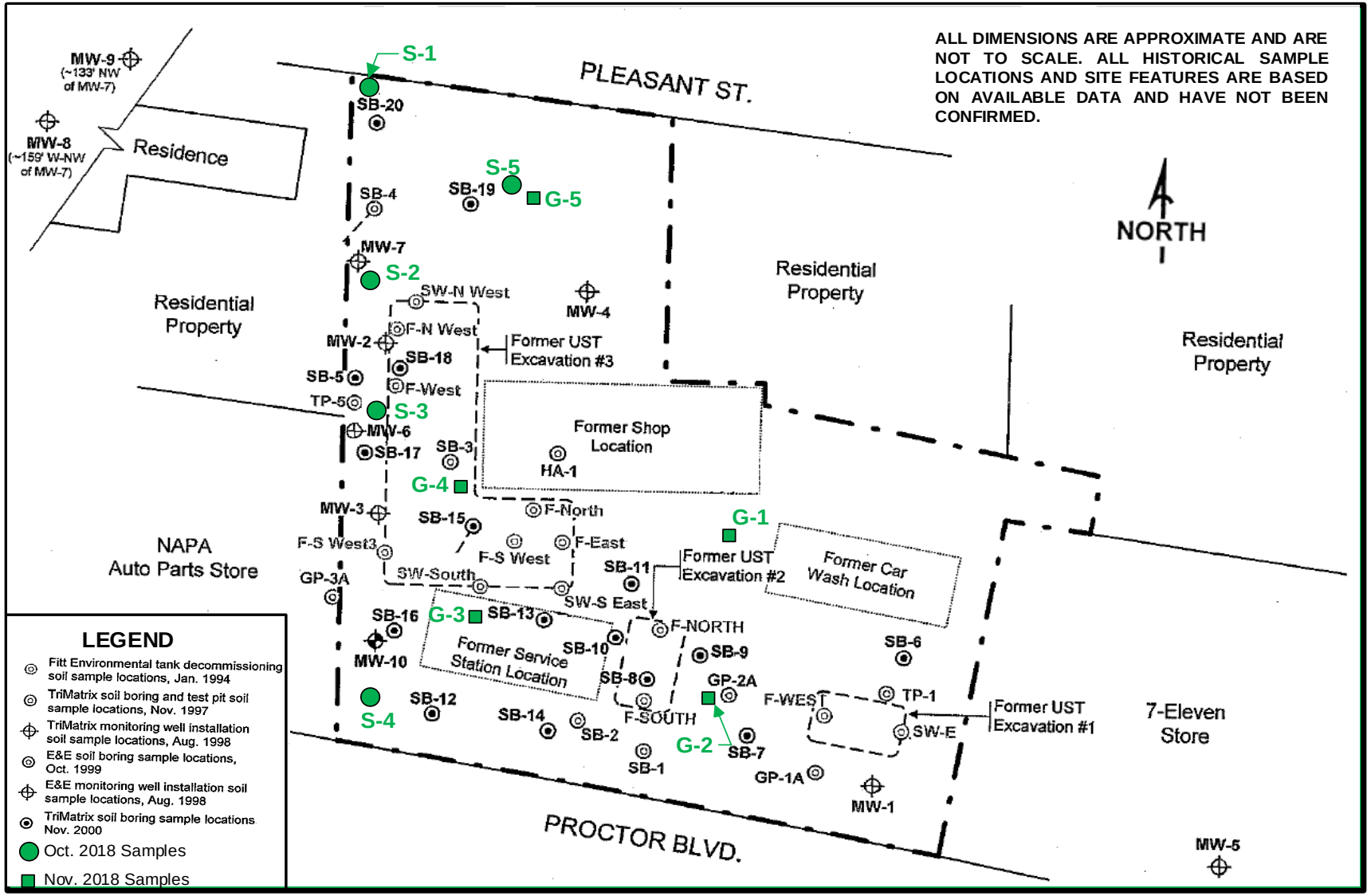

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FIGURE 3 SITE LAYOUT MAP - Historical & Current Sampling Locations

FORMER SANDY OIL SANDY, OREGON

Southern edge of project site fence, looking east.

Western edge of project site southern fence, abutting the residence to the west.

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 4 SITE PHOTOS- PHASE I ESA	January 10, 2019
	FORMER SANDY OIL 39625 PROCTOR BOULEVARD SANDY, OREGON	Jennifer Levy

Western fence, looking northwest

Cement pads on property, leftover from former property operations. Looking southwest.

Mattress World to the west, location of former HOT.

Cascade Environmental Solutions, LLC www.cascade-environmental.com	FIGURE 4 SITE PHOTOS- PHASE I ESA	January 10, 2019
	FORMER SANDY OIL 39625 PROCTOR BOULEVARD SANDY, OREGON	Jennifer Levy

TABLES

Table 1 - Soil Sample Analytical Results - TPH

Table 2 - Soil Sample Analytical Results - VOCs

Table 3- Groundwater Sample Results – Total Petroleum Hydrocarbons & BTEX+N

Table 1
Soil Sample Analytical Results - TPH
FORMER SANDY OIL

Soil Sample ID	Sample Depth	Date	NWTPH-Dx (ppm)		
			Gasoline	Diesel	Oil
NOVEMBER 2018 INVESTIGATION					
G3	15'	11/21/2018	ND	ND	ND
G4	11'	11/21/2018	66	397	ND
G4	9'	11/21/2018	592	3920	ND
G5	7.5'	11/21/2018	ND	364	ND
OCTOBER 2018 INVESTIGATION					
S-1	3'	10/16/2018	210	645	67
S-1	5'	10/16/2018	1090	1450	93
S-2	3'	10/16/2018	ND	NA	NA
S-2	10'	10/16/2018	81	385	ND
S-2	12.5'	10/16/2018	986	NA	NA
S-4	10'	10/16/2018	45	72	ND
S-5	8'	10/16/2018	1060	3000	180
Risk-Based Concentrations for Generic Soil Pathways (mg/L) -Occupational					
RBCss - Soil Ingestion, Dermal Contact, and Inhalation			20000	14000	36000
RBCso - Volatilization to Outdoor Air			69000	>Max	>Max
RBCsi - Vapor Intrusion into Buildings			>Max	>Max	>Max
RBCsw - Leaching to Groundwater			130	>Max	>Max
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential					
RBCss - Soil Ingestion, Dermal Contact, and Inhalation			2,500	2,200	5,700
RBCso - Volatilization to Outdoor Air			5,900	>Max	>Max
RBCsi - Vapor Intrusion into Buildings			>Max	>Max	>Max
RBCsw - Leaching to Groundwater			31	9,500	> Max
RBCss - Construction Worker			9,700	4,600	11,000
RBCss - Excavation Worker			>Max	>Max	>Max

Notes: >Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L.
mg/L = micrograms per Liter; ppm = parts per million.
Bold indicates analyte was detected. Shaded cells indicate the analyte exceeded one or more DEQ RBC.
DET = Analyte DETECTED above the method reporting limit
ND = Analyte NOT DETECTED at or above the reporting limit.

Table 2
Soil Sample Analytical Results - VOCs
FORMER SANDY OIL

Soil Sample ID	Sample Depth in Feet	Date	Analyte (ppm) Benzene	1,2 Dibromoethane (EDB)	1,2-Dichlorethane (EDC)	Ethylbenzene	Iso-propylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes
NOVEMBER 2018 INVESTIGATION													
G4	9'	11/21/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OCTOBER 2018 INVESTIGATION													
S1	5'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
S2	12.5'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
S5	8'	10/16/2018	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Occupational													
RBCss - Soil Ingestion, Dermal Contact, and Inhalatic			37	1	16	1,700	57,000	1,100	23	88,000	6,900	6,900	25,000
RBCSO - Volatilization to Outdoor Air			50	0	8	160	>Csat	1,500	83	> Csat	> Csat	> Csat	> Csat
RBCsi - Vapor Intrusion into Buildings			2	0	1	17	> Csat	110	110	> Csat	> Csat	> Csat	> Csat
RBCSW - Leaching to Groundwater			0	0	0	1	> Csat	1	0	490	48	53	100
RBCss - Construction Worker			380	9	200	1,700	27,000	12,000	580	28,000	2,900	2,900	20,000
RBCss - Excavation Worker			11,000	250	5,600	49,000	750,000	320,000	16,000	770,000	81,000	81,000	560,000
Risk-Based Concentrations for Generic Soil Pathways (mg/L) - Urban Residential													
RBCss - Soil Ingestion, Dermal Contact, and			24	1	12	110	7,000	730	25	12,000	220	1,600	2,900
RBCSO - Volatilization to Outdoor Air			27	0	8	85	> Csat	810	15	> Csat	230	> Max	> Csat
RBCsi - Vapor Intrusion into Buildings			0	0	0	3	> Csat	20	15	> Csat	16	> Max	160
RBCSW - Leaching to Groundwater			0	0	0	1	280	1	0	310	6	110	49

Notes:

mg/L = micrograms per Liter; ppm = parts per million.

NA- NOT ANALYZED

ND = Analyte NOT DETECTED at or above the reporting limit.

DNE = generic risk-based concentrations (RBCs) Do Not Exist for this constiuent

> Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/L. Therefore, this substance is deemed not ot pose risks in this scenario.

> Csat The soil RBC exceeds the limit of 3-phase equillibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

TABLE 3
Groundwater Sample Results - Total Petroleum Hydrocarbons & BTEX+N
FORMER SANDY OIL

Sample I.D.	Date	TPHs by Methods NWTPH-Gx and NWTPH-Dx (µg/L)			VOCs by EPA Method 8260B (µg/L)				
		Gasoline	Diesel	Oil	Benzene	Ethyl-benzene	Toluene	Napthalene	Xylenes-total
OCTOBER 2018 INVESTIGATION									
S-1-GW	10/16/2018	107	1	ND	3.9	ND	ND	4.6	ND
S-3-GW	10/16/2018	ND	ND	ND	0	ND	ND	ND	ND
Risk-Based Concentrations for Groundwater Pathways (ug/L) - Occupational									
RBCtw		450	430	1300	2.1	6	6300	0.7	830
RBCvo		>S	>S	>S	14000	43000	>S	16000	>S
RBCvi		>S	>S	>S	2800	8200	>S	11000	>S
Risk-Based Concentrations for Groundwater Pathways (ug/L) - Urban Residential									
RBCtw		110	100	300	2	7	4400	1	710
RBCvo		>S	>S	>S	7400	23000	>S	8500	>S
RBCvi		22000	>S	>S	510	1500	>S	2000	86000
RBCve		14000	>S	>S	1800	4500	220000	500	23000

Notes: **ND = Analyte NOT DETECTED at or above the reporting limit.**

mg/L = micrograms per Liter; ppm = parts per million.

Bold indicates analyte was detected.

Shaded cells indicate the analyte exceeded one or more DEQ RBC.

DNE = generic risk-based concentrations (RBCs) Do Not Exist for this constiuent

RBCtw - Ingestion & Inhalation from Tapwater

RBCwO - Volatilization to Outdoor Air

RBCwi - Vapor Intrusion into Buildings

APPENDIX A

Chain of Custody and Laboratory Analytical Report

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Tuesday, October 23, 2018

Jennifer Levy
Cascade Environmental Solutions, LLC
6635 N Baltimore Ave Ste 224
Portland, OR 97203

RE: A8J0516 - Sandy Oil - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8J0516, which was received by the laboratory on 10/17/2018 at 11:05:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Info (See Cooler Receipt Form for Details)

Default Cooler 2.1 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1-3'	A8J0516-01	Soil	10/16/18 09:45	10/17/18 11:05
S-1-5'	A8J0516-02	Soil	10/16/18 09:50	10/17/18 11:05
S-1-GW	A8J0516-07	Water	10/16/18 11:55	10/17/18 11:05
S-2-3'	A8J0516-08	Soil	10/16/18 12:10	10/17/18 11:05
S-2-10'	A8J0516-10	Soil	10/16/18 12:30	10/17/18 11:05
S-2-12.5'	A8J0516-11	Soil	10/16/18 12:30	10/17/18 11:05
S-4-10'	A8J0516-23	Soil	10/16/18 15:30	10/17/18 11:05
S-3-GW	A8J0516-26	Water	10/16/18 15:55	10/17/18 11:05
S-5-8'	A8J0516-29	Soil	10/16/18 16:20	10/17/18 11:05

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Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101106**	
Gasoline Range Organics	ND	---	24.0	mg/kg dry	1	10/17/18	NWTPH-HCID	
Diesel Range Organics	DET	---	59.9	mg/kg dry	1	10/17/18	NWTPH-HCID	
Oil Range Organics	ND	---	120	mg/kg dry	1	10/17/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*105 %*	*Limits: 50-150 %*	*1*	*10/17/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*99 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-HCID*	

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Lisa A Domenighini

Lisa Domenighini, Client Services Manager

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503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101221**	
Diesel	**645**	---	27.3	mg/kg dry	1	10/23/18	NWTPH-Dx	**F-15**
Oil	**67.0**	---	54.5	mg/kg dry	1	10/23/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 93 %*		*Limits: 50-150 %*	*1*	*10/23/18*	*NWTPH-Dx*	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**1450**	---	25.0	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-15**
Oil	**92.6**	---	50.0	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101181**	
Diesel	**0.882**	---	0.107	mg/L	1	10/20/18	NWTPH-Dx	**F-11**
Oil	ND	---	0.213	mg/L	1	10/20/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 116 %*		*Limits: 50-150 %*	*1*	*10/20/18*	*NWTPH-Dx*	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**385**	---	25.3	mg/kg dry	1	10/19/18	NWTPH-Dx	
Oil	ND	---	50.5	mg/kg dry	1	10/19/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 111 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**71.6**	---	25.0	mg/kg dry	1	10/19/18	NWTPH-Dx	
Oil	ND	---	50.0	mg/kg dry	1	10/19/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101224**	
Diesel	**1.23**	---	0.114	mg/L	1	10/23/18	NWTPH-Dx	**F-11**
Oil	ND	---	0.229	mg/L	1	10/23/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 95 %*		*Limits: 50-150 %*	*1*	*10/23/18*	*NWTPH-Dx*	
S-5-8' (A8J0516-29)				**Matrix: Soil**			**Batch: 8101139**	
Diesel	**3000**	---	25.7	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-15**
Oil	**180**	---	51.4	mg/kg dry	1	10/19/18	NWTPH-Dx	**F-16**
Surrogate: o-Terphenyl (Surr)		*Recovery: 107 %*		*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Dx*	

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Lisa Domenighini, Client Services Manager

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101208**	
Gasoline Range Organics	**210**	---	9.09	mg/kg dry	50	10/22/18	NWTPH-Gx (MS)	**F-13**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 141 %*	*Limits: 50-150 %*		*1*	*10/22/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*89 %*	*50-150 %*	*1*	*10/22/18*	*NWTPH-Gx (MS)*	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**1090**	---	90.9	mg/kg dry	500	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 141 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101128**	**V-04**
Gasoline Range Organics	**107**	---	100	ug/L	1	10/18/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 94 %*	*Limits: 50-150 %*		*1*	*10/18/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*110 %*	*50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
S-2-3' (A8J0516-08)				**Matrix: Soil**			**Batch: 8101208**	**V-16**
Gasoline Range Organics	ND	---	7.21	mg/kg dry	50	10/22/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 100 %*	*Limits: 50-150 %*		*1*	*10/22/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*91 %*	*50-150 %*	*1*	*10/22/18*	*NWTPH-Gx (MS)*	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**80.9**	---	11.0	mg/kg dry	50	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 124 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*92 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-2-12.5' (A8J0516-11)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**986**	---	372	mg/kg dry	1000	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 108 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*90 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101080**	
Gasoline Range Organics	**45.4**	---	8.43	mg/kg dry	50	10/17/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 109 %*	*Limits: 50-150 %*		*1*	*10/17/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*	*1*	*10/17/18*	*NWTPH-Gx (MS)*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Gasoline Range Organics	ND	---	100	ug/L	1	10/18/18	NWTPH-Gx (MS)	

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*114 %*	*50-150 %*	*1*	*10/18/18*	*NWTPH-Gx (MS)*	
S-5-8' (A8J0516-29RE1)				**Matrix: Soil**			**Batch: 8101169**	
Gasoline Range Organics	**1060**	---	39.8	mg/kg dry	200	10/19/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 193 %*	*Limits: 50-150 %*	*1*	*10/19/18*	*NWTPH-Gx (MS)*	*S-08*
1,4-Difluorobenzene (Sur)			*95 %*	*50-150 %*	*1*	*10/19/18*	*NWTPH-Gx (MS)*	

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-5' (A8J0516-02RE1)				**Matrix: Soil**			**Batch: 8101130**	**R-04**
Benzene	ND	---	0.0728	mg/kg dry	200	10/18/18	5035A/8260C	
Toluene	ND	---	0.364	mg/kg dry	200	10/18/18	5035A/8260C	
Ethylbenzene	ND	---	0.182	mg/kg dry	200	10/18/18	5035A/8260C	
Xylenes, total	ND	---	0.546	mg/kg dry	200	10/18/18	5035A/8260C	
Naphthalene	ND	---	1.09	mg/kg dry	200	10/18/18	5035A/8260C	R-02
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*91 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*91 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
S-1-GW (A8J0516-07)				**Matrix: Water**			**Batch: 8101128**	**V-04**
Benzene	**3.87**	---	0.200	ug/L	1	10/18/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	10/18/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	10/18/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	10/18/18	EPA 8260C	
Naphthalene	**4.59**	---	2.00	ug/L	1	10/18/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
S-2-12.5' (A8J0516-11RE1)				**Matrix: Soil**			**Batch: 8101130**	**R-04**
Benzene	ND	---	0.0744	mg/kg dry	100	10/18/18	5035A/8260C	
Toluene	ND	---	0.372	mg/kg dry	100	10/18/18	5035A/8260C	
Ethylbenzene	ND	---	0.186	mg/kg dry	100	10/18/18	5035A/8260C	
Xylenes, total	ND	---	0.558	mg/kg dry	100	10/18/18	5035A/8260C	
Naphthalene	ND	---	0.744	mg/kg dry	100	10/18/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*90 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*92 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*10/18/18*	*5035A/8260C*	
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Benzene	**0.359**	---	0.200	ug/L	1	10/18/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	10/18/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	10/18/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	10/18/18	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	10/18/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*113 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*10/18/18*	*EPA 8260C*	

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Lisa Domenighini, Client Services Manager

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503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-3-GW (A8J0516-26)				**Matrix: Water**			**Batch: 8101128**	
Surrogate: 4-Bromofluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*10/18/18*	*EPA 8260C*	
S-5-8' (A8J0516-29RE1)				**Matrix: Soil**			**Batch: 8101169**	**R-04**
Benzene	ND	---	0.0797	mg/kg dry	200	10/19/18	5035A/8260C	
Toluene	ND	---	0.398	mg/kg dry	200	10/19/18	5035A/8260C	
Ethylbenzene	ND	---	0.199	mg/kg dry	200	10/19/18	5035A/8260C	
Xylenes, total	ND	---	0.598	mg/kg dry	200	10/19/18	5035A/8260C	
Naphthalene	ND	---	0.797	mg/kg dry	200	10/19/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*91 %*	*Limits: 80-120 %*	*1*	*10/19/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*92 %*	*80-120 %*	*1*	*10/19/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*	*1*	*10/19/18*	*5035A/8260C*	

Apex Laboratories

Lisa A Domenighini

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
S-1-3' (A8J0516-01)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**72.2**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-1-5' (A8J0516-02)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**73.5**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-2-3' (A8J0516-08)				**Matrix: Soil**			**Batch: 8101201**	
% Solids	**78.6**	---	1.00	% by Weight	1	10/23/18	EPA 8000C	
S-2-10' (A8J0516-10)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**75.3**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-2-12.5' (A8J0516-11)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**74.4**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-4-10' (A8J0516-23)				**Matrix: Soil**			**Batch: 8101079**	
% Solids	**75.6**	---	1.00	% by Weight	1	10/18/18	EPA 8000C	
S-5-8' (A8J0516-29)				**Matrix: Soil**			**Batch: 8101220**	
% Solids	**72.8**	---	1.00	% by Weight	1	10/22/18	EPA 8000C	

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101106 - NWTPH-HCID (Soil)							Soil					
Blank (8101106-BLK1)		Prepared: 10/17/18 14:21		Analyzed: 10/17/18 21:21								
NWTPH-HCID												
Gasoline Range Organics	ND	---	16.7	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	41.7	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	83.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery:*	*109 %*	*Limits:*	*50-150 %*		*Dilution:*	*1x*				
4-Bromofluorobenzene (Surr)			*107 %*		*50-150 %*			*"*				

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101139 - EPA 3546 (Fuels)							**Soil**					
Blank (8101139-BLK1)		Prepared: 10/18/18 12:17 Analyzed: 10/18/18 22:45										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Mineral Oil	ND	---	33.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 96 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8101139-BS1)		Prepared: 10/18/18 12:17 Analyzed: 10/18/18 23:08										
NWTPH-Dx												
Diesel	121	---	25.0	mg/kg wet	1	125	---	97	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 107 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101181 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (8101181-BLK1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:13								
NWTPH-Dx												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 97 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS (8101181-BS1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:36								
NWTPH-Dx												
Diesel	0.428	---	0.0800	mg/L	1	0.500	---	86	52-120%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 105 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS Dup (8101181-BSD1)		Prepared: 10/19/18 12:16		Analyzed: 10/19/18 23:59								
NWTPH-Dx												
Diesel	0.403	---	0.0800	mg/L	1	0.500	---	81	52-120%	6	20%	Q-19
Surr: o-Terphenyl (Surr)		*Recovery: 102 %*		*Limits: 50-150 %*		*Dilution: 1x*						Q-19

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101221 - EPA 3546 (Fuels)							Soil					
Blank (8101221-BLK1)		Prepared: 10/22/18 13:21		Analyzed: 10/22/18 22:57								
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 113 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8101221-BS1)		Prepared: 10/22/18 13:21		Analyzed: 10/22/18 23:18								
NWTPH-Dx												
Diesel	117	---	25.0	mg/kg wet	1	125	---	93	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 108 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101224 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (8101224-BLK1)			Prepared: 10/22/18 13:37		Analyzed: 10/22/18 22:54							
NWTPH-Dx												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.145	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 97 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS (8101224-BS1)			Prepared: 10/22/18 13:37		Analyzed: 10/22/18 23:17							
NWTPH-Dx												
Diesel	0.446	---	0.0800	mg/L	1	0.500	---	89	52-120%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 101 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS Dup (8101224-BSD1)			Prepared: 10/22/18 13:37		Analyzed: 10/22/18 23:40							**Q-19**
NWTPH-Dx												
Diesel	0.377	---	0.0800	mg/L	1	0.500	---	75	52-120%	17	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*		*Limits: 50-150 %*		*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101080 - EPA 5035A							**Soil**					
Blank (8101080-BLK1)		Prepared: 10/17/18 09:11 Analyzed: 10/17/18 11:16										
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 97 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*92 %*		*50-150 %*			*"*					
LCS (8101080-BS2)		Prepared: 10/17/18 09:11 Analyzed: 10/17/18 10:49										
NWTPH-Gx (MS)												
Gasoline Range Organics	23.0	---	5.00	mg/kg wet	50	25.0	---	92	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 97 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*93 %*		*50-150 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101128 - EPA 5030B							**Water**					
Blank (8101128-BLK1)			Prepared: 10/18/18 10:05		Analyzed: 10/18/18 11:33							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*113 %*		*50-150 %*			*"*				
LCS (8101128-BS2)			Prepared: 10/18/18 10:05		Analyzed: 10/18/18 11:03							
NWTPH-Gx (MS)												
Gasoline Range Organics	445	---	100	ug/L	1	500	---	89	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*106 %*		*50-150 %*			*"*				

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101130 - EPA 5035A							**Soil**					
Blank (8101130-BLK1)			Prepared: 10/18/18 09:30		Analyzed: 10/18/18 12:01							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*91 %*		*50-150 %*		*"*					
LCS (8101130-BS2)			Prepared: 10/18/18 09:30		Analyzed: 10/18/18 11:34							
NWTPH-Gx (MS)												
Gasoline Range Organics	24.0	---	5.00	mg/kg wet	50	25.0	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*		*50-150 %*		*"*					
Duplicate (8101130-DUP1)			Prepared: 10/16/18 16:20		Analyzed: 10/18/18 18:01							
QC Source Sample: S-5-8' (A8J0516-29)												
NWTPH-Gx (MS)												
Gasoline Range Organics	**1430**	---	204	mg/kg dry	1000	---	1240	---	---	14	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 121 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*88 %*		*50-150 %*		*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101169 - EPA 5035A							**Soil**					
Blank (8101169-BLK1)			Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:31									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*91 %*	*50-150 %*			*"*					
LCS (8101169-BS2)			Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:04									
NWTPH-Gx (MS)												
Gasoline Range Organics	24.9	---	5.00	mg/kg wet	50	25.0	---	100	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*	*50-150 %*			*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101208 - EPA 5035A							**Soil**					
Blank (8101208-BLK1)		Prepared: 10/22/18 09:30 Analyzed: 10/22/18 12:25										
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 108 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*93 %*		*50-150 %*			*"*					
LCS (8101208-BS2)		Prepared: 10/22/18 09:30 Analyzed: 10/22/18 11:58										
NWTPH-Gx (MS)												
Gasoline Range Organics	24.9	---	5.00	mg/kg wet	50	25.0	---	99	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*94 %*		*50-150 %*			*"*					
Duplicate (8101208-DUP1)		Prepared: 10/22/18 13:14 Analyzed: 10/22/18 16:04										**V-16**
QC Source Sample: S-2-3' (A8J0516-08)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	7.12	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 106 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*92 %*		*50-150 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101128 - EPA 5030B							**Water**					
Blank (8101128-BLK1)		Prepared: 10/18/18 10:05		Analyzed: 10/18/18 11:33								
EPA 8260C												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 111 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*96 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*98 %*		*80-120 %*			*"*					
LCS (8101128-BS1)		Prepared: 10/18/18 10:05		Analyzed: 10/18/18 10:33								
EPA 8260C												
Benzene	19.0	---	0.200	ug/L	1	20.0	---	95	80-120%	---	---	
Toluene	18.4	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
Ethylbenzene	19.3	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Xylenes, total	58.4	---	1.50	ug/L	1	60.0	---	97	80-120%	---	---	
Naphthalene	16.3	---	2.00	ug/L	1	20.0	---	82	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 104 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*93 %*		*80-120 %*			*"*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101130 - EPA 5035A							**Soil**					
Blank (8101130-BLK1)		Prepared: 10/18/18 09:30 Analyzed: 10/18/18 12:01										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 96 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*93 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
LCS (8101130-BS1)		Prepared: 10/18/18 09:30 Analyzed: 10/18/18 10:35										
5035A/8260C												
Benzene	0.919	---	0.0100	mg/kg wet	50	1.00	---	92	80-120%	---	---	
Toluene	0.951	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
Ethylbenzene	0.948	---	0.0250	mg/kg wet	50	1.00	---	95	80-120%	---	---	
Xylenes, total	2.86	---	0.0750	mg/kg wet	50	3.00	---	95	80-120%	---	---	
Naphthalene	0.962	---	0.100	mg/kg wet	50	1.00	---	96	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 95 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
Duplicate (8101130-DUP1)		Prepared: 10/16/18 16:20 Analyzed: 10/18/18 18:01										
QC Source Sample: S-5-8' (A8J0516-29)												
5035A/8260C												
Benzene	ND	---	0.408	mg/kg dry	1000	---	ND	---	---	---	30%	
Toluene	ND	---	2.04	mg/kg dry	1000	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	1.02	mg/kg dry	1000	---	ND	---	---	---	30%	
Xylenes, total	ND	---	3.06	mg/kg dry	1000	---	ND	---	---	---	30%	
Naphthalene	ND	---	4.08	mg/kg dry	1000	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 92 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*92 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101169 - EPA 5035A							**Soil**					
Blank (8101169-BLK1)		Prepared: 10/19/18 10:00 Analyzed: 10/19/18 11:31										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 97 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*94 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*104 %*		*80-120 %*			*"*					
LCS (8101169-BS1)		Prepared: 10/19/18 10:00 Analyzed: 10/19/18 10:37										
5035A/8260C												
Benzene	0.892	---	0.0100	mg/kg wet	50	1.00	---	89	80-120%	---	---	
Toluene	0.894	---	0.0500	mg/kg wet	50	1.00	---	89	80-120%	---	---	
Ethylbenzene	0.909	---	0.0250	mg/kg wet	50	1.00	---	91	80-120%	---	---	
Xylenes, total	2.73	---	0.0750	mg/kg wet	50	3.00	---	91	80-120%	---	---	
Naphthalene	0.981	---	0.100	mg/kg wet	50	1.00	---	98	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 96 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*93 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101079 - Total Solids (Dry Weight)							**Soil**					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101201 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8101201-DUP6)		Prepared: 10/22/18 18:50		Analyzed: 10/23/18 08:25								
QC Source Sample: S-2-3' (A8J0516-08)												
EPA 8000C												
% Solids	**79.0**	---	1.00	% by Weight	1	---	78.6	---	---	0.5	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8101220 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8101220-DUP1)		Prepared: 10/22/18 11:57		Analyzed: 10/22/18 13:24								
QC Source Sample: S-5-8' (A8J0516-29)												
EPA 8000C												
% Solids	**72.7**	---	1.00	% by Weight	1	---	72.8	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101106							
A8J0516-01	Soil	NWTPH-HCID	10/16/18 09:45	10/17/18 17:22	11.56g/10mL	10g/10mL	0.87

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101181							
A8J0516-07	Water	NWTPH-Dx	10/16/18 11:55	10/19/18 12:16	750mL/2mL	1000mL/2mL	1.33
Batch: 8101224							
A8J0516-26	Water	NWTPH-Dx	10/16/18 15:55	10/22/18 13:37	700mL/2mL	1000mL/2mL	1.43

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101139							
A8J0516-02	Soil	NWTPH-Dx	10/16/18 09:50	10/18/18 12:17	10.87g/5mL	10g/5mL	0.92
A8J0516-10	Soil	NWTPH-Dx	10/16/18 12:30	10/18/18 12:17	10.52g/5mL	10g/5mL	0.95
A8J0516-23	Soil	NWTPH-Dx	10/16/18 15:30	10/18/18 12:17	10.69g/5mL	10g/5mL	0.94
A8J0516-29	Soil	NWTPH-Dx	10/16/18 16:20	10/18/18 12:17	10.69g/5mL	10g/5mL	0.94
Batch: 8101221							
A8J0516-01	Soil	NWTPH-Dx	10/16/18 09:45	10/22/18 13:21	10.16g/5mL	10g/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101128							
A8J0516-07	Water	NWTPH-Gx (MS)	10/16/18 11:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00
A8J0516-26	Water	NWTPH-Gx (MS)	10/16/18 15:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101080							
A8J0516-02	Soil	NWTPH-Gx (MS)	10/16/18 09:50	10/16/18 09:50	4.66g/5mL	5g/5mL	1.07
A8J0516-10	Soil	NWTPH-Gx (MS)	10/16/18 12:30	10/16/18 12:30	3.56g/5mL	5g/5mL	1.40
A8J0516-11	Soil	NWTPH-Gx (MS)	10/16/18 12:30	10/16/18 12:30	1.99g/5mL	5g/5mL	2.51

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Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A8J0516-23	Soil	NWTPH-Gx (MS)	10/16/18 15:30	10/16/18 15:30	4.85g/5mL	5g/5mL	1.03
Batch: 8101169							
A8J0516-29RE1	Soil	NWTPH-Gx (MS)	10/16/18 16:20	10/16/18 16:20	4.24g/5mL	5g/5mL	1.18
Batch: 8101208							
A8J0516-01	Soil	NWTPH-Gx (MS)	10/16/18 09:45	10/16/18 09:45	4.83g/5mL	5g/5mL	1.04
A8J0516-08	Soil	NWTPH-Gx (MS)	10/16/18 12:10	10/22/18 13:14	5.44g/5mL	5g/5mL	0.92

BTEX+N Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101128							
A8J0516-07	Water	EPA 8260C	10/16/18 11:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00
A8J0516-26	Water	EPA 8260C	10/16/18 15:55	10/18/18 11:47	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101130							
A8J0516-02RE1	Soil	5035A/8260C	10/16/18 09:50	10/16/18 09:50	4.66g/5mL	5g/5mL	1.07
A8J0516-11RE1	Soil	5035A/8260C	10/16/18 12:30	10/16/18 12:30	1.99g/5mL	5g/5mL	2.51
Batch: 8101169							
A8J0516-29RE1	Soil	5035A/8260C	10/16/18 16:20	10/16/18 16:20	4.24g/5mL	5g/5mL	1.18

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101079							
A8J0516-01	Soil	EPA 8000C	10/16/18 09:45	10/17/18 18:00			NA
A8J0516-02	Soil	EPA 8000C	10/16/18 09:50	10/17/18 18:00			NA
A8J0516-10	Soil	EPA 8000C	10/16/18 12:30	10/17/18 18:00			NA
A8J0516-11	Soil	EPA 8000C	10/16/18 12:30	10/17/18 18:00			NA
A8J0516-23	Soil	EPA 8000C	10/16/18 15:30	10/17/18 18:00			NA
Batch: 8101201							
A8J0516-08	Soil	EPA 8000C	10/16/18 12:10	10/22/18 18:50			NA

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8101220							
A8J0516-29	Soil	EPA 8000C	10/16/18 16:20	10/22/18 11:57			NA

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6635 N Baltimore Ave Ste 224	Project Number:	**[none]**	**Report ID:**
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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

F-11	The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
F-15	Results for diesel are estimated due to overlap from the reported oil result.
F-16	Results for oil are estimated due to overlap from the reported diesel result.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
S-08	TPH-Gx Surrogate recovery cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract. See 8260B results for accurate Surrogate recovery.
V-04	Composite of VOA vials analyzed due to sediment in vials.
V-16	Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

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Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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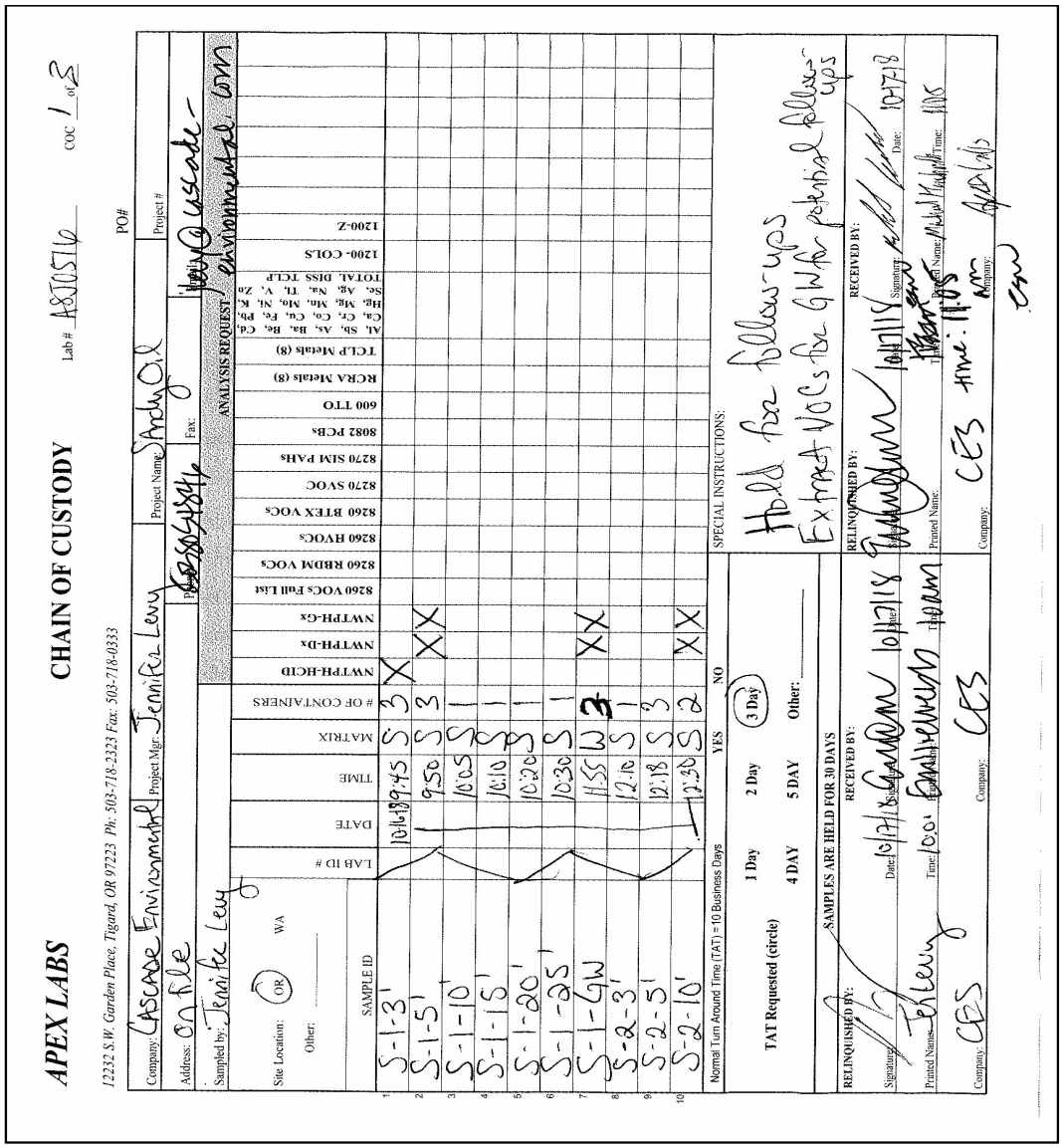
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**



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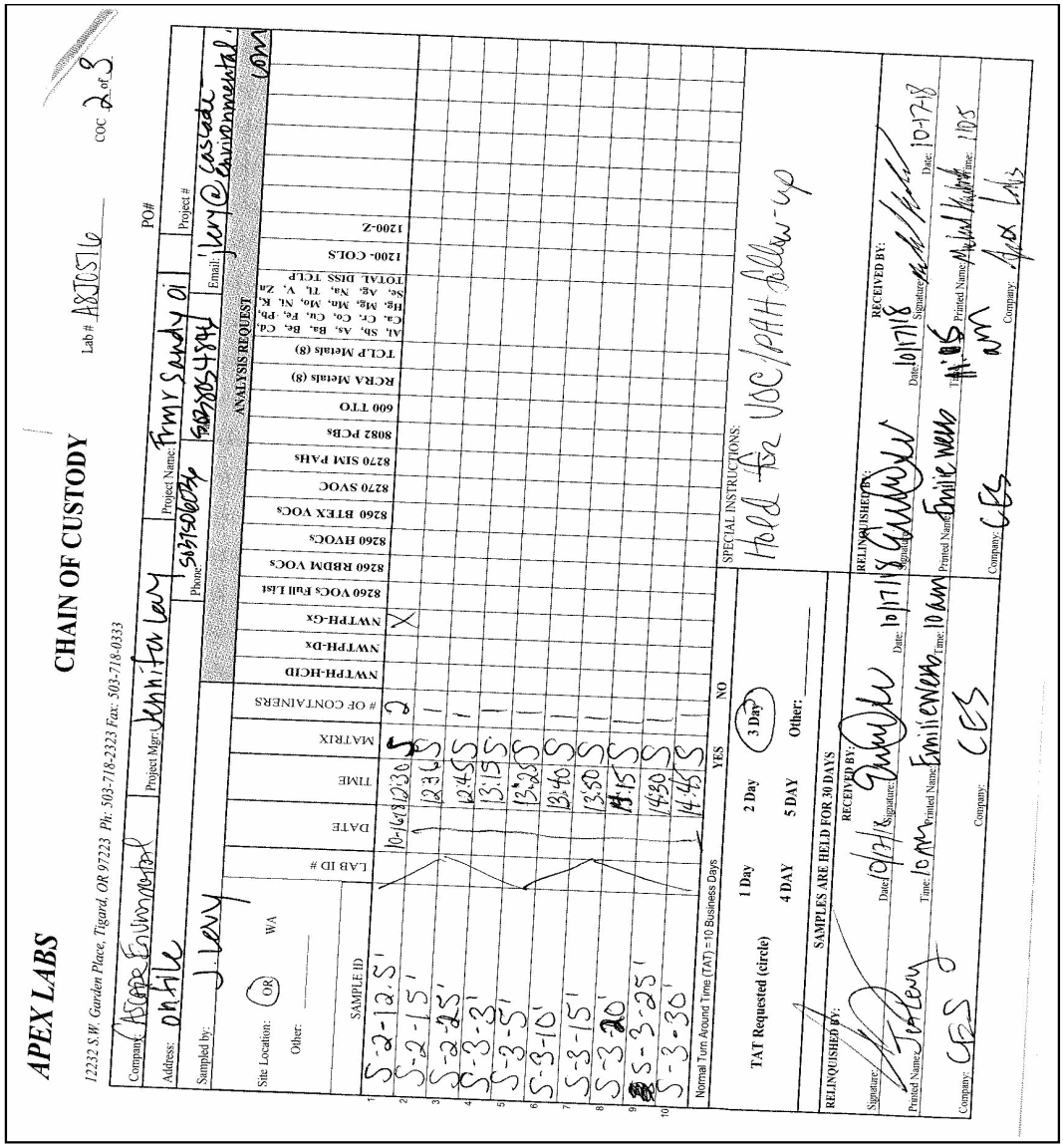
Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy Oil**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8J0516 - 10 23 18 1244**



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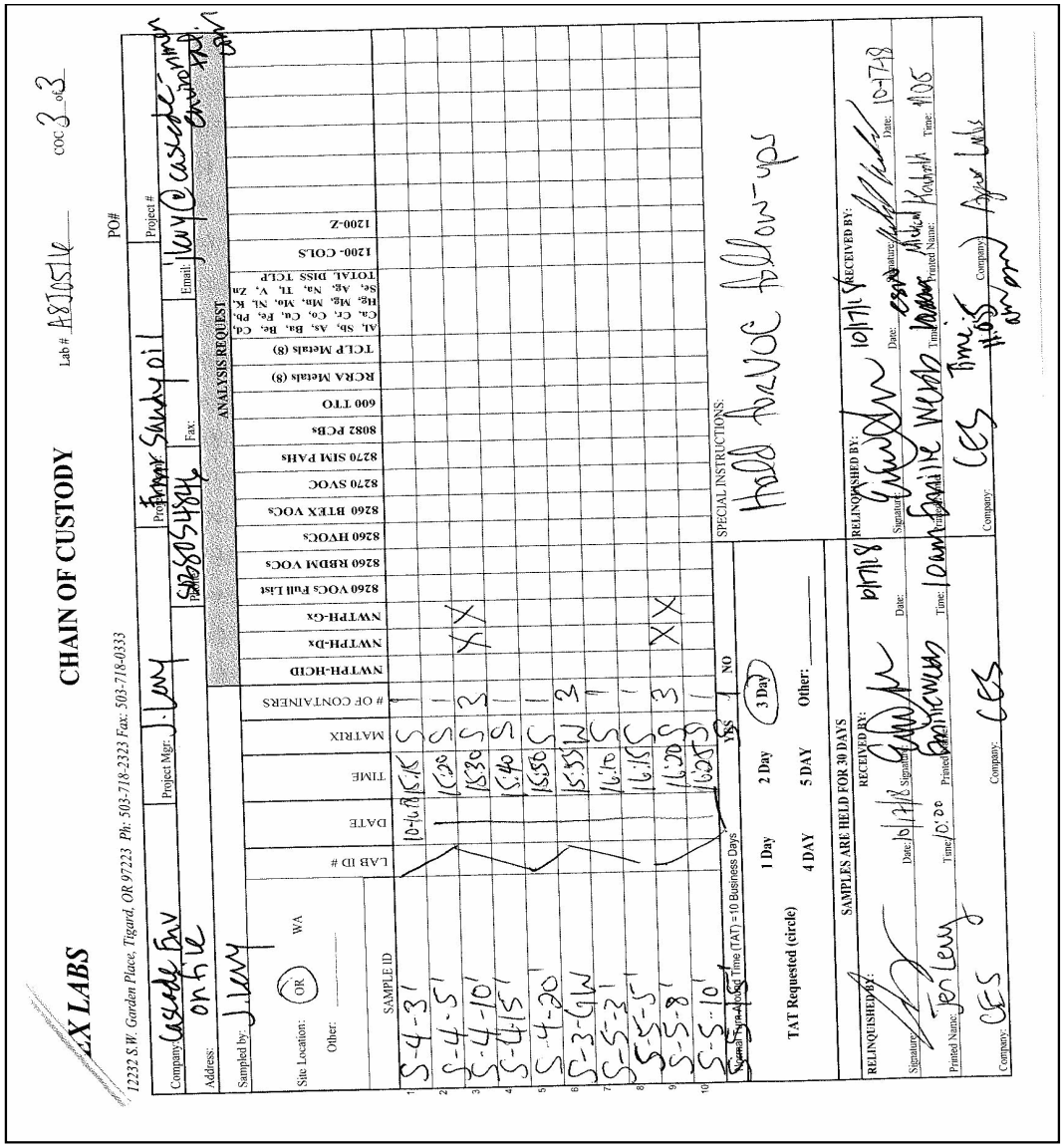

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APEX LABS COOLER RECEIPT FORM

Client: Cascade Env. Element WO#: A8 JO516

Project/Project #: Fmr Sandy Oil/Sandy Oil

Delivery Info:

Date/time received: 10-17-18 @ 1105 By: MK

Delivered by: Apex X Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 10-17-18 @ 1300 By: MK

Chain of Custody included? Yes X No Custody seals? Yes No X

Signed/dated by client? Yes X No

Signed/dated by Apex? Yes X No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.1						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition:	good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 10/17/18 @ 1555 By: [illegible]

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes No X Comments: No D/T on jars, no T on any containers; extra soil sample S-1-30' received but not listed on CoC, no T on CoC or container

COC/container discrepancies form initiated? Yes No NA X S-5-15'

Containers/volumes received appropriate for analysis? Yes X No Comments:

Do VOA vials have visible headspace? Yes No X NA

Comments Sediment in all voas

Water samples: pH checked: Yes X No NA pH appropriate? Yes X No NA

Comments:

Additional information:

Labeled by: [illegible] Witness: [illegible] Cooler Inspected by: [illegible] See Project Contact Form: Y

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Friday, December 7, 2018

Jennifer Levy
Cascade Environmental Solutions, LLC
6635 N Baltimore Ave Ste 224
Portland, OR 97203

RE: A8K0783 - Sandy/Dutch Bros - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8K0783, which was received by the laboratory on 11/26/2018 at 12:50:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1 4.7 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G2-20'	A8K0783-01	Soil	11/21/18 10:30	11/26/18 12:50
G3-5'	A8K0783-02	Soil	11/21/18 10:48	11/26/18 12:50
G3-15'	A8K0783-03	Soil	11/21/18 10:55	11/26/18 12:50
G3-20'	A8K0783-04	Soil	11/21/18 11:10	11/26/18 12:50
G4-9'	A8K0783-05	Soil	11/21/18 11:48	11/26/18 12:50
G4-11'	A8K0783-06	Soil	11/21/18 11:52	11/26/18 12:50
G5-5'	A8K0783-07	Soil	11/21/18 12:18	11/26/18 12:50
G5-7.5'	A8K0783-08	Soil	11/21/18 12:24	11/26/18 12:50
G5-10'	A8K0783-09	Soil	11/21/18 12:35	11/26/18 12:50
G5-20'	A8K0783-10	Soil	11/21/18 12:50	11/26/18 12:50
G5-15'	A8K0783-11	Soil	11/21/18 00:00	11/26/18 12:50

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G3-15' (A8K0783-03)				**Matrix: Soil**			**Batch: 8111224**	
Gasoline Range Organics	ND	---	29.1	mg/kg dry	1	11/29/18	NWTPH-HCID	
Diesel Range Organics	ND	---	72.7	mg/kg dry	1	11/29/18	NWTPH-HCID	
Oil Range Organics	ND	---	145	mg/kg dry	1	11/29/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*92 %*	*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*94 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111224**	
Gasoline Range Organics	ND	---	25.2	mg/kg dry	1	11/29/18	NWTPH-HCID	
Diesel Range Organics	DET	---	63.0	mg/kg dry	1	11/29/18	NWTPH-HCID	
Oil Range Organics	ND	---	126	mg/kg dry	1	11/29/18	NWTPH-HCID	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*107 %*	*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	
4-Bromofluorobenzene (Surr)			*109 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-HCID*	

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE1)				**Matrix: Soil**			**Batch: 8111221**	
Diesel	**3920**	---	221	mg/kg dry	10	11/29/18	NWTPH-Dx	
Oil	ND	---	442	mg/kg dry	10	11/29/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 120 %*		*Limits: 50-150 %*	*10*	*11/29/18*	*NWTPH-Dx*	*S-05*
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111221**	
Diesel	**397**	---	26.1	mg/kg dry	1	11/29/18	NWTPH-Dx	
Oil	ND	---	52.1	mg/kg dry	1	11/29/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 108 %*		*Limits: 50-150 %*	*1*	*11/29/18*	*NWTPH-Dx*	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111324**	
Diesel	**364**	---	27.0	mg/kg dry	1	11/30/18	NWTPH-Dx	**Q-42**
Oil	ND	---	54.0	mg/kg dry	1	11/30/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 94 %*		*Limits: 50-150 %*	*1*	*11/30/18*	*NWTPH-Dx*	

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE2)				**Matrix: Soil**			**Batch: 8111248**	
Gasoline Range Organics	**592**	---	42.6	mg/kg dry	100	11/29/18	NWTPH-Gx (MS)	**F-09**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 133 %*	*Limits: 50-150 %*		*1*	*11/29/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*	*1*	*11/29/18*	*NWTPH-Gx (MS)*	
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111193**	
Gasoline Range Organics	**66.0**	---	12.4	mg/kg dry	50	11/28/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 128 %*	*Limits: 50-150 %*		*1*	*11/28/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*104 %*	*50-150 %*	*1*	*11/28/18*	*NWTPH-Gx (MS)*	

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G4-9' (A8K0783-05RE2)				**Matrix: Soil**			**Batch: 8111248**	**R-04**
Benzene	ND	---	0.0852	mg/kg dry	100	11/29/18	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	0.213	mg/kg dry	100	11/29/18	5035A/8260C	
Ethylbenzene	ND	---	0.213	mg/kg dry	100	11/29/18	5035A/8260C	
Isopropylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Naphthalene	ND	---	0.852	mg/kg dry	100	11/29/18	5035A/8260C	
Toluene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,2,4-Trimethylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	0.426	mg/kg dry	100	11/29/18	5035A/8260C	
Xylenes, total	ND	---	0.639	mg/kg dry	100	11/29/18	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*113 %*	*Limits: 80-120 %*	*1*	*11/29/18*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*11/29/18*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*106 %*	*80-120 %*	*1*	*11/29/18*	*5035A/8260C*	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G3-15' (A8K0783-03)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**66.4**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G4-9' (A8K0783-05)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**86.9**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G4-11' (A8K0783-06)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**71.3**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	
G5-7.5' (A8K0783-08)				**Matrix: Soil**			**Batch: 8111230**	
% Solids	**72.7**	---	1.00	% by Weight	1	11/29/18	EPA 8000C	

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111224 - NWTPH-HCID (Soil)							Soil					
Blank (8111224-BLK1)		Prepared: 11/28/18 13:43		Analyzed: 11/29/18 03:13								
NWTPH-HCID												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*99 %*		*50-150 %*		*"*					
Duplicate (8111224-DUP1)		Prepared: 11/28/18 13:43		Analyzed: 11/29/18 03:59								
QC Source Sample: G3-15' (A8K0783-03)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	29.1	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	72.7	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	145	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 94 %*		*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*95 %*		*50-150 %*		*"*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111221 - EPA 3546 (Fuels)							Soil					
Blank (8111221-BLK1)		Prepared: 11/28/18 13:23 Analyzed: 11/28/18 21:29										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 111 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8111221-BS1)		Prepared: 11/28/18 13:23 Analyzed: 11/28/18 21:52										
NWTPH-Dx												
Diesel	122	---	25.0	mg/kg wet	1	125	---	98	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 114 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111324 - EPA 3546 (Fuels)							**Soil**					
Blank (8111324-BLK1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 21:55										
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8111324-BS1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 22:16										
NWTPH-Dx												
Diesel	110	---	25.0	mg/kg wet	1	125	---	88	76-115%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 103 %*		*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (8111324-DUP1)		Prepared: 11/30/18 13:26 Analyzed: 11/30/18 22:59										
QC Source Sample: G5-7.5' (A8K0783-08)												
NWTPH-Dx												
Diesel	**245**	---	27.2	mg/kg dry	1	---	364	---	---	**39**	**30%**	Q-04
Oil	ND	---	54.3	mg/kg dry	1	---	27.4	---	---	***	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111193 - EPA 5035A							Soil					
Blank (8111193-BLK1)			Prepared: 11/28/18 09:00 Analyzed: 11/28/18 12:39									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 118 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*104 %*	*50-150 %*			*"*					
LCS (8111193-BS3)			Prepared: 11/28/18 09:00 Analyzed: 11/28/18 12:12									
NWTPH-Gx (MS)												
Gasoline Range Organics	27.4	---	5.00	mg/kg wet	50	25.0	---	110	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 114 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					

Apex Laboratories

Lisa Domenighini, Client Services Manager

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Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111248 - EPA 5035A							**Soil**					
Blank (8111248-BLK1)			Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:53									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 120 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
LCS (8111248-BS2)			Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:26									
NWTPH-Gx (MS)												
Gasoline Range Organics	27.7	---	5.00	mg/kg wet	50	25.0	---	111	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*107 %*	*50-150 %*			*"*					

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111193 - EPA 5035A							**Soil**					
Blank (8111193-BLK1)		Prepared: 11/28/18 09:00 Analyzed: 11/28/18 12:39										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 112 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*97 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*			*"*					
LCS (8111193-BS2)		Prepared: 11/28/18 09:00 Analyzed: 11/28/18 11:45										
5035A/8260C												
Benzene	1.05	---	0.0100	mg/kg wet	50	1.00	---	105	80-120%	---	---	
1,2-Dibromoethane (EDB)	0.966	---	0.0500	mg/kg wet	50	1.00	---	97	80-120%	---	---	
1,2-Dichloroethane (EDC)	1.08	---	0.0250	mg/kg wet	50	1.00	---	108	80-120%	---	---	
Ethylbenzene	0.912	---	0.0250	mg/kg wet	50	1.00	---	91	80-120%	---	---	
Isopropylbenzene	0.982	---	0.0500	mg/kg wet	50	1.00	---	98	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1.02	---	0.0500	mg/kg wet	50	1.00	---	102	80-120%	---	---	
Naphthalene	1.04	---	0.100	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Toluene	0.924	---	0.0500	mg/kg wet	50	1.00	---	92	80-120%	---	---	
1,2,4-Trimethylbenzene	0.980	---	0.0500	mg/kg wet	50	1.00	---	98	80-120%	---	---	
1,3,5-Trimethylbenzene	1.01	---	0.0500	mg/kg wet	50	1.00	---	101	80-120%	---	---	
Xylenes, total	2.84	---	0.0750	mg/kg wet	50	3.00	---	95	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 112 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*97 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111248 - EPA 5035A							**Soil**					
Blank (8111248-BLK1)		Prepared: 11/29/18 09:30 Analyzed: 11/29/18 11:53										
5035A/8260C												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	mg/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	---	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 113 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*			*"*					
LCS (8111248-BS1)		Prepared: 11/29/18 09:30 Analyzed: 11/29/18 10:43										
5035A/8260C												
Benzene	1.05	---	0.0100	mg/kg wet	50	1.00	---	105	80-120%	---	---	
1,2-Dibromoethane (EDB)	0.946	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
1,2-Dichloroethane (EDC)	1.09	---	0.0250	mg/kg wet	50	1.00	---	109	80-120%	---	---	
Ethylbenzene	0.867	---	0.0250	mg/kg wet	50	1.00	---	87	80-120%	---	---	
Isopropylbenzene	0.925	---	0.0500	mg/kg wet	50	1.00	---	92	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1.04	---	0.0500	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Naphthalene	1.04	---	0.100	mg/kg wet	50	1.00	---	104	80-120%	---	---	
Toluene	0.889	---	0.0500	mg/kg wet	50	1.00	---	89	80-120%	---	---	
1,2,4-Trimethylbenzene	0.949	---	0.0500	mg/kg wet	50	1.00	---	95	80-120%	---	---	
1,3,5-Trimethylbenzene	0.966	---	0.0500	mg/kg wet	50	1.00	---	97	80-120%	---	---	
Xylenes, total	2.67	---	0.0750	mg/kg wet	50	3.00	---	89	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 113 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

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Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111230 - Total Solids (Dry Weight)							**Soil**					
Duplicate (8111230-DUP2)		Prepared: 11/28/18 16:13		Analyzed: 11/29/18 09:10								
QC Source Sample: G5-7.5' (A8K0783-08)												
EPA 8000C												
% Solids	**73.1**	---	1.00	% by Weight	1	---	72.7	---	---	0.5	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
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SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111224							
A8K0783-03	Soil	NWTPH-HCID	11/21/18 10:55	11/28/18 13:43	10.36g/10mL	10g/10mL	0.97
A8K0783-08	Soil	NWTPH-HCID	11/21/18 12:24	11/28/18 13:43	10.91g/10mL	10g/10mL	0.92

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111221							
A8K0783-05RE1	Soil	NWTPH-Dx	11/21/18 11:48	11/28/18 13:30	10.41g/5mL	10g/5mL	0.96
A8K0783-06	Soil	NWTPH-Dx	11/21/18 11:52	11/28/18 13:30	10.77g/5mL	10g/5mL	0.93
Batch: 8111324							
A8K0783-08	Soil	NWTPH-Dx	11/21/18 12:24	11/30/18 13:26	10.18g/5mL	10g/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111193							
A8K0783-06	Soil	NWTPH-Gx (MS)	11/21/18 11:52	11/21/18 11:52	3.39g/5mL	5g/5mL	1.47
Batch: 8111248							
A8K0783-05RE2	Soil	NWTPH-Gx (MS)	11/21/18 11:48	11/21/18 11:48	1.4g/5mL	5g/5mL	3.57

Selected Volatile Organic Compounds by EPA 5035A/8260C

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111248							
A8K0783-05RE2	Soil	5035A/8260C	11/21/18 11:48	11/21/18 11:48	1.4g/5mL	5g/5mL	3.57

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8111230							
A8K0783-03	Soil	EPA 8000C	11/21/18 10:55	11/28/18 16:13			NA

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Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A8K0783-05	Soil	EPA 8000C	11/21/18 11:48	11/28/18 16:13			NA
A8K0783-06	Soil	EPA 8000C	11/21/18 11:52	11/28/18 16:13			NA
A8K0783-08	Soil	EPA 8000C	11/21/18 12:24	11/28/18 16:13			NA

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

F-09	Results in the Gasoline Range are primarily due to overlap from a heavier fuel hydrocarbon product.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

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Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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6635 N Baltimore Ave Ste 224	Project Number:	**[none]**	**Report ID:**
Portland, OR 97203	Project Manager:	**Jennifer Levy**	**A8K0783 - 12 07 18 0852**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	A8K0783 - 12 07 18 0852

APEX LABS — CHAIN OF CUSTODY

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Lab # A8K0783 COC 1 of 1

Company: Cascade Environmental Solutions
Project Mgr: Jen Levy
Project Name: Sandy Dutch Bros
Project #:
Address: PO Box 83924 8420 N Ivanhoe St, Portland OR 97203
Phone: 503.805.4846
Fax:
Email: jlevy@cascade-environmental.com
Sampled by: Jen Levy / Rhiana

Site Location: OR WA Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Total Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200-COLS	1200-Z
G2-20'	1	11-21-18	10:30																	
G3-5'	2		10:48																	
G3-15'	3		10:55			X														
G3-20'	4		11:10																	
G4-9'	5		11:44				X	X		X										
G4-11'	6		11:52				X	X												
G5-5'	7		12:18																	
G5-7.5'	8		12:24			X														
G5-10'	9		12:35																	
G5-20'	10		12:50																	

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: ____

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:
G4-11 hold for VOCs Flu
Extract for VOCs: G5-7.5' Flu

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 11-26-18	Signature: [signature] Date: 11-26-18	Signature: Date:	Signature: Date:
Printed Name: Jen Levy Time: 12:50	Printed Name: Michael [illegible] Time: 1250	Printed Name: Time:	Printed Name: Time:
Company:	Company: Apex Labs	Company:	Company:

Apex Laboratories

[signature]

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Cascade Environmental Solutions, LLC	Project: **Sandy/Dutch Bros**	
6635 N Baltimore Ave Ste 224	Project Number: **[none]**	**Report ID:**
Portland, OR 97203	Project Manager: **Jennifer Levy**	**A8K0783 - 12 07 18 0852**

APEX LABS COOLER RECEIPT FORM

Client: Cascade Env. Solutions Element WO#: A8K0783

Project/Project #: Sandy/Dutch Bros

Delivery Info:

Date/time received: 11-26-18 @ 1250 By: MK

Delivered by: Apex X Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 11-26-18 @ 1325 By: MK

Chain of Custody included? Yes X No Custody seals? Yes No X

Signed/dated by client? Yes X No

Signed/dated by Apex? Yes X No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	4.7						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Gel						
Condition:	good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 11/27/18 @ 19:16 By: TAG

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes No X Comments: received extra sample G5-15', NO T/D on jars, no T on voas, no D on 1/2 G4-9 voas

COC/container discrepancies form initiated? Yes No X NA

Containers/volumes received appropriate for analysis? Yes X No Comments:

Do VOA vials have visible headspace? Yes No NA X

Comments

Water samples: pH checked: Yes No NA X pH appropriate? Yes No NA X

Comments:

Additional information:

Labeled by: TAG Witness: GM Cooler Inspected by: See Project Contact Form: Y

Apex Laboratories

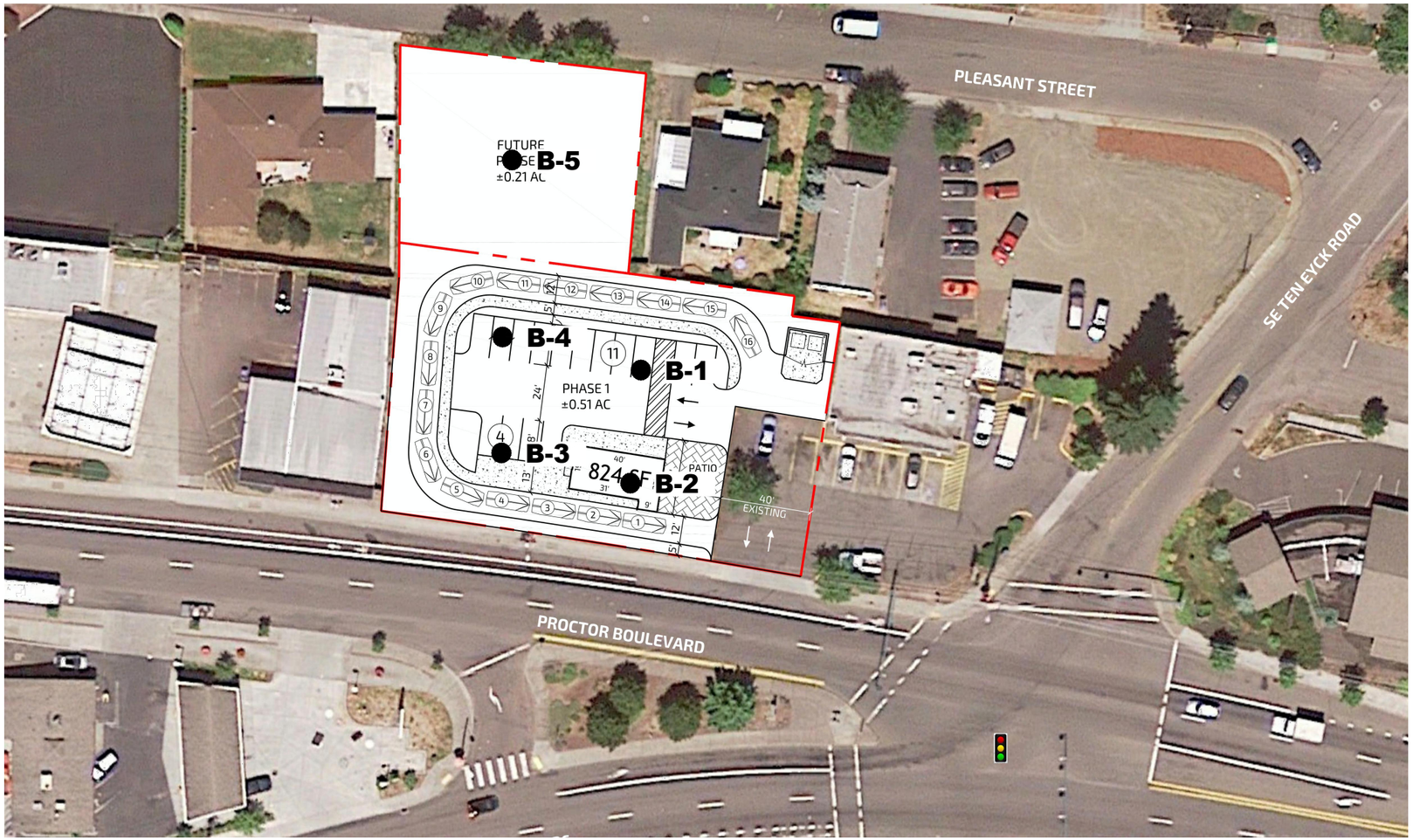
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

APPENDIX B

Boring Logs



LEGEND

● **B-#**

BORING NUMBER AND APPROXIMATE LOCATION

RhinoOne GEOTECHNICAL
4610 NE 77th Avenue, Suite 126
Vancouver, Washington 98662
360-258-1738

NEW COFFEE SHOP AND RELATED IMPROVEMENTS
PROCTOR BOULEVARD AND SE TEN EYCK ROAD, SANDY, OREGON 97055

PROJECT
CVP-2018-001

FIGURE 2 - SITE EXPLORATION MAP

DATE
DEC 2018

RhinoOne GEOTECHNICAL

BORING NUMBER B-1

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), damp (Fill)					
		CLAY with trace sand (CH), red-brown, high plasticity, damp to moist, medium stiff, sand is mostly coarse-grained	SPT 1	11	3-3-4 (7)		
5		becomes stiff	SPT 2	100	3-4-7 (11)		
		becomes very stiff	SPT 3	100	5-7-11 (18)		
10		becomes with light tan mottling	SPT 4	100	8-8-12 (20)		
15		becomes with heavy grey mottling 2-inch layer of silty SAND (SM), brown	SPT 5	100	5-7-9 (16)		
20		becomes stiff	SPT 6	100	3-5-6 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-2

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1017 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ **AT TIME OF DRILLING** 7.00 ft / Elev 1010.00 ft
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), grey, damp, loose to medium dense, subangular to angular (Fill)					
		2-inch layer of CLAY (CH), red	SPT 1	56	5-5-5 (10)		
5			SPT 2	67	5-5-5 (10)		
		▽ becomes wet becomes loose, with odor	SPT 3	33	6-4-4 (8)		
10		CLAY with trace sand (CH), red-brown, medium to high plasticity, moist, very stiff, moderate distinct grey mottling	SPT 4	100	5-8-13 (21)		
			SPT 5	100	4-8-12 (20)		
15			SPT 6	100	5-6-12 (18)		
20		becomes stiff	SPT 7	100	3-6-6 (12)		

Bottom of borehole at 21.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-3

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Silty SAND with gravel (SM), dark brown, moist, loose (Fill)					
			SPT 1	100	2-1-2 (3)		
		CLAY with sand (CH), brown, medium plasticity, moist, soft					
5		becomes red-brown, medium stiff	SPT 2	78	2-3-4 (7)		
		becomes brown					
		becomes stiff with odor	SPT 3	100	4-5-6 (11)		
10		becomes red-brown, high plasticity, very stiff, with moderate grey mottling	SPT 4	89	5-9-13 (22)		
15		becomes stiff	SPT 5	100	4-4-8 (12)		
20			SPT 6	100	4-4-8 (12)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

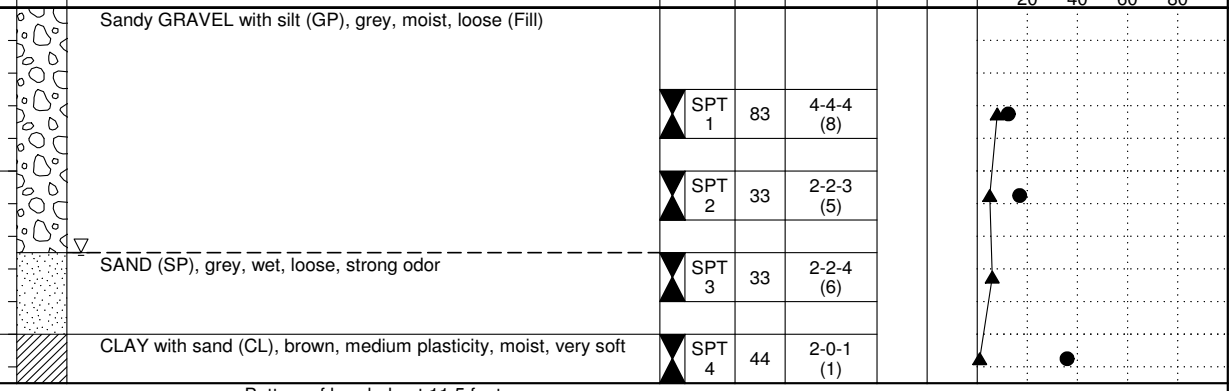
BORING NUMBER B-4

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1016 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
▽ **AT TIME OF DRILLING** 7.50 ft / Elev 1008.50 ft
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Sandy GRAVEL with silt (GP), grey, moist, loose (Fill)					
			SPT 1	83	4-4-4 (8)		
5			SPT 2	33	2-2-3 (5)		
		▽ SAND (SP), grey, wet, loose, strong odor	SPT 3	33	2-2-4 (6)		
10		CLAY with sand (CL), brown, medium plasticity, moist, very soft	SPT 4	44	2-0-1 (1)		

Bottom of borehole at 11.5 feet.

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

RhinoOne GEOTECHNICAL

BORING NUMBER B-5

CLIENT Cole Valley Partners
PROJECT NAME New Coffee Shop and Related Improvements
PROJECT NUMBER CVP-2018-001
PROJECT LOCATION 39625 Proctor Boulevard, Sandy, Oregon
DATE STARTED 11/21/18 **COMPLETED** 11/21/18
GROUND ELEVATION 1012 ft **HOLE SIZE** 4.5 inches
DRILLING CONTRACTOR Dan Fischer Excavating
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger with Manual Hammer
AT TIME OF DRILLING --- Not Encountered
LOGGED BY PH **CHECKED BY** CH
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		Grass root zone (4-inches)					
		CLAY with sand (CH), brown, medium to high plasticity, damp, stiff	SPT 1	100	4-4-7 (11)		
5		becomes stiff to very stiff	SPT 2	100	6-7-8 (15)		
		becomes red-brown, high plasticity, stiff	SPT 3	100	3-5-9 (14)		
10		becomes very stiff, moderate grey mottling	SPT 4	100	4-6-11 (17)		
15		becomes stiff	SPT 5	100	6-5-7 (12)		
20			SPT 6	100	6-5-7 (12)		

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 21.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 11/29/18 10:29 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\CVP-2018-001 SANDY COFFEE SHOP.GPJ

Exhibit GG

FROELICH ENGINEERS

Structural and Civil Engineers
with Integrity, Flexibility & Creativity

Stormwater Narrative
Dutch Bros - Sandy

Prepared by: Evan Eykelbosch, PE
Froelich Engineers
17700 SW Upper Boones Ferry Rd, Suite 115
Portland, OR 97224

Project Number: 18-C023

Date: May 28, 2019

The proposed Dutch Bros project is located at 39625 Proctor Blvd in Sandy, Oregon. The project site is approximately 28,000 sf and is an L-shaped property abutting both Proctor and Pleasant. The proposed development will subdivide the southern portion of this lot for this development. The northern portion will remain undeveloped for the time being. The site is currently undeveloped but was previously used as a gas station. The proposed development is bound by a private residence and Pleasant Street to the north, a 7/11 convenience store to the east, Proctor Blvd (Highway 26) to the south, and commercial and residential properties to the west (see 'Vicinity Map').

The site topography generally slopes from south to north and east to west, with the low point of the site in the northwest corner. The site has documented residual contamination from past use as a gas station. Due to this contamination, development requires the oversight of an environmental engineer and stormwater infiltration will be prohibited. The proposed detention system will be wrapped in an impermeable liner to minimize onsite infiltration. It is essential that this liner be designed to hold up to the contaminants found in the soil. The final determination of liner material will be based on the results of the environmental study.

The proposed development will include an 834 sf Dutch Bro's with a drive-through, parking lot and pedestrian patio (see 'Utility Plan'). The site is divided into three drainage basins that collect runoff in catch basins and convey it to a central treatment manhole with filter cartridges (see 'Basin Map'). Runoff is then conveyed to an underground detention system for detention and flow control. Runoff will drain out of the detention facility and tie into a new 12" stormwater main in Pleasant Street. Along the north end of the site, there is a short retaining wall. The drain pipe behind this wall will tie into the onsite stormwater system, downstream of the flow control manhole.

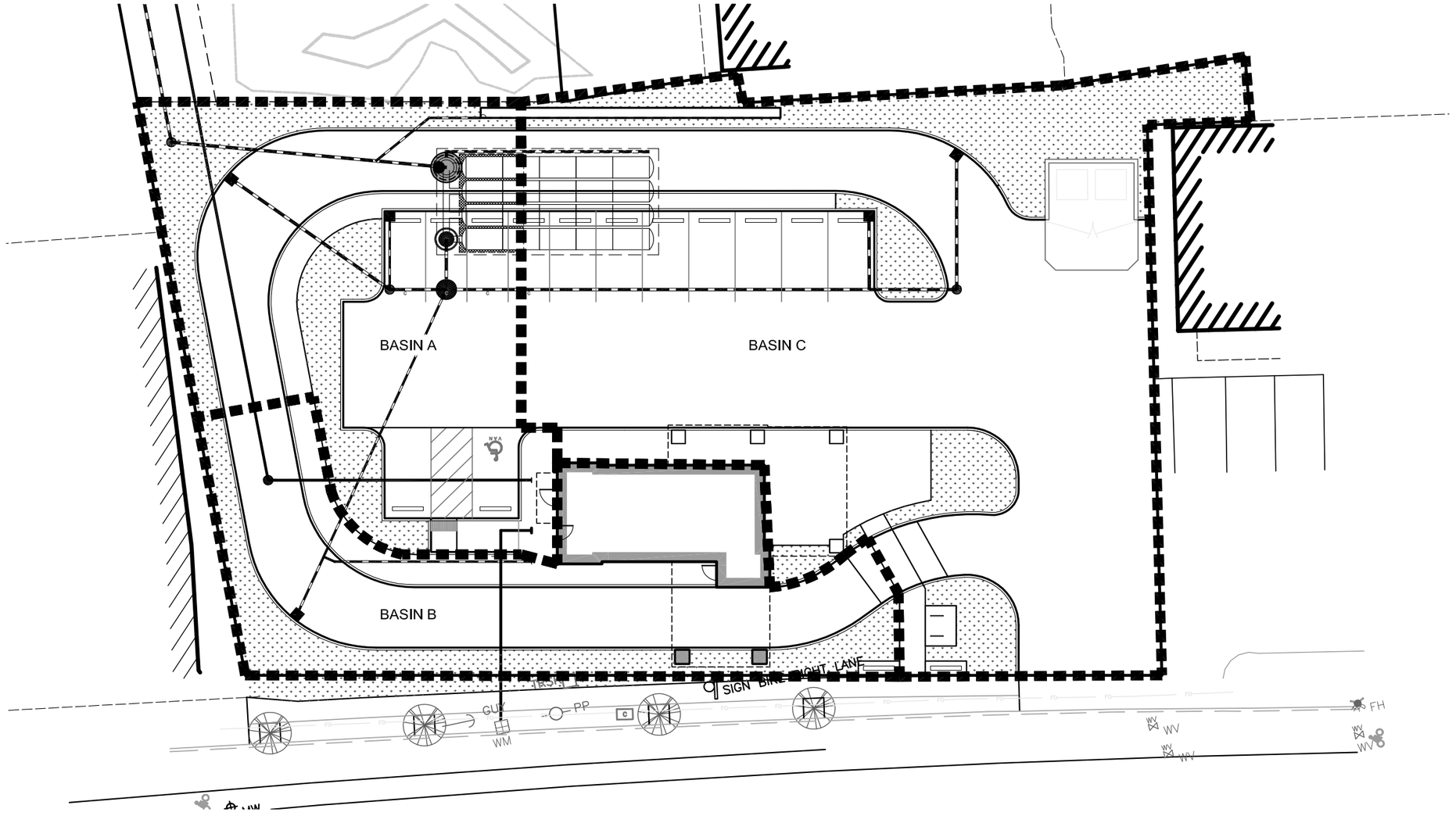
The City of Sandy has adopted the City of Portland Stormwater Management Manual (SWMM) with modified Santa Barbara Urban Hydrograph (SBUH) storm events (see attached 'Assumptions'). The treatment facility and detention systems were designed using the HydroCAD software (see 'HydroCAD Report'). The water quality manhole was designed using the SBUH water quality storm event as defined in the SWMM. The detention system was designed to reduce the post-development peak runoff rate to the predevelopment runoff rate for the 2-year, 5-year, 10-year and 25-year storm events per City of Sandy and SWMM requirements.

Per the conveyance requirements outlined in the SWMM, all pipes were designed to accommodate the 25-year peak flow using the SBUH Method in HydroCAD (see 'Conveyance Calculations').

Based on the requirements of the City of Sandy and the City of Portland Stormwater Management Manual, all facilities and conveyance components have sufficient capacity to manage site runoff and should be approved as designed.

Evan Eykelbosch, PE
Civil Department Manager

VICINITY MAP



FROELICH ENGINEERS INC

BASIN MAP

SCALE:1"=20'

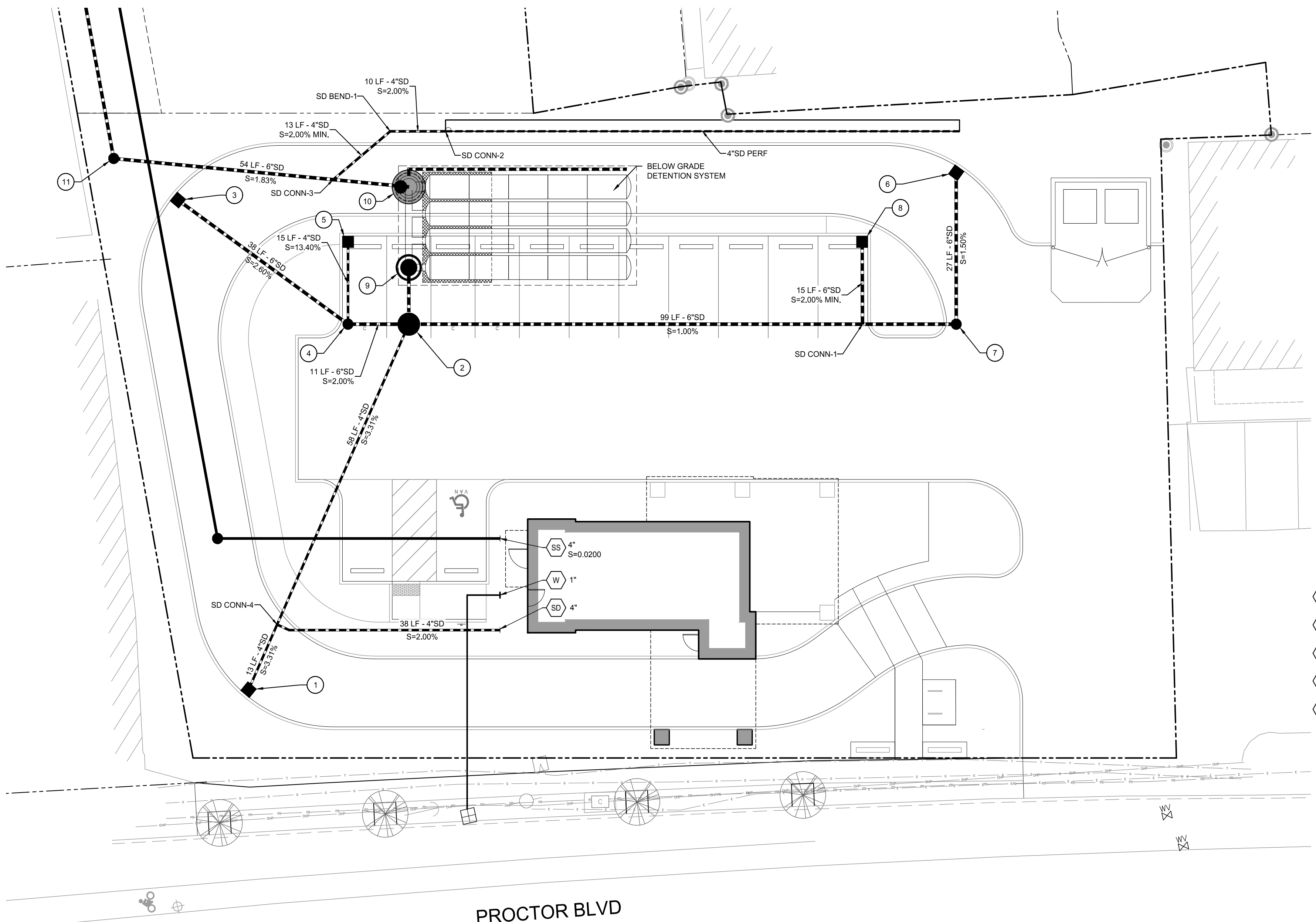
0 20' 40'

MAP

1X17-EXHIBIT File: P:\2018\18-C023 (Dutch Bros - Sandy)\Engineering\PROJECT INFO\CALCULATIONS\Stormwater\18-C023_xBASIN.dwg TAB:MAP

Plotted: 5/23/19 at 4:04pm By: FCE-CIV-2

1	CB-1 N=635,855.18 E=7,750,953.36 RIM=1014.18 IE 4" OUT=1012.66 (NE)	4	COTG-1 N=635,914.44 E=7,750,984.69 IE 6" OUT=1010.54 (E)	8	CB-5 N=635,908.84 E=7,751,078.63 RIM=1014.83 IE 6" OUT=1012.00 (S)	11	COTG-6 N=635,952.07 E=7,750,949.54 IE 6" OUT=1004.02 (N)
2	WQHM-1 N=635,912.10 E=7,750,995.43 RIM=1013.67 IE 6" IN=1010.32 (E) IE 6" IN=1010.32 (W) IE 4" IN=1010.32 (SW) IE 6" OUT=1008.00 (N)	5	CB-3 N=635,928.66 E=7,750,987.80 RIM=1014.99 IE 4" OUT=1012.49 (S)	9	FSMH N=635,921.87 E=7,750,997.56 RIM=1015.36 IE 6" IN=1007.80 (S) IE 15" OUT=1007.60 (E)		
		6	CB-4 N=635,917.14 E=7,751,097.85 RIM=1014.10 IE 6" OUT=1011.71 (S)				
3	CB-2 N=635,942.41 E=7,750,959.33 RIM=1014.02 IE 6" OUT=1011.52 (SE)	7	COTG-4 N=635,890.99 E=7,751,092.15 IE 6" OUT=1011.31 (W)	10	FCMH N=635,935.79 E=7,751,000.60 RIM=1015.08 IE 15" IN=1005.60 (E) IE 4" IN=1005.10 (N) IE 6" OUT=1005.00 (W)		



SCALE 1 INCH = 10 FEET
10 0 10 20

SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL X/C5.X.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

UTILITY LABEL LEGEND

STRUCTURE LABEL

- UTILITY TYPE (SD=STORM DRAINAGE, SS=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION)
- STRUCTURE TYPE CALLOUT
- ID NUMBER (WHERE APPLICABLE)

XX XX-XX
X+XX.X RT X.X' ← LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X ← STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

- UTILITY LENGTH
- UTILITY SIZE
- UTILITY TYPE

XXLF - XX" XX

S=X.XX% ← SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD	AREA DRAIN TYPE 1	
BEND	BEND, USE FITTING IF APPLICABLE	
BWV	BACKWATER VALVE	
CB	TRAPPED CATCH BASIN	
CO	CLEANOUT TO GRADE	
CONN	CONNECTION	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE POINT OF CONN.	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GV	GATE VALVE	
OF	OUTFALL	
OV	OVERFLOW INLET	
SMH	48" DIA. SANITARY MH	
SDMH	48" DIA. STORM DRAIN MH	
SEDMH	SEDIMENTATION MANHOLE	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
WYE	WYE CONNECTION	

SHEET LEGEND

FTP	STORMWATER FLOW-THROUGH PLANTER. ID AS SHOWN.
SS	CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
SD	CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.
W	CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
!!	UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O.

Revisions

FROELICH ENGINEERS INC
17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005
froelich-engineers.com

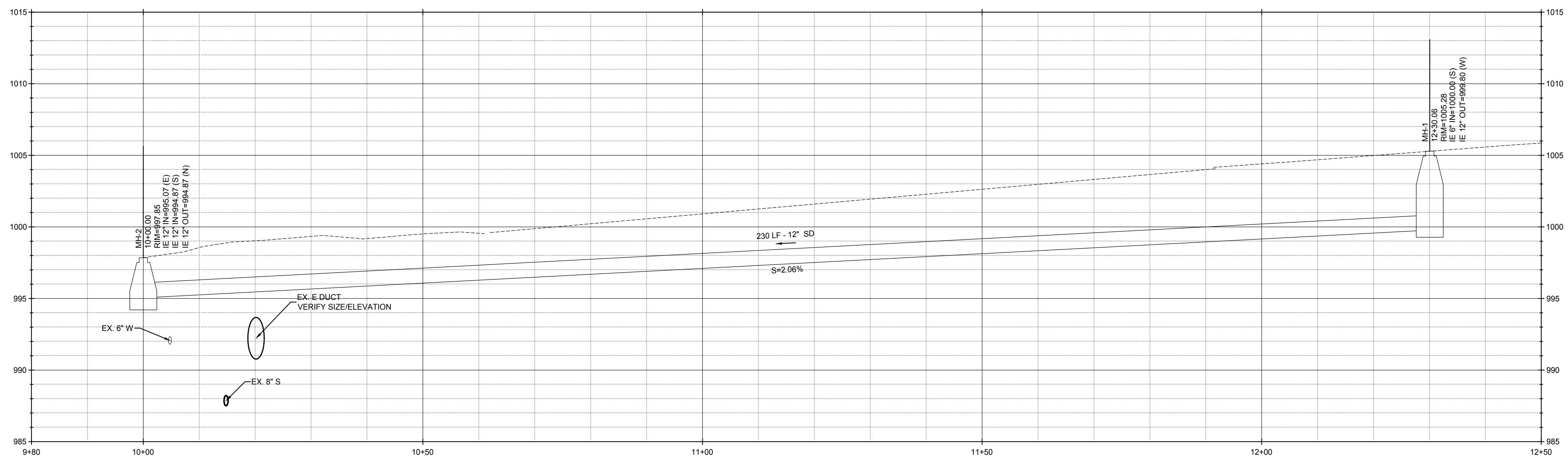
DUTCH BROS
39625 PROCTOR BLVD.
SANDY, OR 97055

340 South Convent Ave
Tucson, Arizona 85701
520.245.4010 phone
www.a23studios.com
a.23 studios

Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C4.0

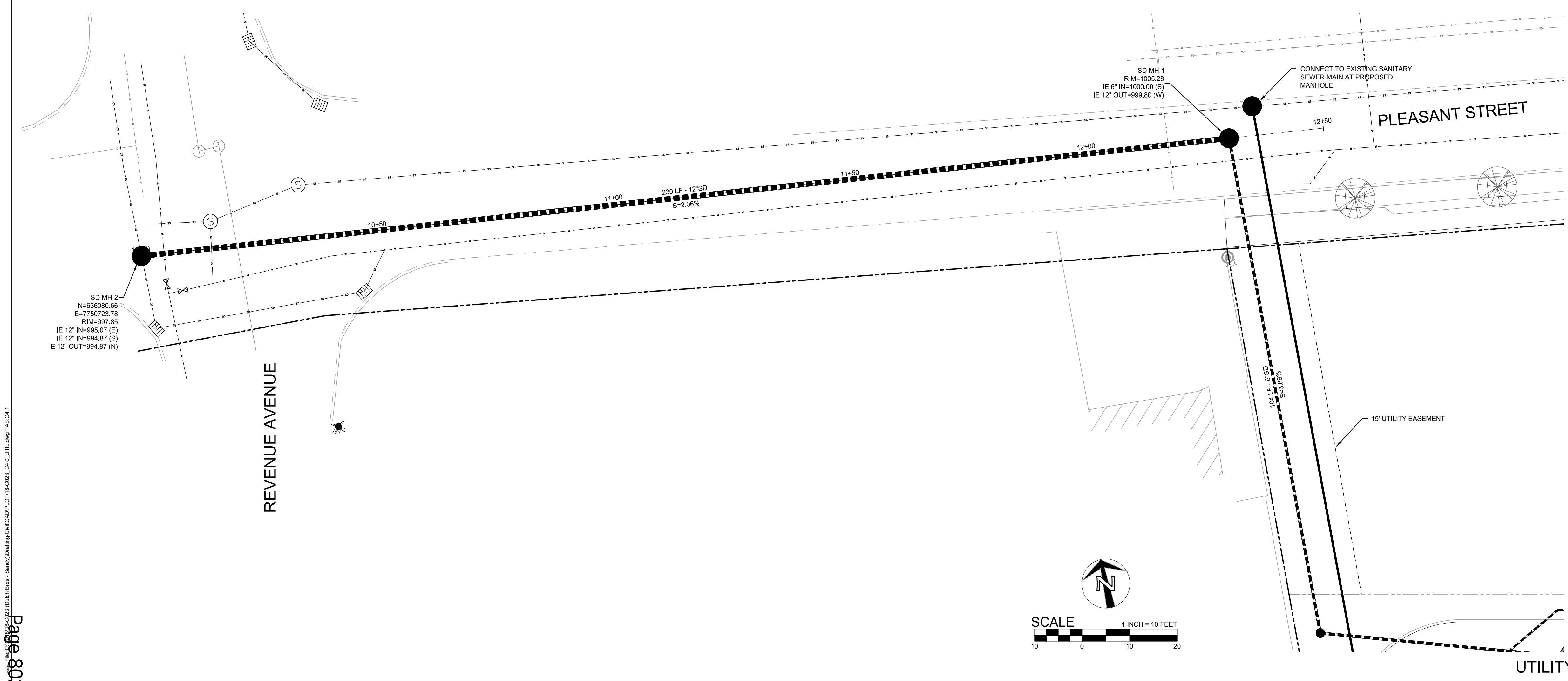
UTILITY PLAN - SOUTH

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1



PROFILE - STORMWATER MAIN

SCALE: HORZ: 1" = 10'
VERT: 1" = 2'



Revisions

FROELICH
ENGINEERS!

17700 SW UPPER BOONES FRY RD
PORTLAND, OREGON 97223
(503) 624-7005

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DUTCH BROS
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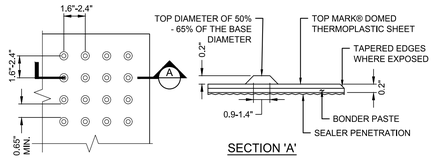
www.a23studios.com

a.23 studios

Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C4.1

UTILITY PLAN - NORTH

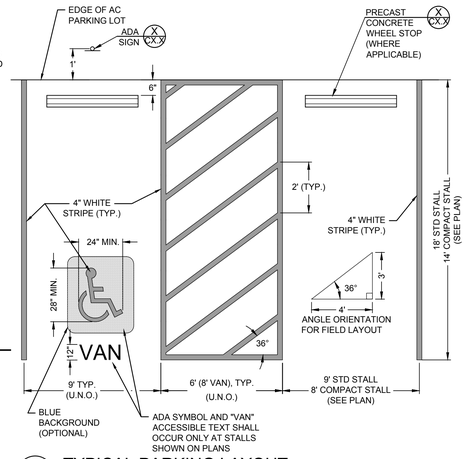
Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1



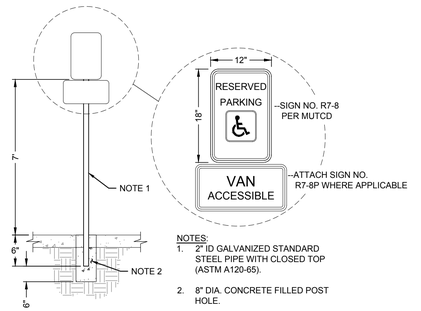
SECTION 'A'

NOTES:
1. THERMOPLASTIC DETECTABLE WARNINGS SHALL BE INSTALLED AS SHOWN IN PLANS AND DETAILS AND TO THE FULL WIDTH OF CURB RAMP OR FLUSH SURFACE. THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE OR OTHER POTENTIAL HAZARD.
2. THERMOPLASTIC DETECTABLE WARNING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. MANUFACTURER OF DETECTABLE WARNING:
   TOPMARK BY FLINT TRADING INC.
   PH: (336) 475-6600
   WWW.FLINTTRADING.COM
   OR APPROVED EQUAL

X DETECTABLE WARNING - TYPE 1
SCALE: NTS

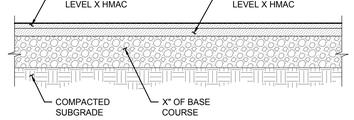


X TYPICAL PARKING LAYOUT
SCALE: NTS

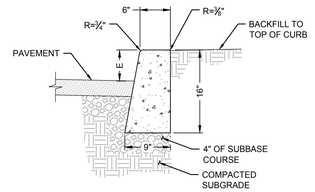


NOTES:
1. 2" ID GALVANIZED STANDARD STEEL PIPE WITH CLOSED TOP (ASTM A120-65).
2. 8" DIA. CONCRETE FILLED POST HOLE.

X ADA PARKING SIGN - TYPE 1
SCALE: NTS

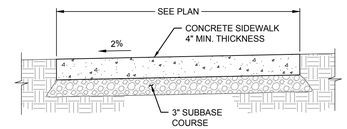


X ASPHALT PAVEMENT SECTION
SCALE: NTS



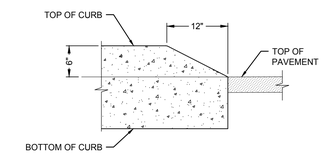
NOTES:
1. CURB EXPOSURE 'E' = 6", TYP. VARY AS SHOWN ON PLANS OR AS DIRECTED.
2. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY.
3. TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% UNLESS OTHERWISE SHOWN OR AS DIRECTED.
4. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM WITH CURB MACHINE AS APPROVED BY THE ENGINEER.

X STANDARD CONCRETE CURB
SCALE: NTS

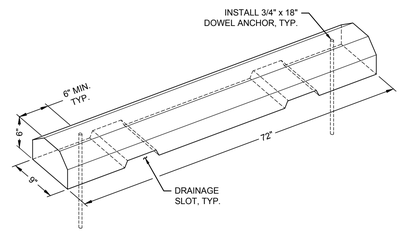


NOTES:
1. CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING, AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY. UNLESS NOTED OTHERWISE.

X CONCRETE SIDEWALK
SCALE: NTS

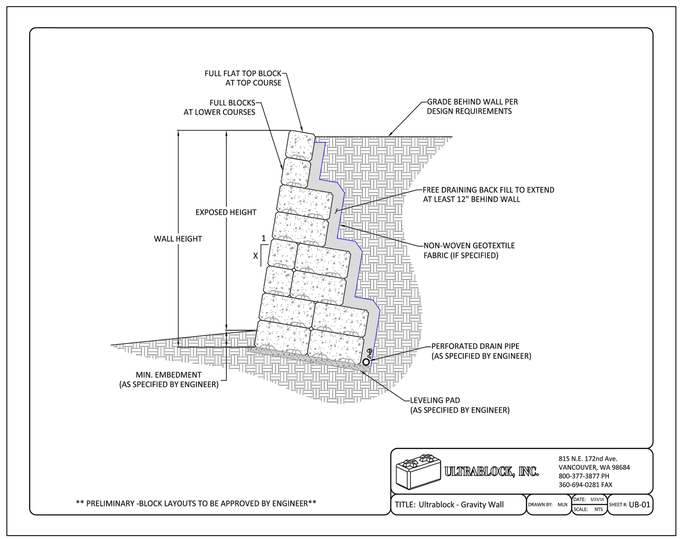


X CONCRETE CURB ENDING
SCALE: NTS



NOTES:
1. DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM TO MANUFACTURER'S PRODUCTS APPROVED BY ENGINEER.

X PRECAST CONCRETE WHEEL STOP
SCALE: NTS



Revisions

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Project 18069
Date 11.28.18
Scale As Noted
Sheet C5.0

DETAILS

File: P:\2018\18-0023 (Dutch Bros - Sandy)\Drafting-Civil\CAD\PLOT\18-0023_C5.0_DET1.dwg 7AB:C5.0
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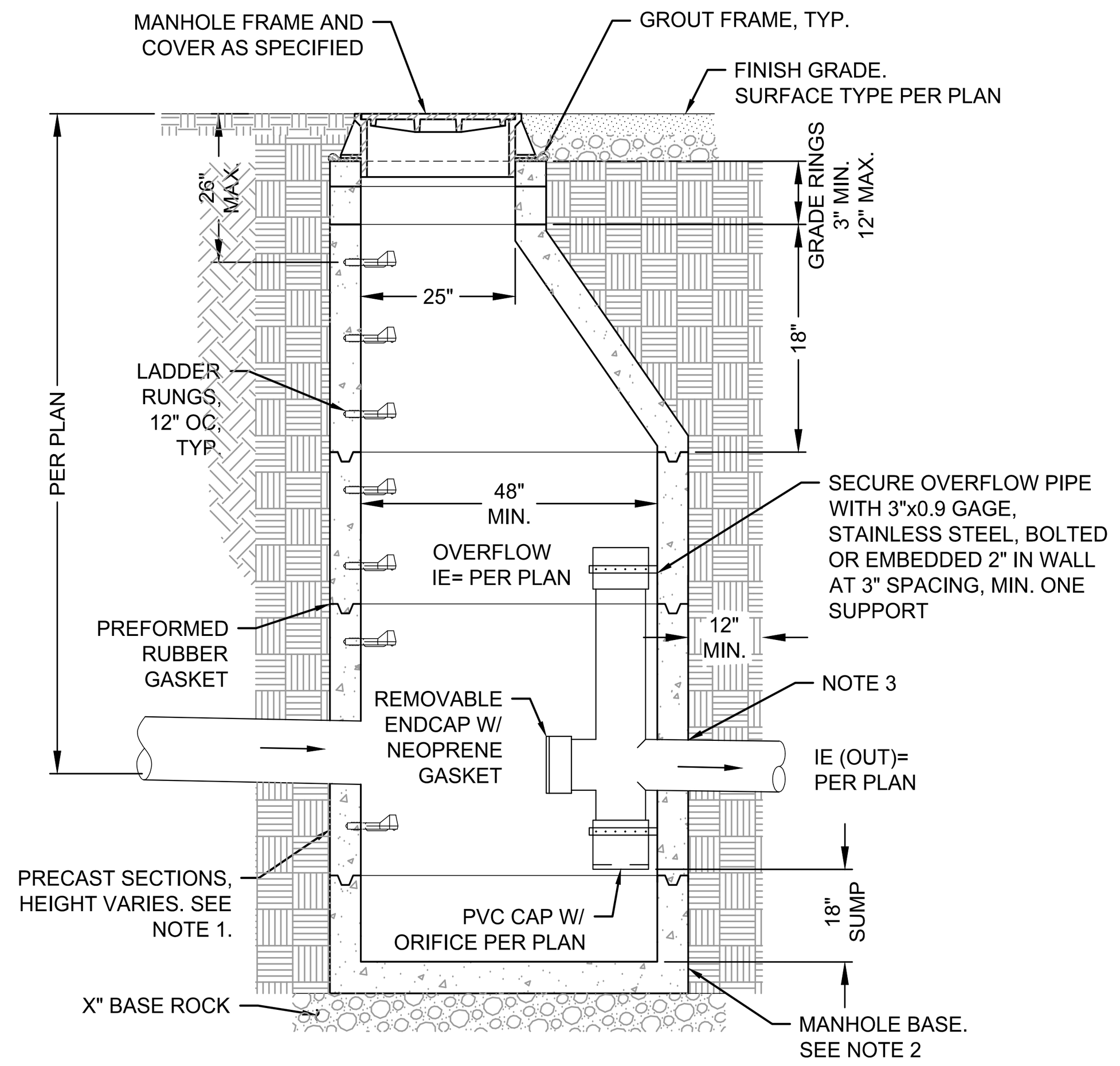
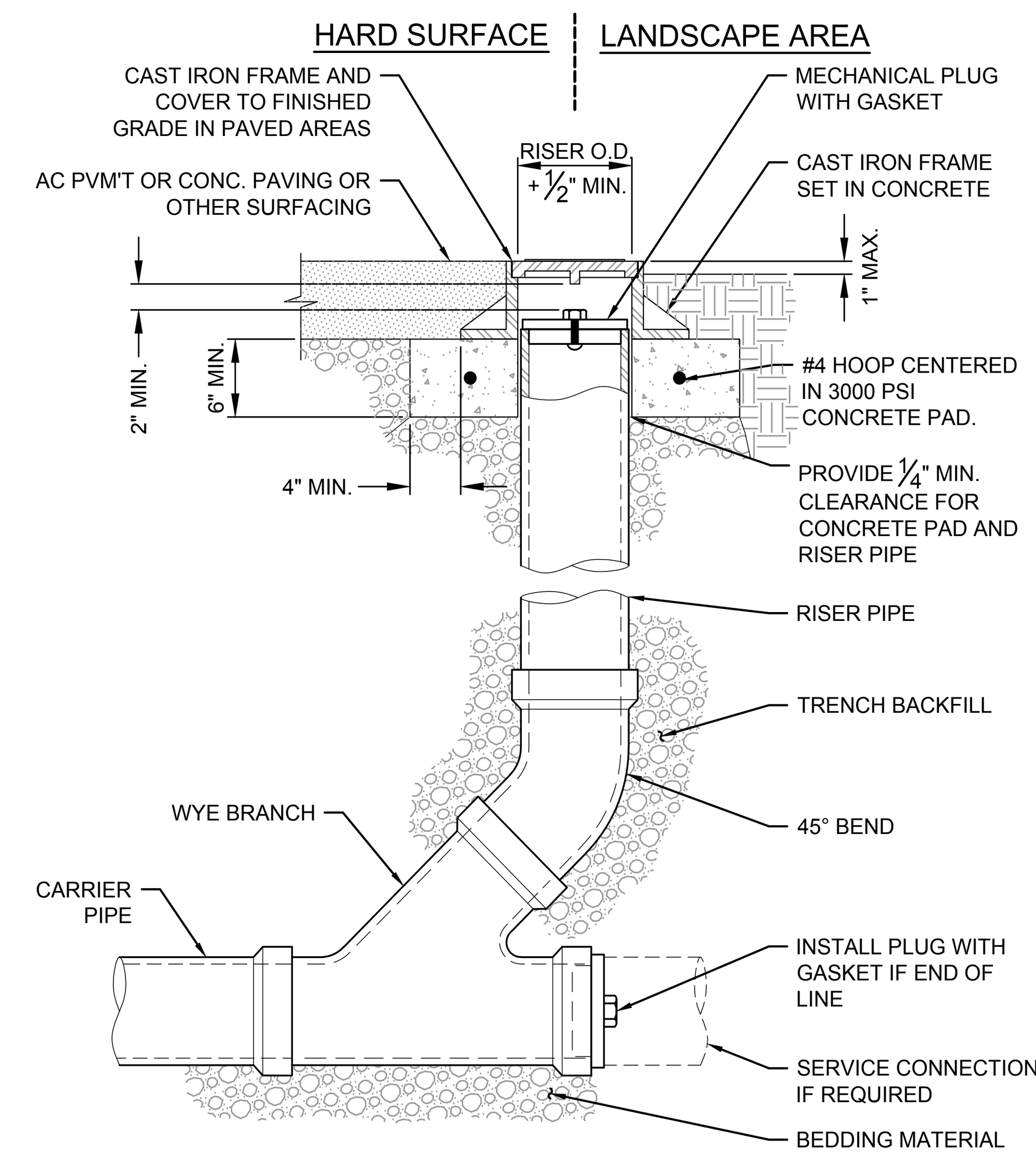


NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT. PIPE SIZES NOTED ON PLANS.

X FLOW CONTROL MANHOLE

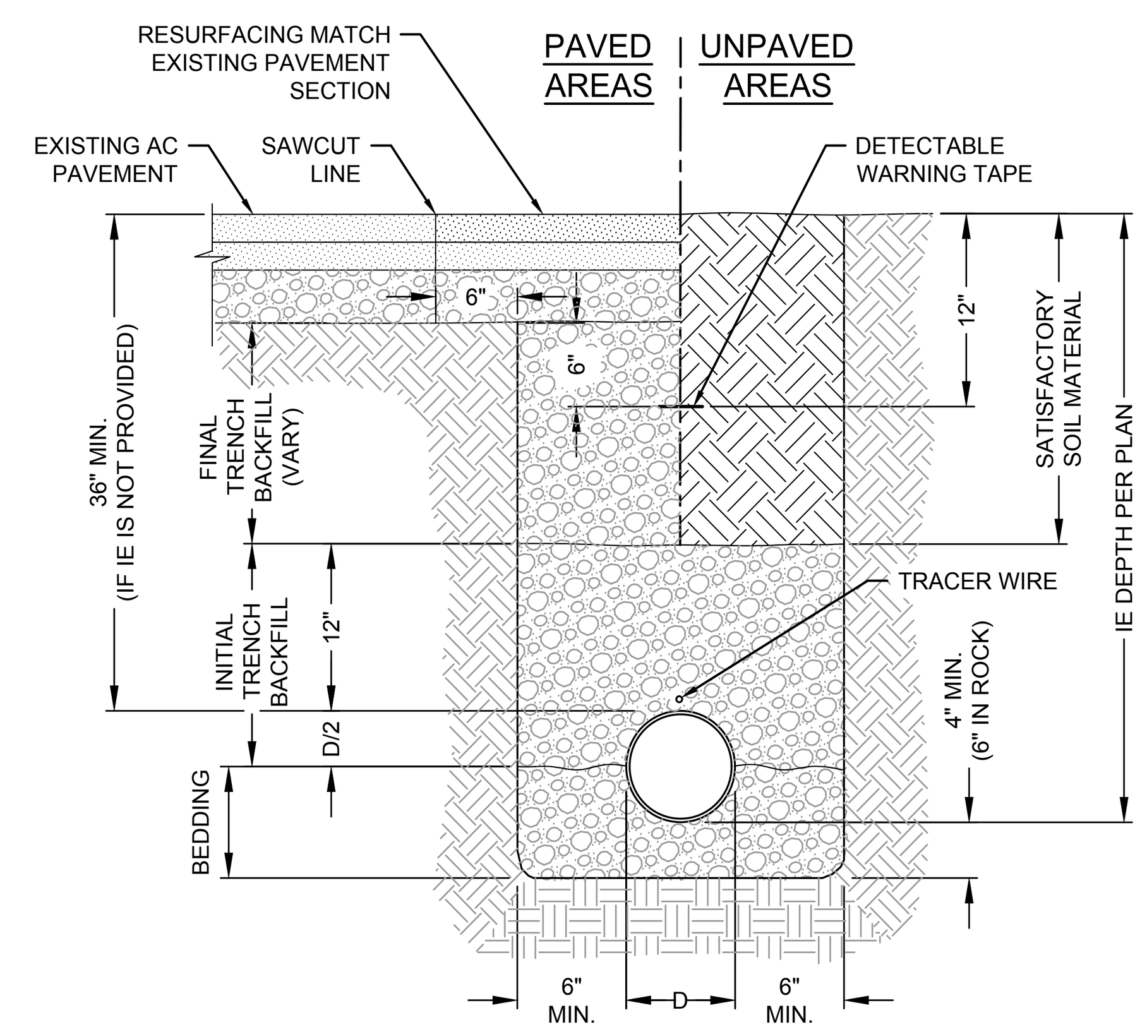
SCALE: NTS



NOTES:
1. CAST IRON FRAME AND COVER SHALL MEET H-20 LOAD REQUIREMENT.
2. FOR CARRIER PIPE SIZE 6"Ø AND LESS, PROVIDE RISER PIPE SIZE TO MATCH CARRIER PIPE.
3. FOR CARRIER PIPE SIZE 8"Ø AND LARGER, RISER PIPE SHALL BE 6"Ø.
4. RISER PIPE MATERIAL TO MATCH CARRIER PIPE MATERIAL.

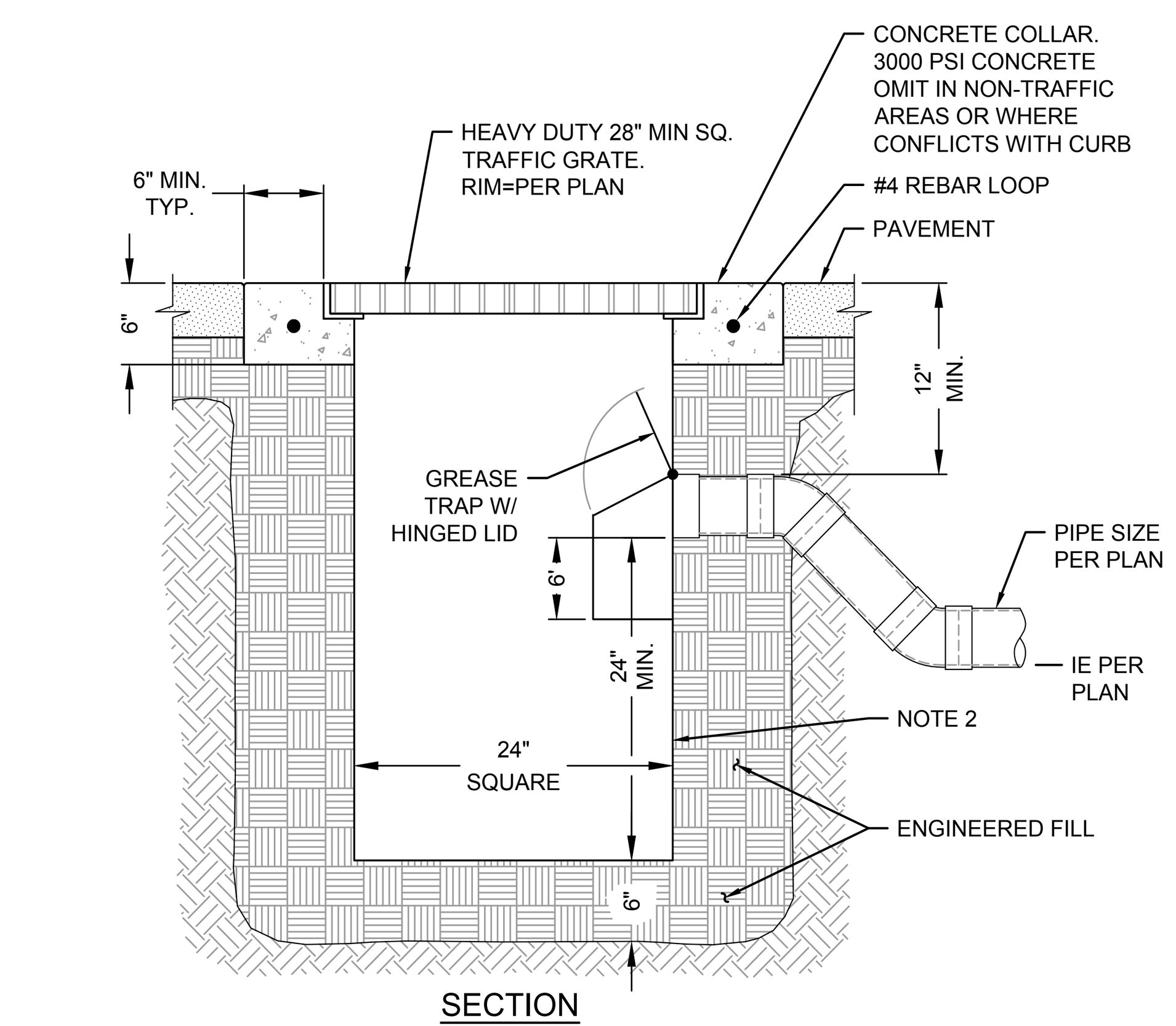
X STANDARD CLEANOUT (COTG)

SCALE: NTS



X TYPICAL PIPE BEDDING AND BACKFILL

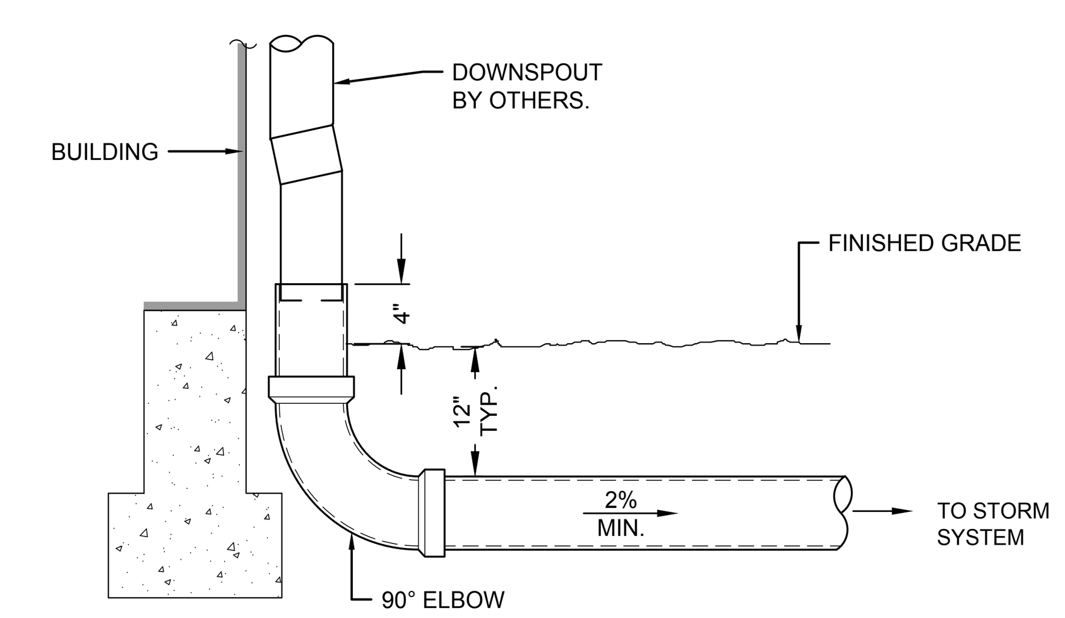
SCALE: NTS



NOTES:
1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 1/4" STEEL PLATE, BITUMINOUS COATED. AS MANUFACTURED BY GIBSON STEEL BASINS OR APPROVED EQUAL.

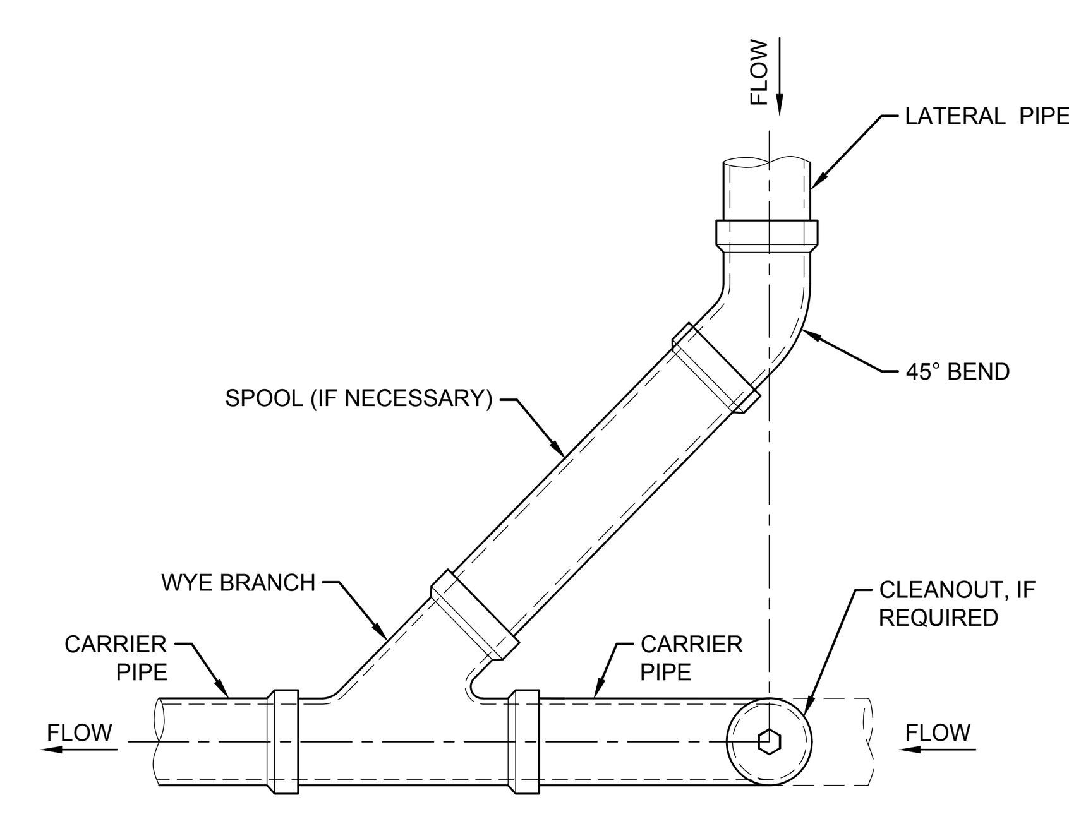
X TRAPPED CATCH BASIN

SCALE: NTS



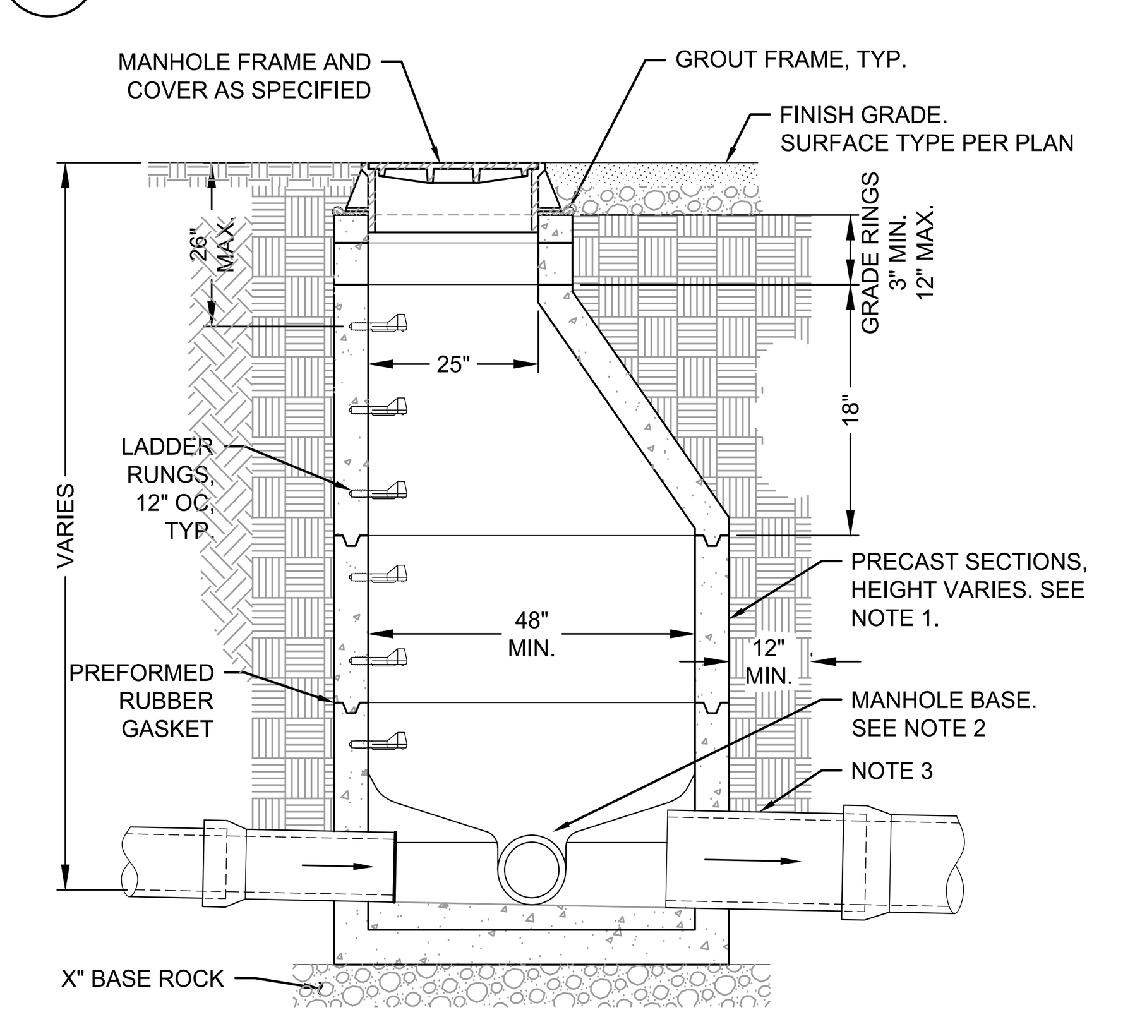
X DOWNSPOUT/STORM DRAIN CONNECTION

SCALE: NTS



3 STANDARD GRAVITY WYE CONNECTION

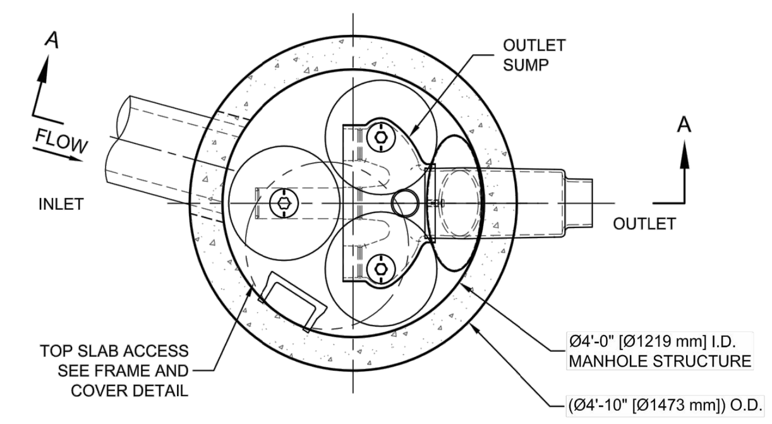
SCALE: NTS



NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. MANHOLE BASE MAY BE PRECAST OR CAST IN PLACE. SEE STANDARD MANHOLE BASE DETAILS.
3. ALL CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE VAULT.

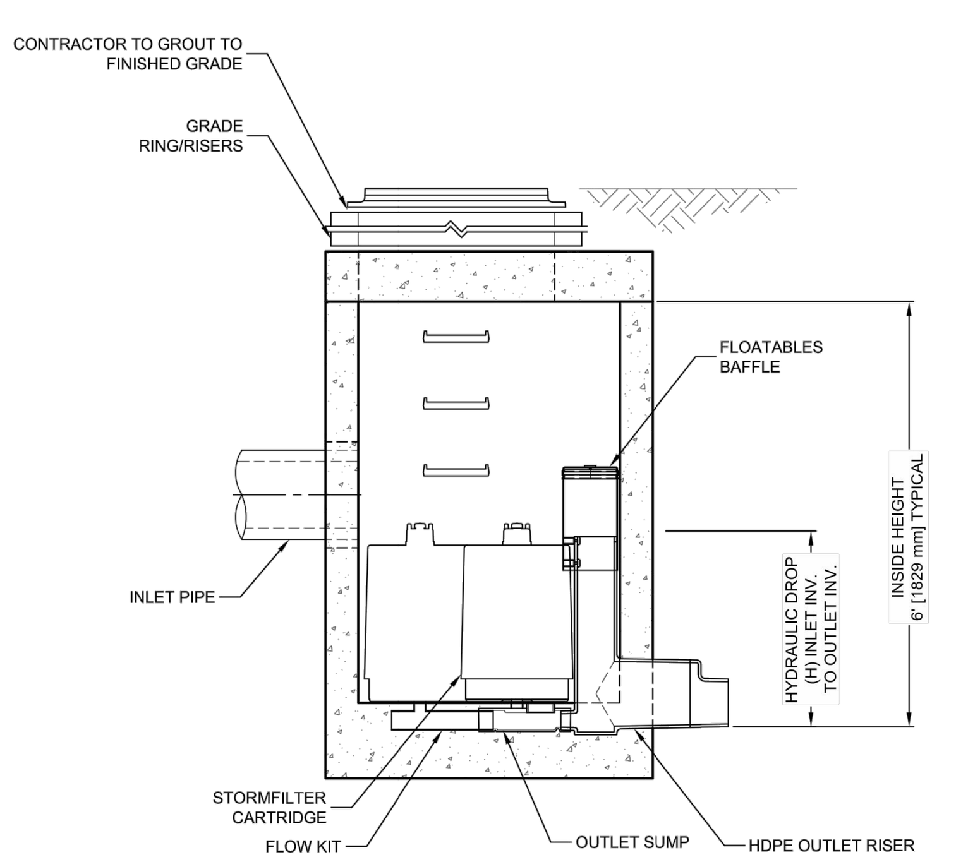
X STANDARD MANHOLE

SCALE: NTS



PLAN VIEW

STANDARD OUTLET RISER
FLOWKIT: 40A



SECTION A-A

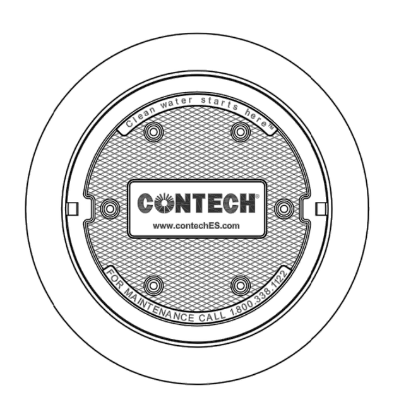
STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. Ø4 [1219 mm] MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS [28.3 L/s] . IF THE SITE CONDITIONS EXCEED 1.0 CFS [28.3 L/s] AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27" [686 mm]			18" [458 mm]			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H)	3.05' [930 mm]			2.3' [700 mm]			1.8' [550 mm]		
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.44]	10 [0.63]	8.35 [0.54]	5 [0.32]

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND COVER

(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			*
WATER QUALITY FLOW RATE (cfs) [L/s]			*
PEAK FLOW RATE (cfs) [L/s]			*
RETURN PERIOD OF PEAK FLOW (yrs)			*
CARTRIDGE HEIGHT (SEE TABLE ABOVE)			*
NUMBER OF CARTRIDGES REQUIRED			*
CARTRIDGE FLOW RATE			*
MEDIA TYPE (PERLITE, ZPG, PSORB)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524 mm] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

The Stormwater Management StormFilter®

CONTECH® ENGINEERED SOLUTIONS LLC
www.contechES.com
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SFMH48
STORMFILTER
STANDARD DETAIL

Revisions

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Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.1

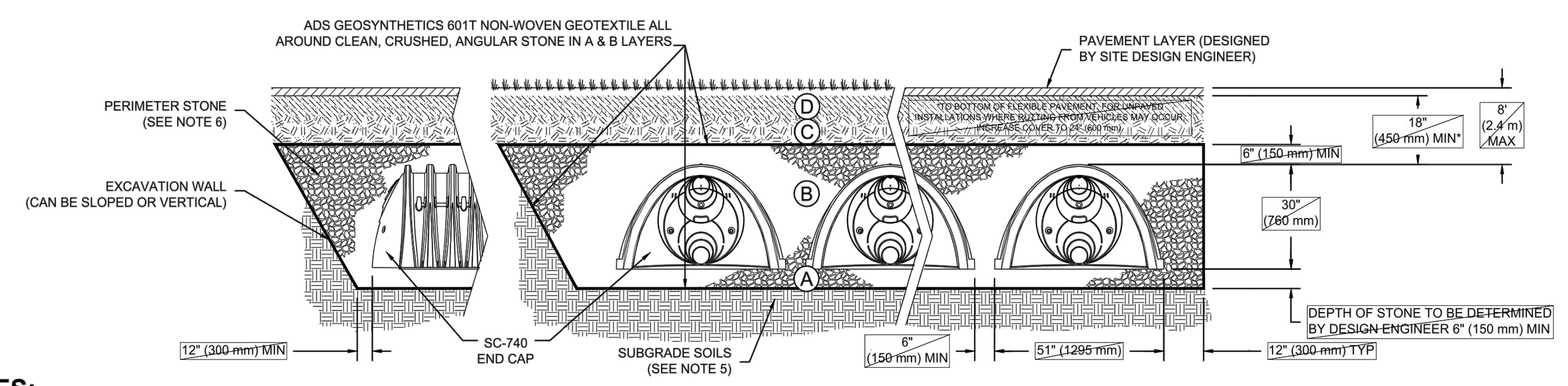
DETAILS

Plotted: 5/24/19 at 2:46pm By: FCE-CIV-1

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

Revisions

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Project	18069
Date	11.28.18
Scale	As Noted
Sheet	C5.2

DETAILS

Santa Barbara Unit Hydrograph (SBUH) Assumptions:

(used for Conveyance and Flow Control)

Water Quality (WQ) Storm Event =	**0.83**	in/24-hours	BES
2-year Storm Event=	**3.5**	in/24-hours	Sandy
5-year Storm Event=	**4.5**	in/24-hours	Sandy
10-year Storm Event=	**4.8**	in/24-hours	Sandy
25-year Storm Event=	**5.5**	in/24-hours	Sandy
Time of Concentration	**5.0**	minutes	
Roughness Coefficient	**0.013**		

Curve Number Assumptions:

Impervious Area =	**98**		
Pervious Area =	**73**	Existing	Type C - Woods, Fair
	79	Proposed	Type C - 50% grass cover, Fair

Summary for Subcatchment 5S: Water Quality - Impervious Area only

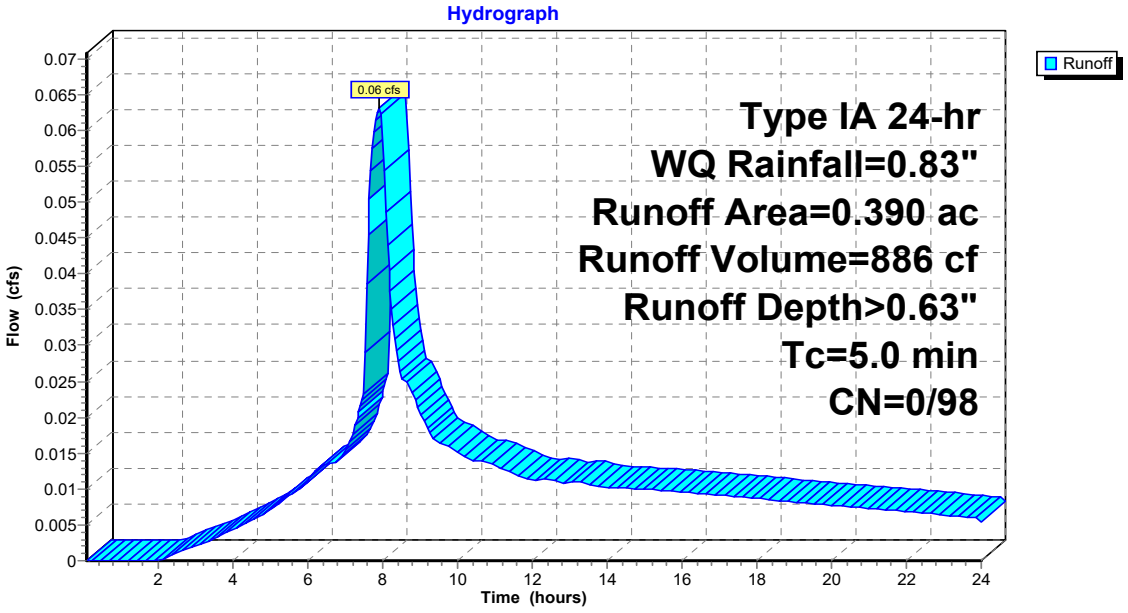
Runoff = 0.06 cfs @ 7.92 hrs, Volume= 886 cf, Depth> 0.63"

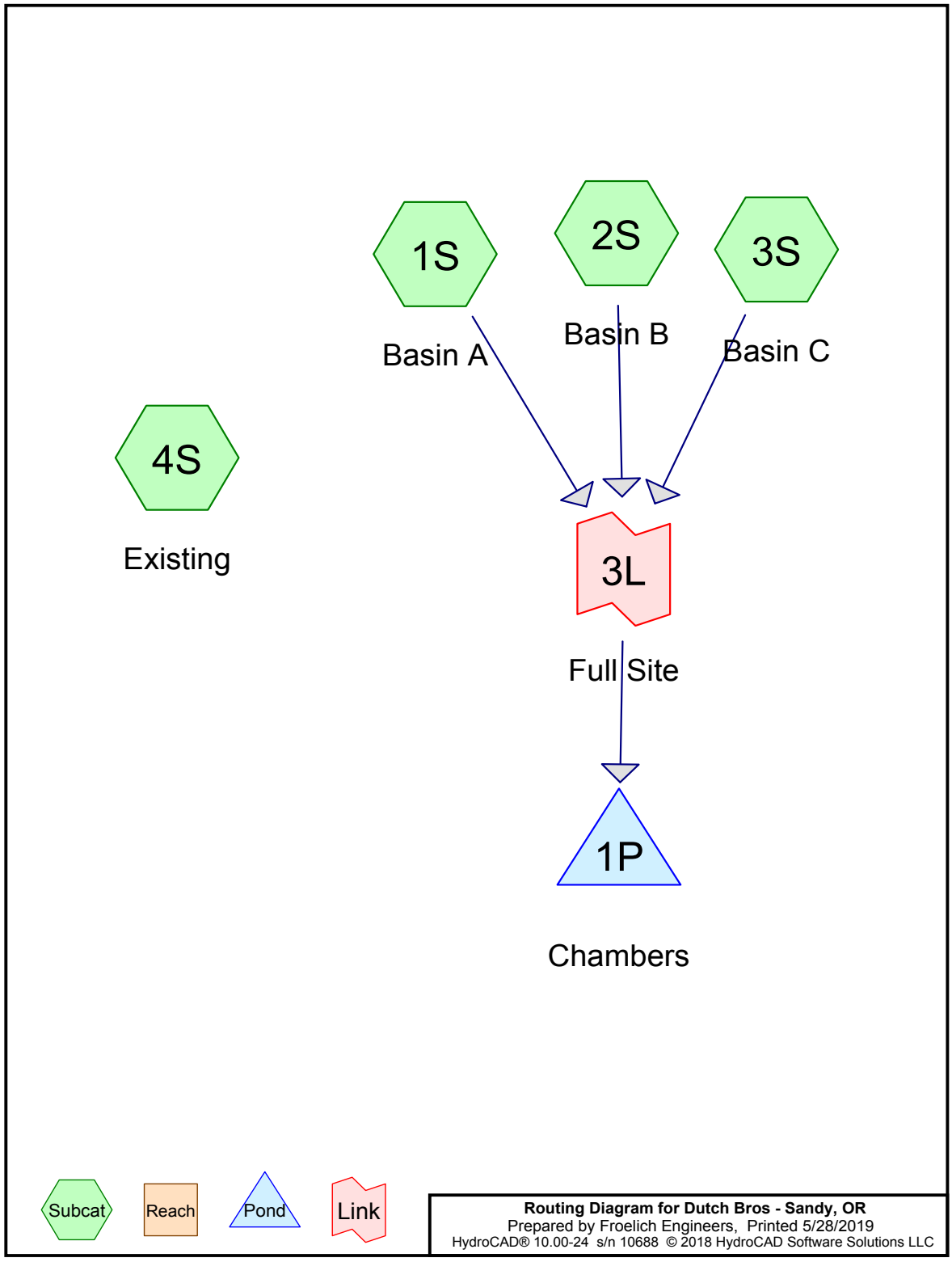
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr WQ Rainfall=0.83"

	Area (ac)	CN	Description
*	0.390	98	
	0.390	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Water Quality - Impervious Area only




1S
2S
3S
Basin A
Basin B
Basin C
4S
Existing
3L
Full Site
1P
Chambers
Subcat
Reach
Pond
Link
Routing Diagram for Dutch Bros - Sandy, OR
Prepared by Froelich Engineers, Printed 5/28/2019
HydroCAD® 10.00-24 s/n 10688 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: Basin A

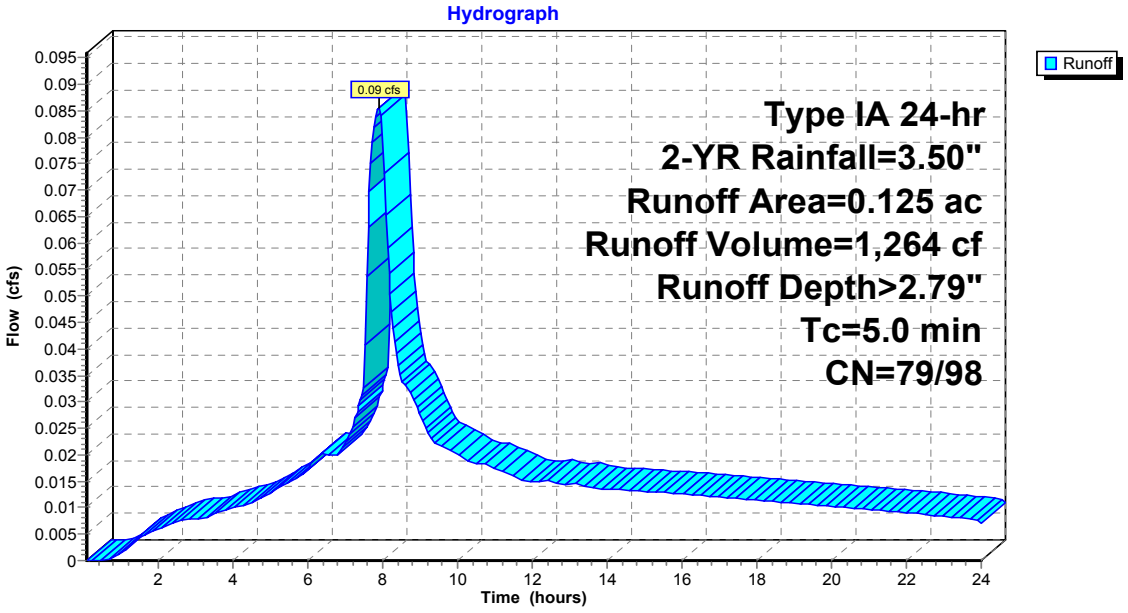
Runoff = 0.09 cfs @ 7.91 hrs, Volume= 1,264 cf, Depth> 2.79"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

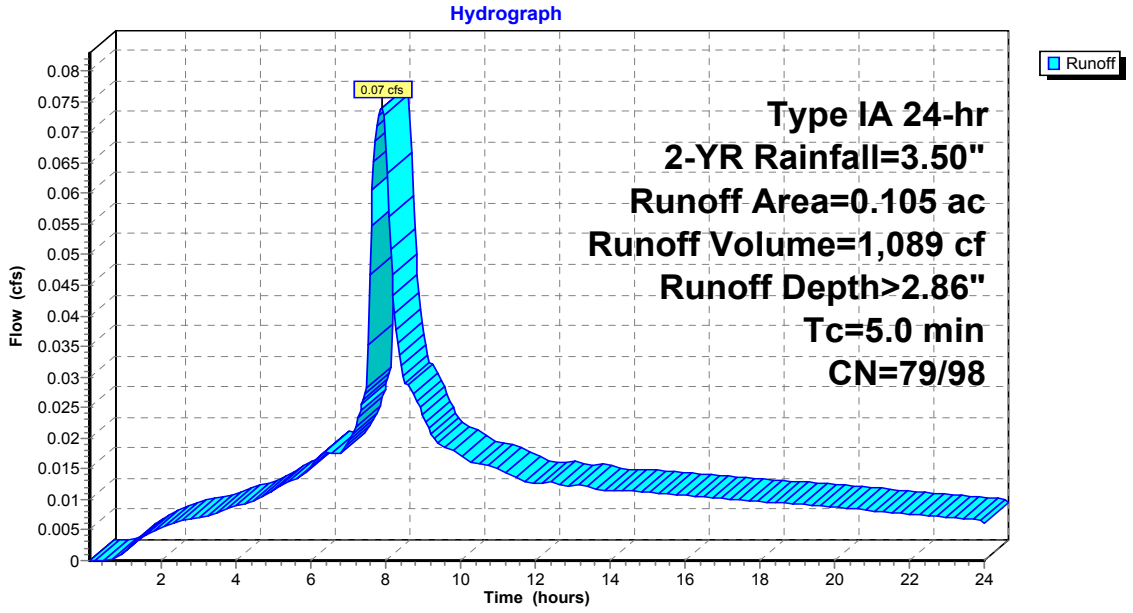
Runoff = 0.07 cfs @ 7.91 hrs, Volume= 1,089 cf, Depth> 2.86"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

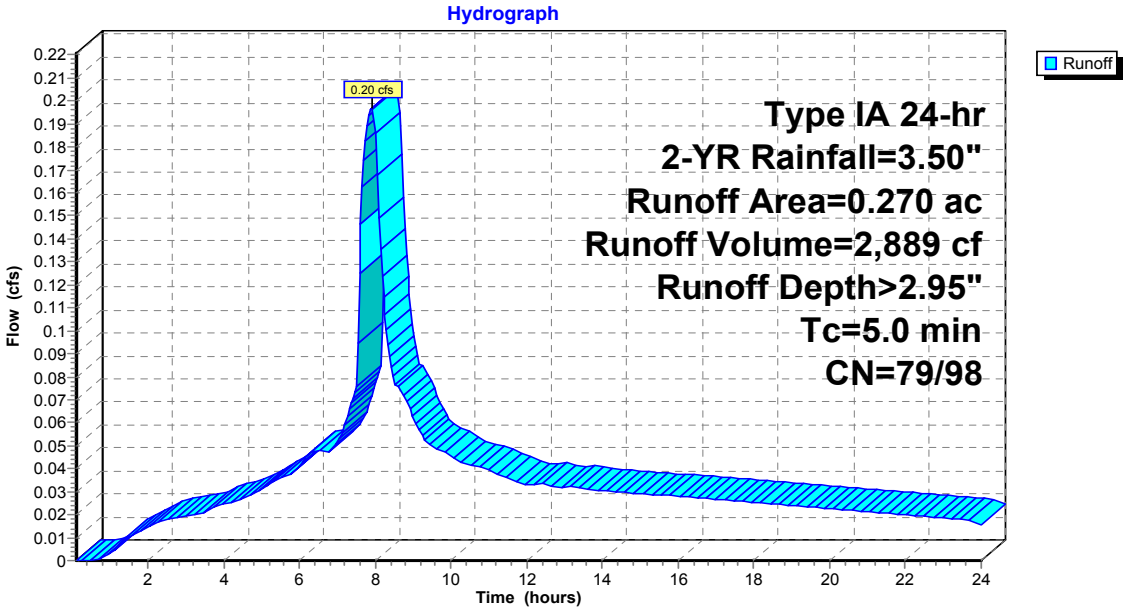
Runoff = 0.20 cfs @ 7.90 hrs, Volume= 2,889 cf, Depth> 2.95"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

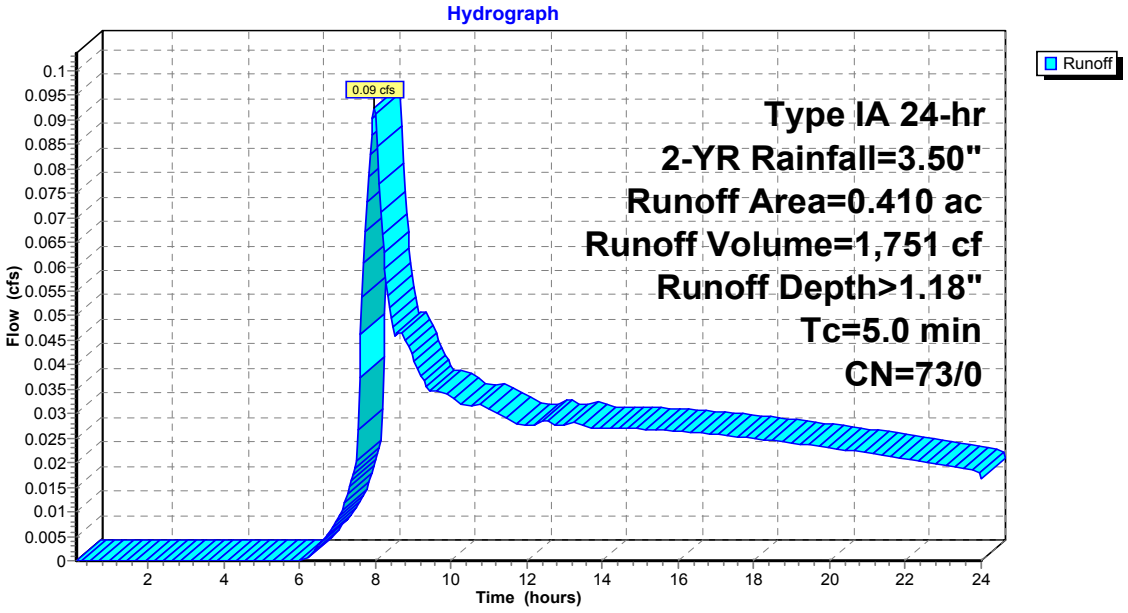
Runoff = 0.09 cfs @ 7.99 hrs, Volume= 1,751 cf, Depth> 1.18"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 2-YR Rainfall=3.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 2-YR PEAK FLOW TO 0.09 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 2.89" for 2-YR event
Inflow = 0.36 cfs @ 7.91 hrs, Volume= 5,242 cf
Outflow = 0.09 cfs @ 9.81 hrs, Volume= 4,945 cf, Atten= 76%, Lag= 114.2 min
Primary = 0.09 cfs @ 9.81 hrs, Volume= 4,945 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.14' @ 9.81 hrs Surf.Area= 0.021 ac Storage= 0.029 af

Plug-Flow detention time= 171.7 min calculated for 4,945 cf (94% of inflow)
Center-of-Mass det. time= 130.4 min (811.4 - 681.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.09 cfs @ 9.81 hrs HW=2.14' (Free Discharge)
└**1=Culvert** (Passes 0.09 cfs of 0.42 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.09 cfs @ 7.05 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

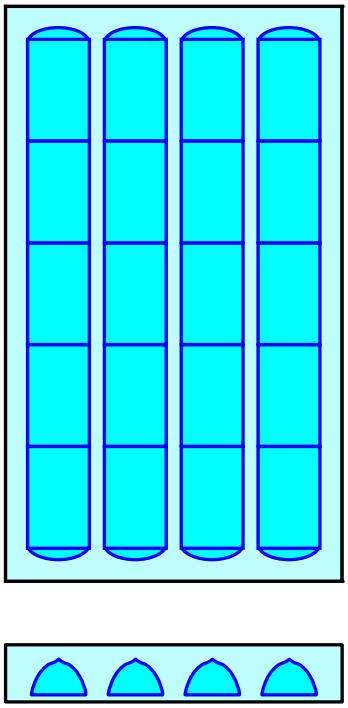
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

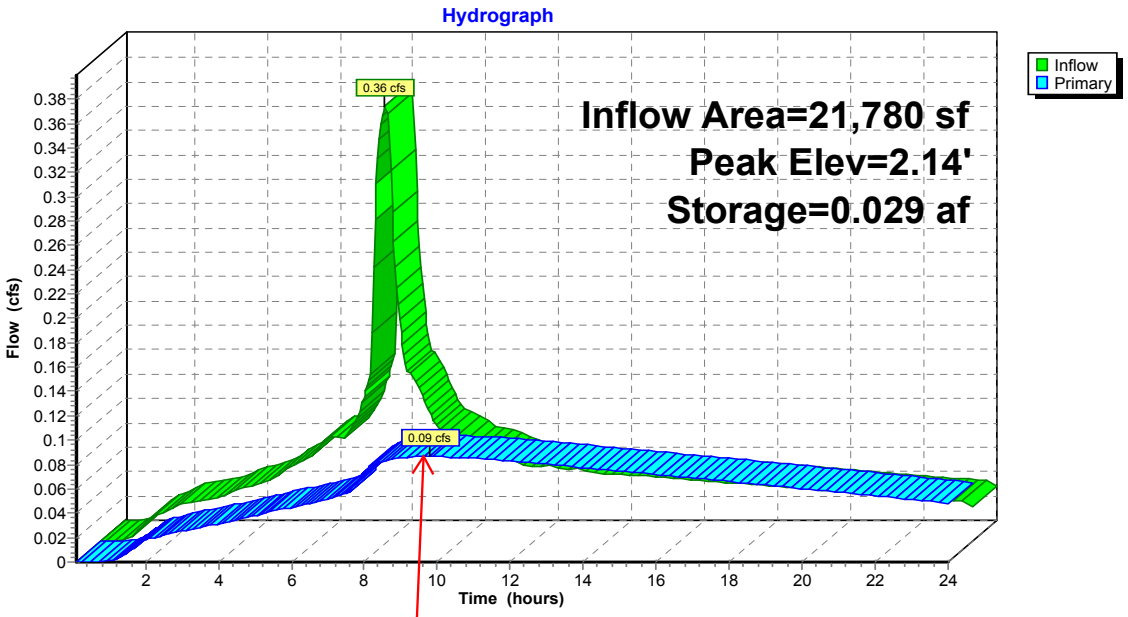
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.09 CFS

Summary for Subcatchment 1S: Basin A

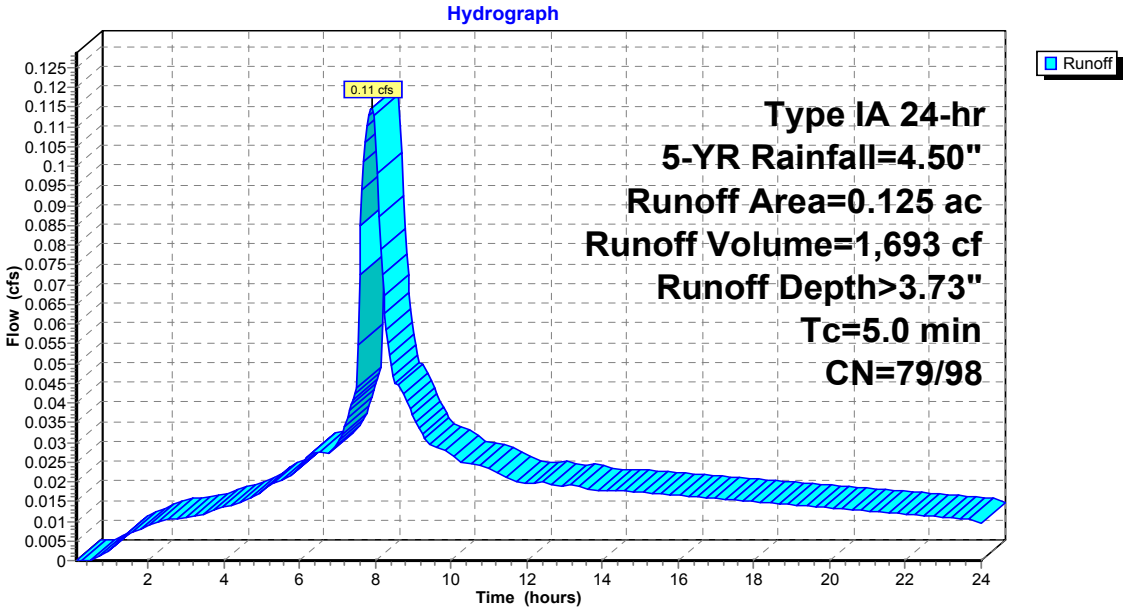
Runoff = 0.11 cfs @ 7.91 hrs, Volume= 1,693 cf, Depth> 3.73"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

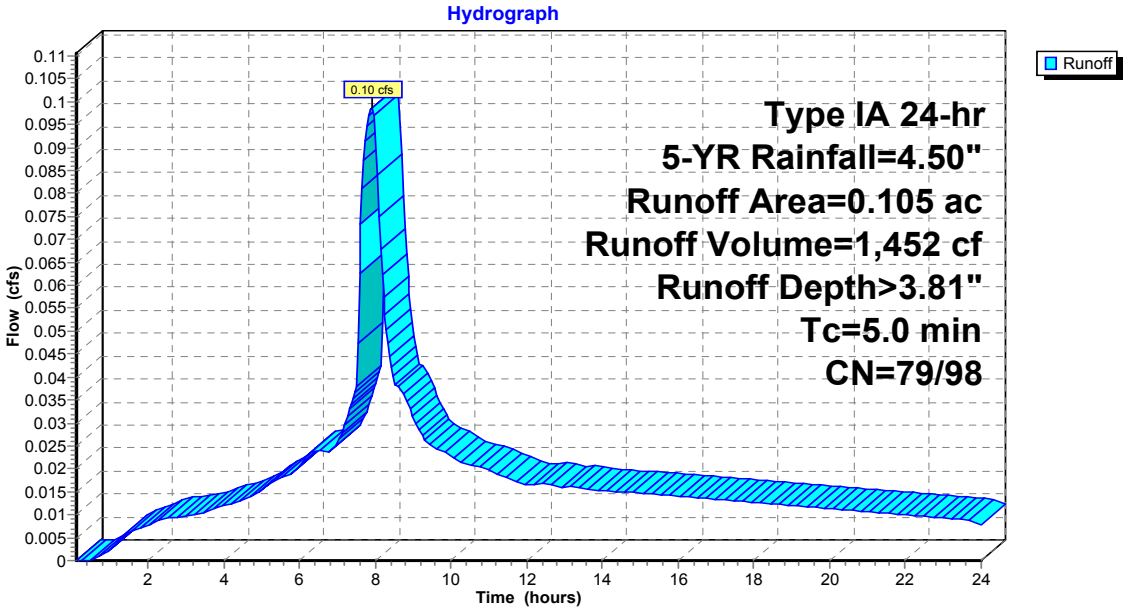
Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,452 cf, Depth> 3.81"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

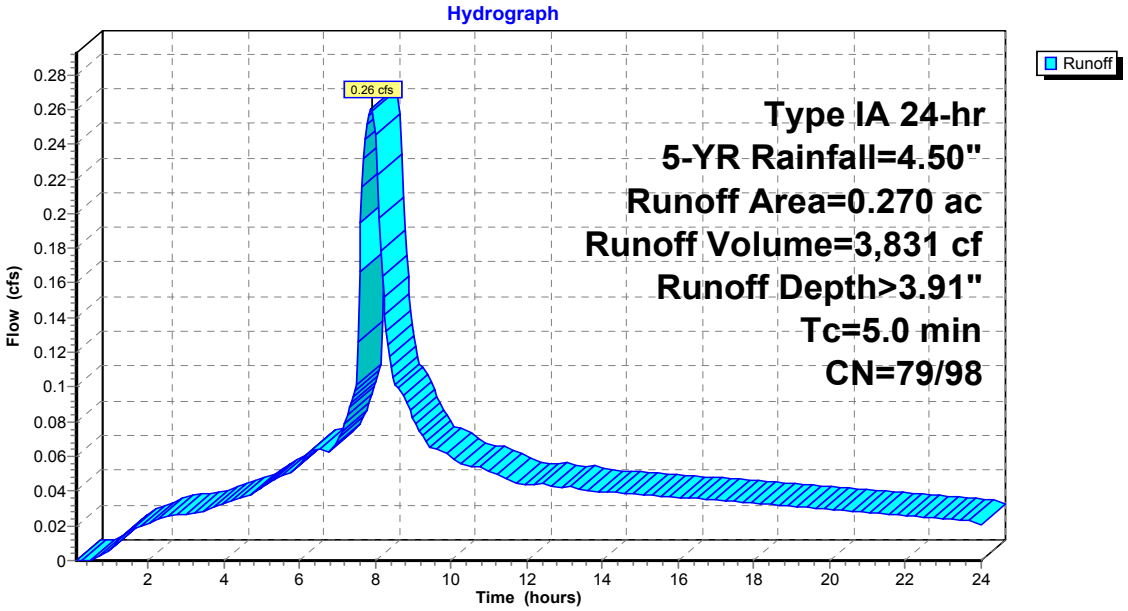
Runoff = 0.26 cfs @ 7.90 hrs, Volume= 3,831 cf, Depth> 3.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

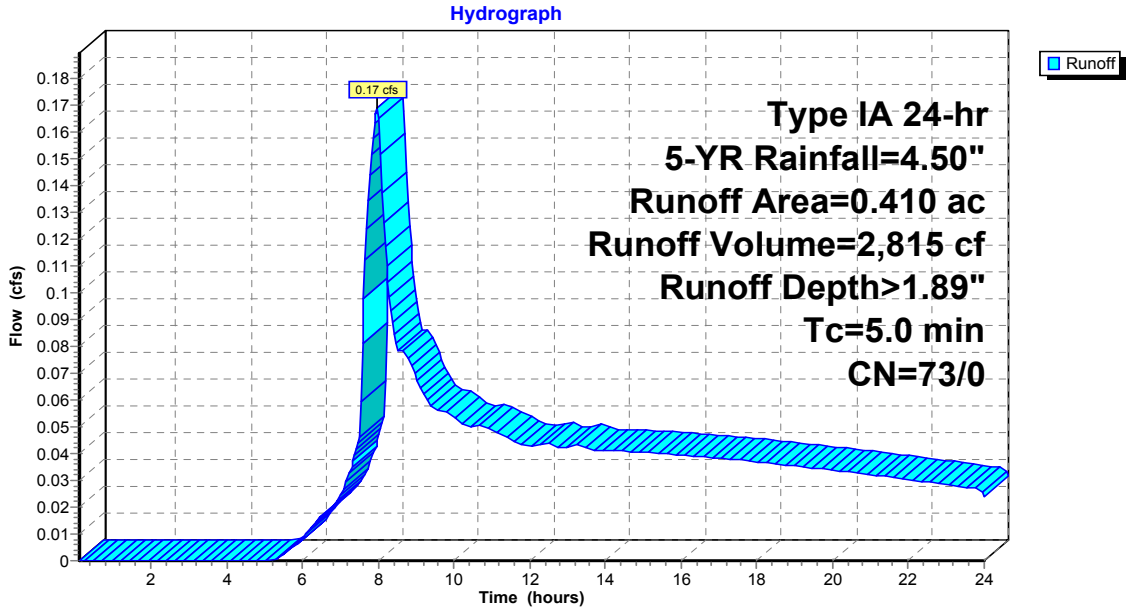
Runoff = 0.17 cfs @ 7.97 hrs, Volume= 2,815 cf, Depth> 1.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 5-YR Rainfall=4.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 5-YR PEAK FLOW TO 0.17 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 3.84" for 5-YR event
Inflow = 0.47 cfs @ 7.90 hrs, Volume= 6,976 cf
Outflow = 0.15 cfs @ 9.00 hrs, Volume= 6,387 cf, Atten= 68%, Lag= 65.6 min
Primary = 0.15 cfs @ 9.00 hrs, Volume= 6,387 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 2.93' @ 9.00 hrs Surf.Area= 0.021 ac Storage= 0.038 af

Plug-Flow detention time= 178.2 min calculated for 6,376 cf (91% of inflow)
Center-of-Mass det. time= 117.6 min (792.6 - 675.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.15 cfs @ 9.00 hrs HW=2.93' (Free Discharge)
└**1=Culvert** (Passes 0.15 cfs of 0.47 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.10 cfs @ 8.25 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 4.09 fps)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

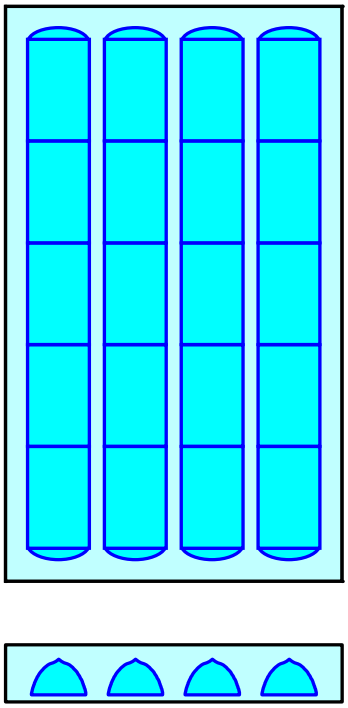
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

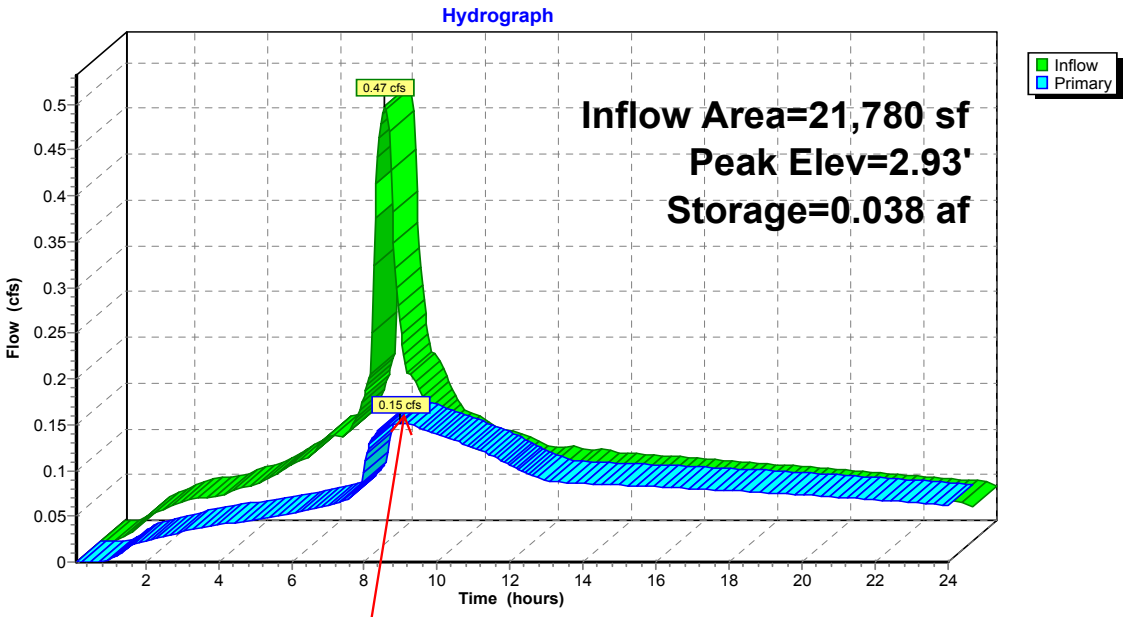
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.15 CFS

Summary for Subcatchment 1S: Basin A

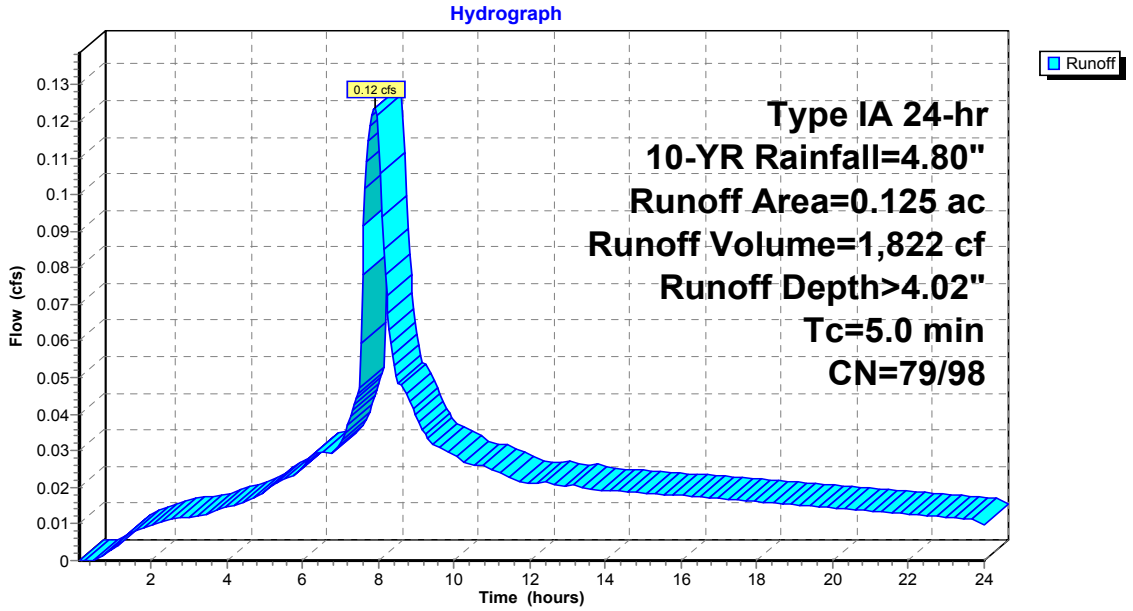
Runoff = 0.12 cfs @ 7.91 hrs, Volume= 1,822 cf, Depth> 4.02"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

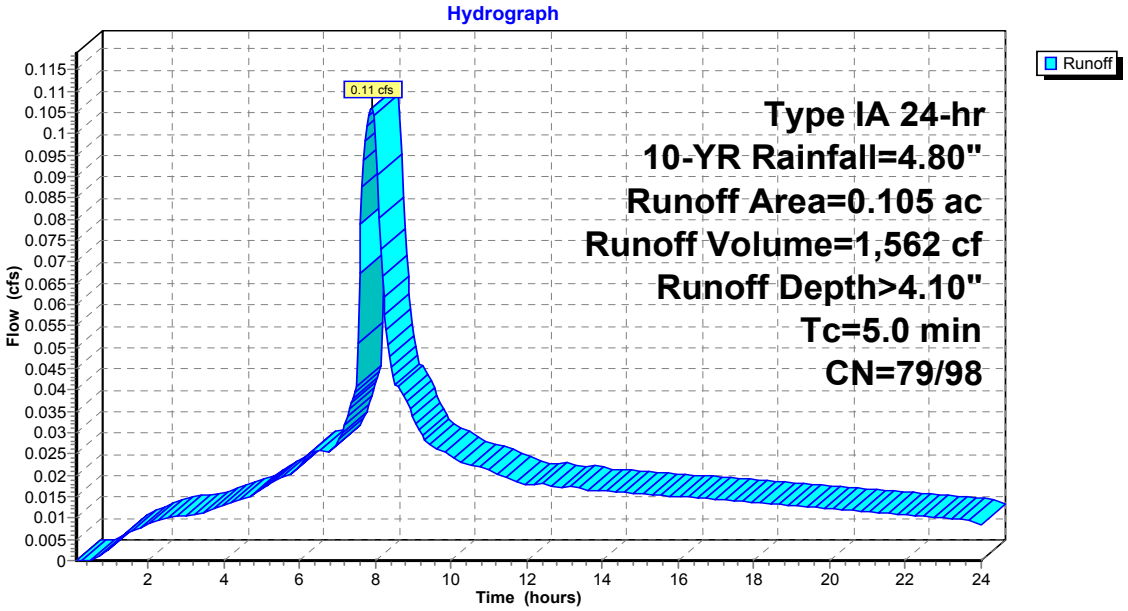
Runoff = 0.11 cfs @ 7.90 hrs, Volume= 1,562 cf, Depth> 4.10"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Basin B



Summary for Subcatchment 3S: Basin C

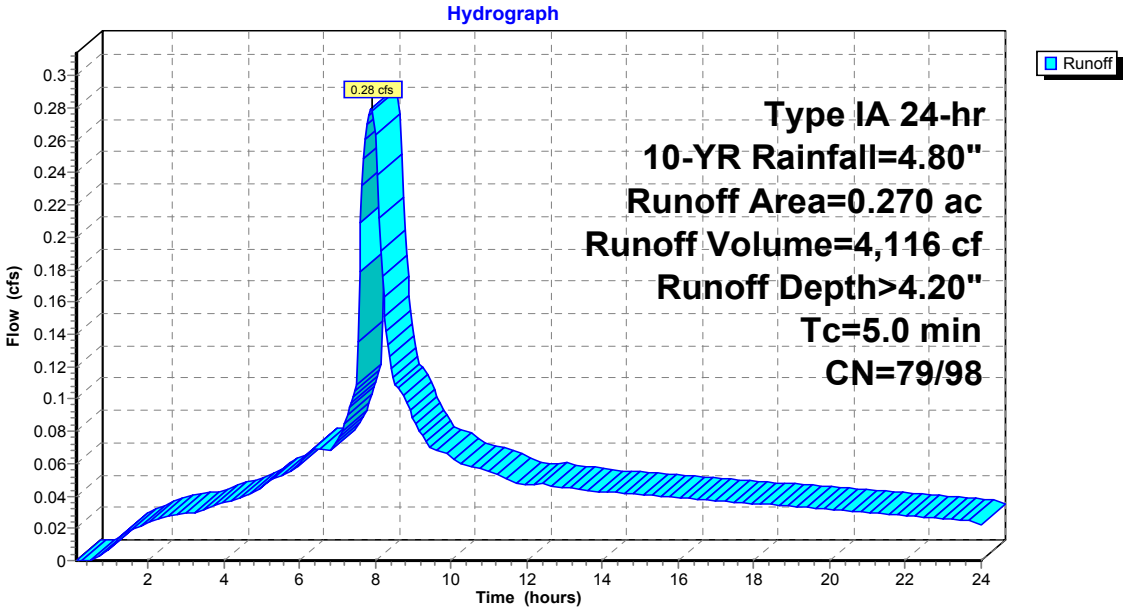
Runoff = 0.28 cfs @ 7.90 hrs, Volume= 4,116 cf, Depth> 4.20"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Basin C



Summary for Subcatchment 4S: Existing

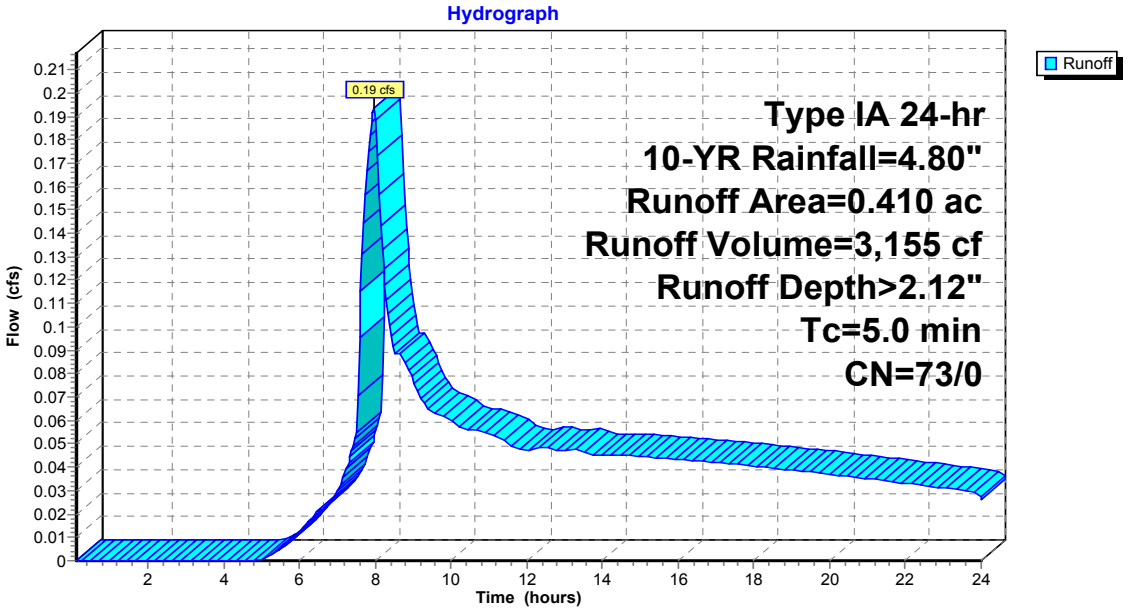
Runoff = 0.19 cfs @ 7.97 hrs, Volume= 3,155 cf, Depth> 2.12"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 10-YR PEAK FLOW TO 0.19 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 4.13" for 10-YR event
Inflow = 0.51 cfs @ 7.90 hrs, Volume= 7,500 cf
Outflow = 0.17 cfs @ 8.91 hrs, Volume= 6,827 cf, Atten= 66%, Lag= 60.2 min
Primary = 0.17 cfs @ 8.91 hrs, Volume= 6,827 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 3.27' @ 8.91 hrs Surf.Area= 0.021 ac Storage= 0.040 af

Plug-Flow detention time= 177.8 min calculated for 6,816 cf (91% of inflow)
Center-of-Mass det. time= 113.6 min (787.1 - 673.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.17 cfs @ 8.91 hrs HW=3.27' (Free Discharge)
└**1=Culvert** (Passes 0.17 cfs of 0.49 cfs potential flow)
  ├**2=Lower Orifice** (Orifice Controls 0.11 cfs @ 8.71 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.06 cfs @ 4.95 fps)
  ├**4=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.45 fps)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

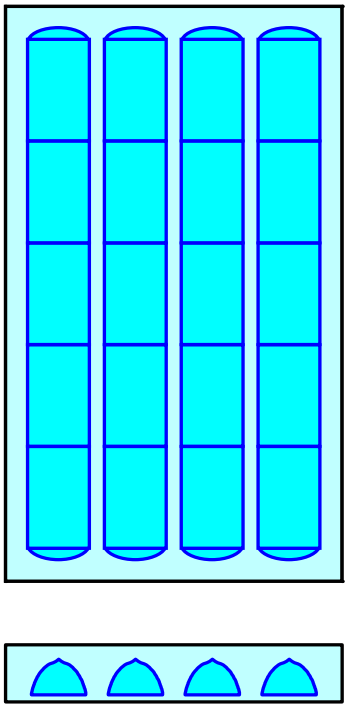
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

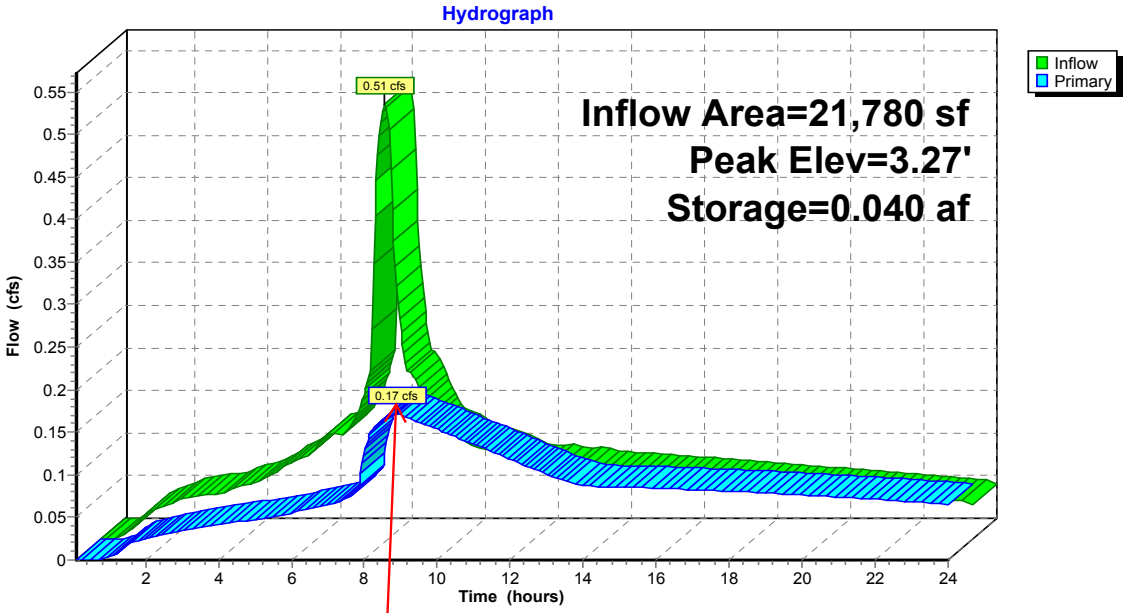
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.19 CFS

Summary for Subcatchment 1S: Basin A

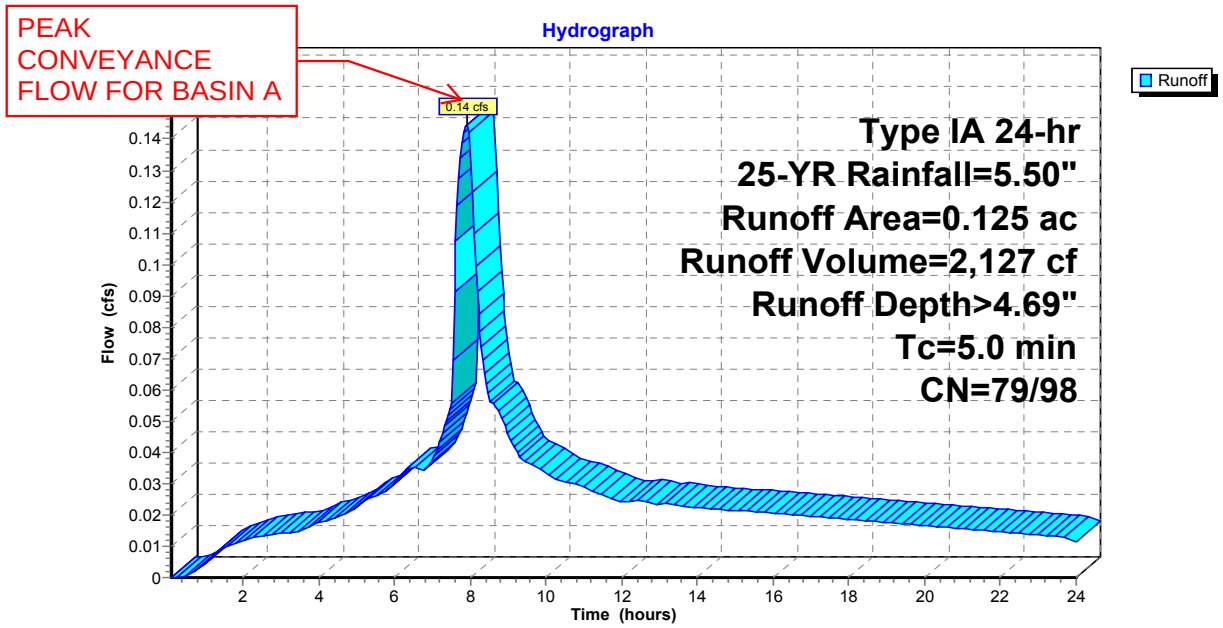
Runoff = 0.14 cfs @ 7.90 hrs, Volume= 2,127 cf, Depth> 4.69"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.090	98	
*	0.035	79	
	0.125	93	Weighted Average
	0.035	79	28.00% Pervious Area
	0.090	98	72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Basin A



Summary for Subcatchment 2S: Basin B

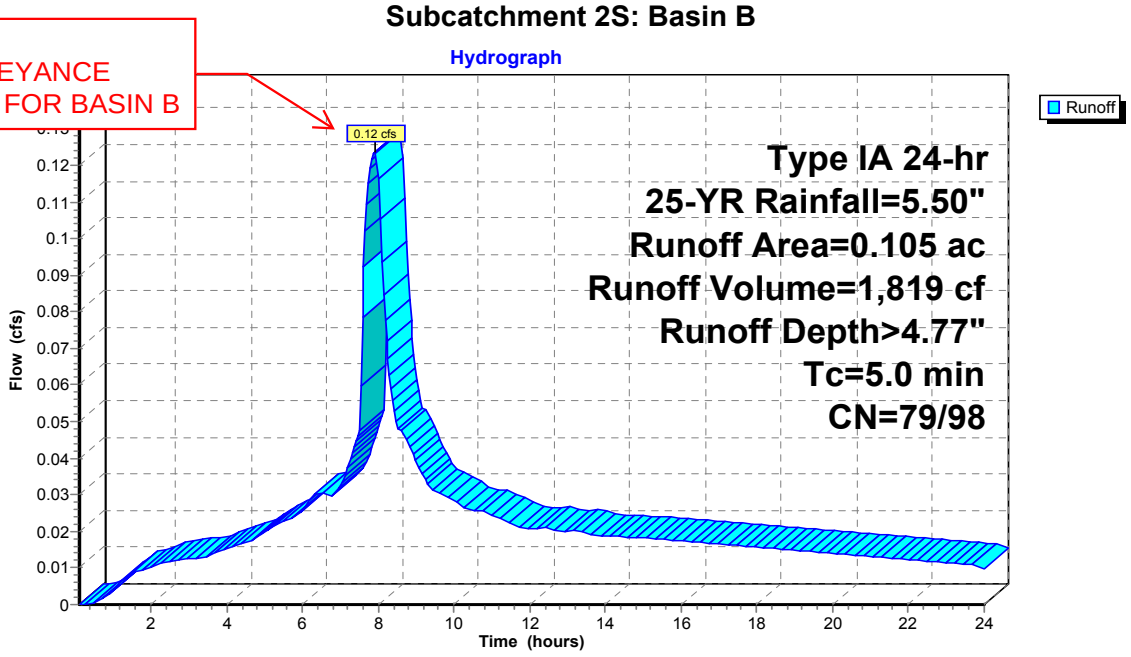
Runoff = 0.12 cfs @ 7.90 hrs, Volume= 1,819 cf, Depth> 4.77"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.080	98	
*	0.025	79	
	0.105	93	Weighted Average
	0.025	79	23.81% Pervious Area
	0.080	98	76.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

PEAK CONVEYANCE FLOW FOR BASIN B



Summary for Subcatchment 3S: Basin C

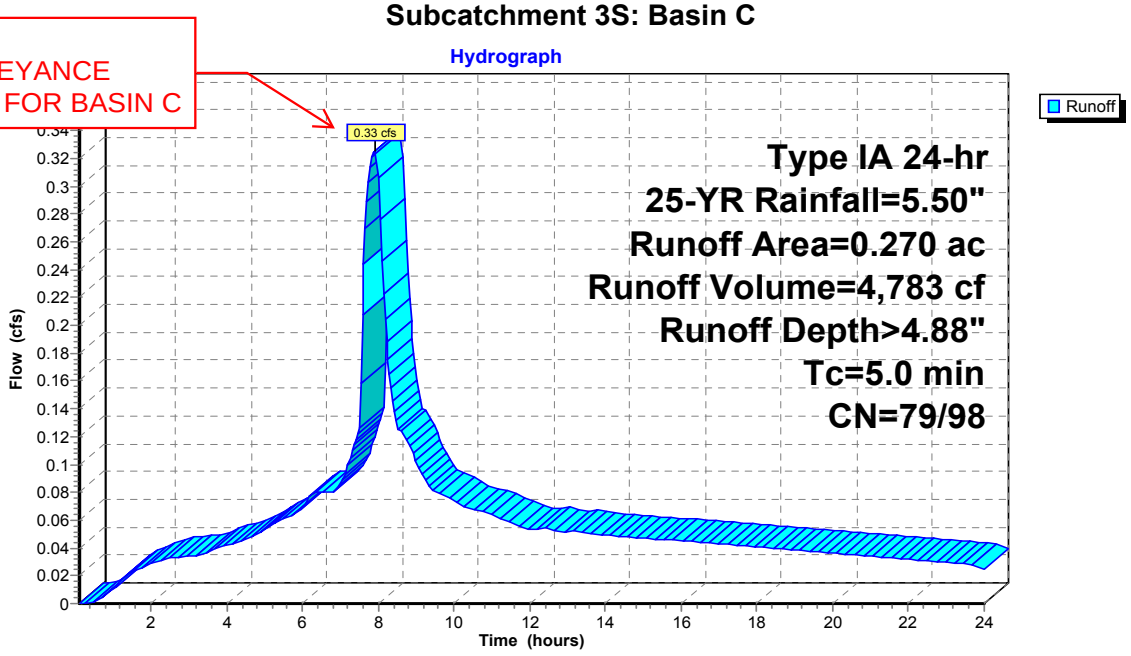
Runoff = 0.33 cfs @ 7.90 hrs, Volume= 4,783 cf, Depth> 4.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

	Area (ac)	CN	Description
*	0.220	98	
*	0.050	79	
	0.270	94	Weighted Average
	0.050	79	18.52% Pervious Area
	0.220	98	81.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

PEAK CONVEYANCE FLOW FOR BASIN C



Summary for Subcatchment 4S: Existing

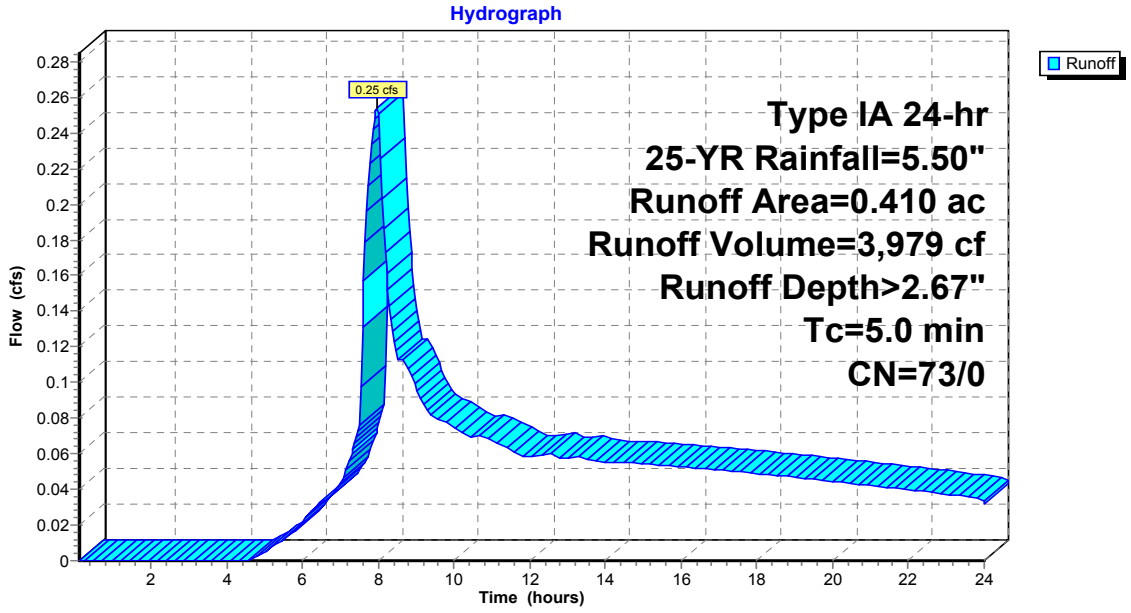
Runoff = 0.25 cfs @ 7.97 hrs, Volume= 3,979 cf, Depth> 2.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Type IA 24-hr 25-YR Rainfall=5.50"

Area (ac)	CN	Description
0.410	73	Woods, Fair, HSG C
0.410	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: Existing



REDUCE 25-YR PEAK FLOW TO 0.25 CFS OR LOWER

Summary for Pond 1P: Chambers

Inflow Area = 21,780 sf, 78.00% Impervious, Inflow Depth > 4.81" for 25-YR event
Inflow = 0.59 cfs @ 7.90 hrs, Volume= 8,730 cf
Outflow = 0.25 cfs @ 8.44 hrs, Volume= 7,877 cf, Atten= 58%, Lag= 32.1 min
Primary = 0.25 cfs @ 8.44 hrs, Volume= 7,877 cf

Routing by Stor-Ind method, Time Span= 0.10-24.02 hrs, dt= 0.04 hrs
Peak Elev= 3.86' @ 8.44 hrs Surf.Area= 0.021 ac Storage= 0.045 af

Plug-Flow detention time= 171.7 min calculated for 7,877 cf (90% of inflow)
Center-of-Mass det. time= 101.8 min (772.3 - 670.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.026 af	**23.00'W x 40.22'L x 4.00'H Field A** 0.085 af Overall - 0.021 af Embedded = 0.064 af x 40.0% Voids
#2A	0.50'	0.021 af	**ADS_StormTech SC-740 +Cap** x 20 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**4.0" Round Culvert** L= 50.0' Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#2	Device 1	0.00'	**1.5" Horiz. Lower Orifice** C= 0.600
#3	Device 1	2.15'	**1.5" Vert. Orifice/Grate** C= 0.600
#4	Device 1	3.25'	**1.5" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	3.82'	**12.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.25 cfs @ 8.44 hrs HW=3.86' (Free Discharge)
↑—**1=Culvert** (Passes 0.25 cfs of 0.53 cfs potential flow)
  ↑—**2=Lower Orifice** (Orifice Controls 0.12 cfs @ 9.46 fps)
  —**3=Orifice/Grate** (Orifice Controls 0.08 cfs @ 6.19 fps)
  —**4=Orifice/Grate** (Orifice Controls 0.05 cfs @ 3.77 fps)
  —**5=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.71 fps)

Pond 1P: Chambers - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

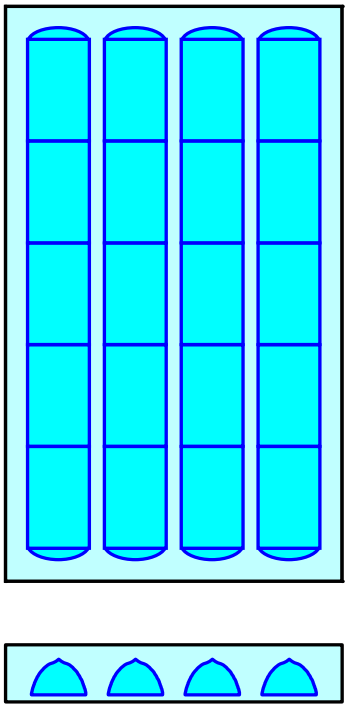
5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +18.0" End Stone x 2 = 40.22' Base Length
4 Rows x 51.0" Wide + 12.0" Spacing x 3 + 18.0" Side Stone x 2 = 23.00' Base Width
6.0" Base + 30.0" Chamber Height + 12.0" Cover = 4.00' Field Height

20 Chambers x 45.9 cf = 918.8 cf Chamber Storage

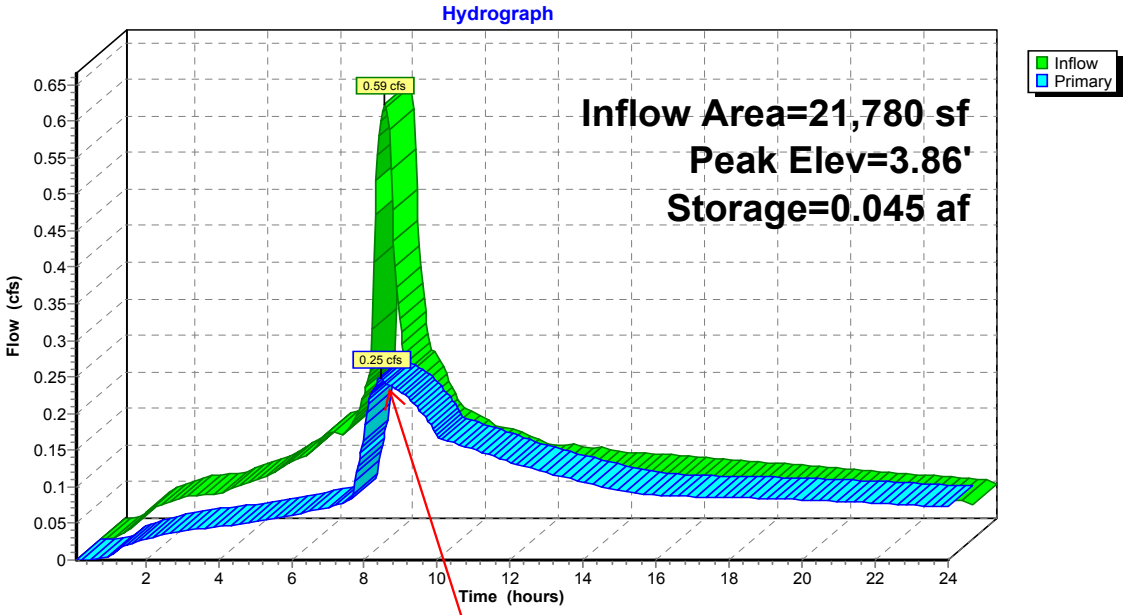
3,699.9 cf Field - 918.8 cf Chambers = 2,781.1 cf Stone x 40.0% Voids = 1,112.5 cf Stone Storage

Chamber Storage + Stone Storage = 2,031.3 cf = 0.047 af
Overall Storage Efficiency = 54.9%
Overall System Size = 40.22' x 23.00' x 4.00'

20 Chambers
137.0 cy Field
103.0 cy Stone



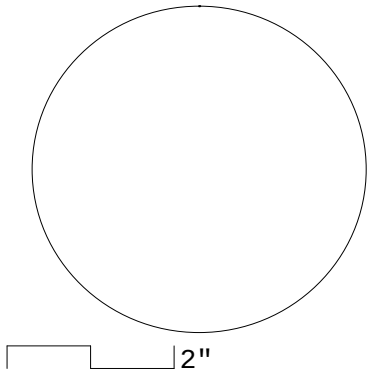
Pond 1P: Chambers



PEAK FLOW REDUCED
TO 0.25 CFS

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity

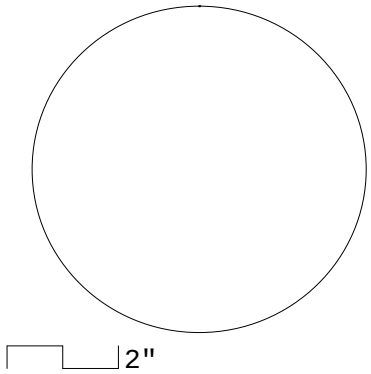


diameter = 4.0"
slope = 1.00%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.05'
area = 0.09 s.f.
hydraulic radius = 0.08'
velocity = 2.18 fps
flow = 0.19 cfs

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity

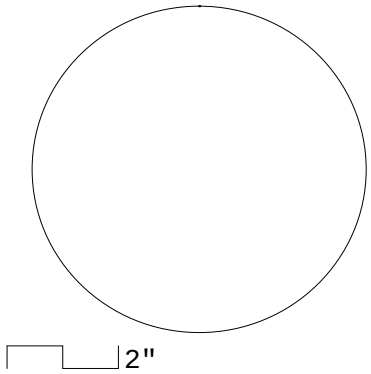


diameter = 6.0"
slope = 1.00%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.57'
area = 0.20 s.f.
hydraulic radius = 0.13'
velocity = 2.86 fps
flow = 0.56 cfs

Project 18-C023
Dutch Bros - Sandy, OR

GRAVITY PIPE FLOW (Chezy-Manning)
Pipe Capacity



diameter = 6.0"
slope = 1.50%
material: ductile iron pipe
Manning's n = 0.013
depth of flow = 100.00% of diameter (full)

wetted perimeter = 1.57'
area = 0.20 s.f.
hydraulic radius = 0.13'
velocity = 3.51 fps
flow = 0.69 cfs

Hydrologic Soil Group—Clackamas County Area, Oregon

Map Scale: 1:641 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 14, Sep 18, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 2, 2015—Sep 21, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
15B	Cazadero silty clay loam, 0 to 7 percent slopes	C	1.4	100.0%
Totals for Area of Interest			**1.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table A-2. Curve Numbers for Urban Areas

Cover type and hydrological condition	Average percent impervious area	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Open Space (lawns, parks, golf courses, cemeteries, etc.):					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50-75%)		49	69	79	84
Good condition (grass cover >75%)		39	61	74	80
Impervious Area:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	93
Urban Districts:					
Commercial and business	85	85	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	82
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.

Table A-3. Runoff Curve Numbers for Other Agricultural Lands

Cover type and hydrological condition	Hydrologic Condition	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Pasture, grassland, or range-continuous forage for grazing:					
<50% ground cover or heavily grazed with no mulch	Poor	68	79	86	89
50 to 75% ground cover and not heavily grazed	Fair	49	69	79	84
>75% ground cover and lightly or only occasionally grazed	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay		30	58	71	78
Brush-weed-grass mixture with brush as the major element:					
<50% ground cover	Poor	48	67	77	83
50-75% ground cover	Fair	35	56	70	77
>75% ground cover	Good	30	48	65	73
Woods-grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods					
Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning	Poor	45	66	77	83
Woods are grazed by not burned, and some forest litter covers the soil	Fair	36	60	73	79
Woods are protected from grazing and litter and brush adequately cover the soil	Good	30	55	70	77

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.

Exhibit HH

Technical Memorandum

LANCASTER ENGINEERING

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Portland, OR 97204
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fax: 503.248.9251
lancasterengineering.com

To: Zach Bonsall, Braden Bernards

Copy: Cole Valley Partners

From: Jessica Hijar
Brian Davis

Date: May 29, 2019

Subject: 39625 Proctor Boulevard Dutch Bros. Traffic Analysis Letter Addendum

Introduction

This addendum is written to describe site circulation of the proposed 824 square foot Dutch Bros. drive-through coffee facility at 39625 Proctor Boulevard in Sandy, Oregon. This is written as a supplement to the Traffic Analysis Letter completed by Lancaster Engineering in January 2019. A site plan for the proposed facility is shown over an aerial image in Figure 1.

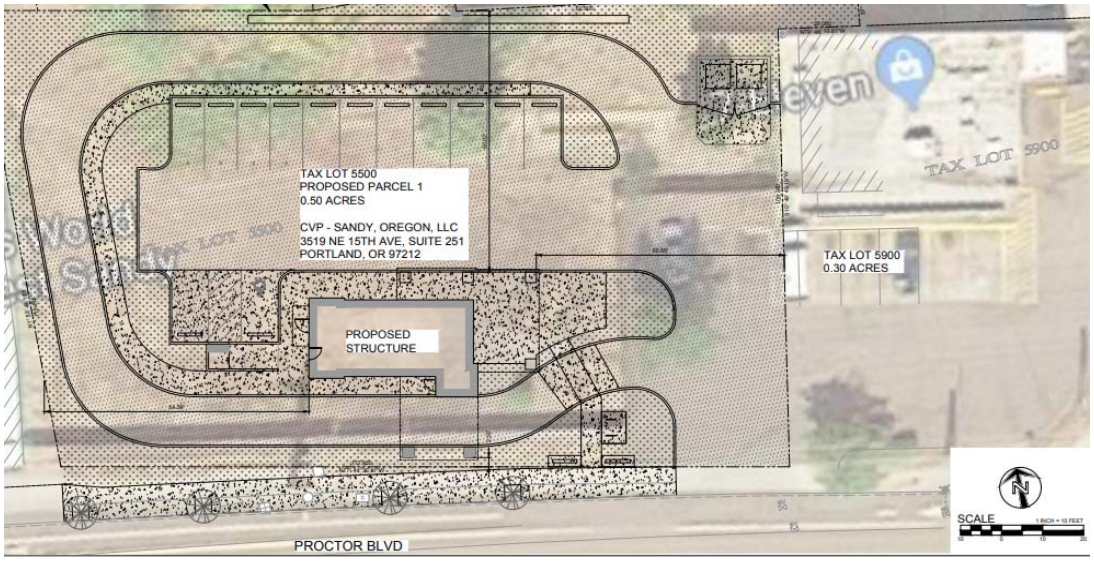


Figure 1 - Site Plan

On-site Queuing

As shown in Figure 1, the drive-through area on-site provides the maximum amount of possible queue storage as the drive aisle circles the inner edge of the property line. The drive aisle measures approximately 360 feet, which can accommodate 18 vehicles, assuming a vehicle length of 20 feet. This is expected to be ample queue storage even for the busiest periods for the proposed use; however any additional queuing that may occur beyond the drive aisle will not impact Proctor Boulevard due to the additional 80 feet of queue storage available on-site between the site access and the beginning of the drive aisle.

Pedestrian Circulation

A raised pedestrian crossing is provided at the end of the drive-through aisle. This crossing connects the sidewalk along Proctor Boulevard to the proposed structure. Since the crosswalk is at grade with the sidewalk, the pedestrian is more prominent in the driver's field of vision. Additionally, vehicles will need to come to a complete stop at the drive-through window before exiting at the site access. These factors make this crossing a safe route for vulnerable roadways users.

Access Operation

The site access to the proposed Dutch Bros. is shared with the driveway for the 7-eleven. As shown in the site plan, several existing parking spaces used by 7-eleven are located on the subject property and will be removed upon full site buildout. A total of eight parking spaces will remain on-site for the 7-eleven. The drive aisle between the provided 7-eleven parking spaces and the inner sidewalk edge measures approximately 40 feet. Assuming a vehicle length of 20 feet, this width provides enough area for an entering vehicle to pull into the site as a vehicle is making a backing movement from these spaces. Therefore, it is not anticipated that this conflict point will cause queues to extend onto the public roadway.

Technical Memorandum

LANCASTER ENGINEERING

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Zach Bonsall, Braden Bernards

Copy: Cole Valley Partners

From: Jessica Hijar
Brian Davis
Rocky Martin, EI

Date: January 24, 2019

Subject: 39625 Proctor Boulevard Dutch Bros. Traffic Analysis Letter

Introduction

This memorandum is written to address the Traffic Analysis Letter (TAL) requirements set forth by the City of Sandy with regards to a proposed 824 square foot Dutch Bros. drive-through coffee facility at 39625 Proctor Boulevard in Sandy, Oregon.

Trip Generation

To estimate the trip generation from the proposed facility, trip rates were taken from the *Trip Generation Manual*, *Tenth Edition*, published by the Institute of Transportation Engineers (ITE). The trip rates used were those given for land-use category 938, *Coffee/Donut Shop with Drive-Through Window and No Indoor Seating*, based on square footage. Data for both the peak hour of adjacent street traffic and the peak hour of the generator were evaluated. It should be noted that the peak hour of adjacent street traffic describes the one hour within the morning and evening commuter peak period when the combination of site-generated traffic and the traffic on the adjacent street is the highest on a weekday, ususally between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. The peak hour of the generator describes the hour of highest volume traffic entering and exiting the site during the morning and evening on a weekday, which may or may not coincide with th peak hour of the adjacent street traffic.

The proposed development is expected to attract pass-by trips and diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway (such as Proctor Boulevard) to patronize a land-use and then continue in their original direction of travel. Diverted trips are trips that divert from a nearby roadway (such as Pioneer Boulevard) not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips and diverted trips do not add new trips to the area roadways, but do add additional turning movements at site access intersections. Pass-by and diverted trip rates for land-use code 938 were used to estimate pass-by trips generated by the proposed development. To estimate daily traffic volumes, the average of the peak hour pass-by rates was used.

The primary trip generation during the morning peak hour of adjacent street taffic and morning peak hour of the generator is projected to be 48 trips, with 24 trips entering and exiting the site. During the evening peak hour of adjacent street traffic, the site is projected to generate 12 primary trips, with 6 trips entering and exiting the site. During the evening peak hour of the generator, the site is proejcted to generate 14 primary trips with 7 entering and exiting the site. The following tables offer a summary of the trip generation.

Table 1: Peak Hour of Adjacent Street Traffic Trip Generation Summary

	Size	AM Peak Hour			PM Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
Proposed Development								
Dutch Bros. Facility	824 sq ft	139	139	278	34	34	68	1648
Pass-By (83%)		115	115	230	28	28	56	1417
Net New Trips		**24**	**24**	**48**	**6**	**6**	**12**	**231**

Table 2: Peak Hour of Generator Trip Generation Summary

	Size	AM Peak Hour			PM Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
Proposed Development								
Dutch Bros. Facility	824 sq ft	142	142	284	44	44	88	1648
Pass-By (83%)		118	118	236	37	37	74	1417
Net New Trips		**24**	**24**	**48**	**7**	**7**	**14**	**231**

Detailed trip generation calculations are included in the appendix to this report.

City of Sandy Standards

Access Driveway Width Standards

Section 17.98.100(A) of the City of Sandy Development Code requires a minimum driveway width of 20 feet for two-way driveways. The existing driveway access at 39695 is 40 feet wide. This standard is met and no mitigations are required.

Minimum City Street Intersection Spacing Standards

According to Section 17.98.90(A) of the City of Sandy Development Code, the minimum distance between an intersection and a proposed access to an Arterial roadway is 150 feet. As there are no new access driveways proposed, a design exception is proposed to grant access to Proctor Boulevard via the existing access driveway, located at 39695 Proctor Boulevard.

City of Sandy TSP Frontage Improvement Requirements

Section 17.84.50 of the City of Sandy Transportation System Plan (TSP) states that *"Where a development site abuts an existing public street not improved to City standards, the abutting street shall be improved to City standards along the full frontage of the property concurrent with development."* Based on a review of the TSP, it is necessary to ensure that the sidewalk corridor along the frontage is 8 feet; this is met in the site plan.

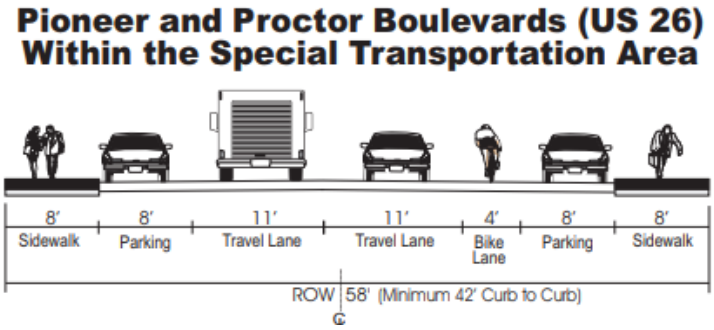


Figure 1: Sandy TSP Requirements for Proctor Boulevard Cross Section

Safety Analysis

Crash data and intersection sight distance analyses were conducted for the study area intersection. The analyses are detailed below, and extensive data are available in the technical appendix of this report.

Crash Data Analysis

Using data obtained from ODOT's Crash Data System, a review of the most recent available five years of crash data (January of 2012 to December of 2016) at the intersection of Proctor Boulevard at SE Ten Eyck Road was performed.

Three crashes were reported at the study intersection. Two of the crashes were rear-end collisions and one was a turning-movement collision. Two of the crashes reported property damage only, and one crash reported a possible injury or complaint of pain. No crash patterns were identified.

Intersection Sight Distance

Intersection sight distance (ISD) was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). According to AASHTO, the driver's eye is assumed to be

15 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. Vehicle/object height is assumed to be 3.5 feet above the cross-street pavement.

Sight distance was examined at the existing driveway access location at 39695 Proctor Boulevard. As the speed limit is 25 mph at this location, the required ISD is 280 feet. ISD to the east was measured to be in excess of 1,000 feet, clear through the intersection at SE Ten Eyck Road. ISD requirements are met and no mitigation is necessary. The following figure depicts what a driver can expect to see from the assumed driver's eye location.

Figure 2: ISD from Proposed Access

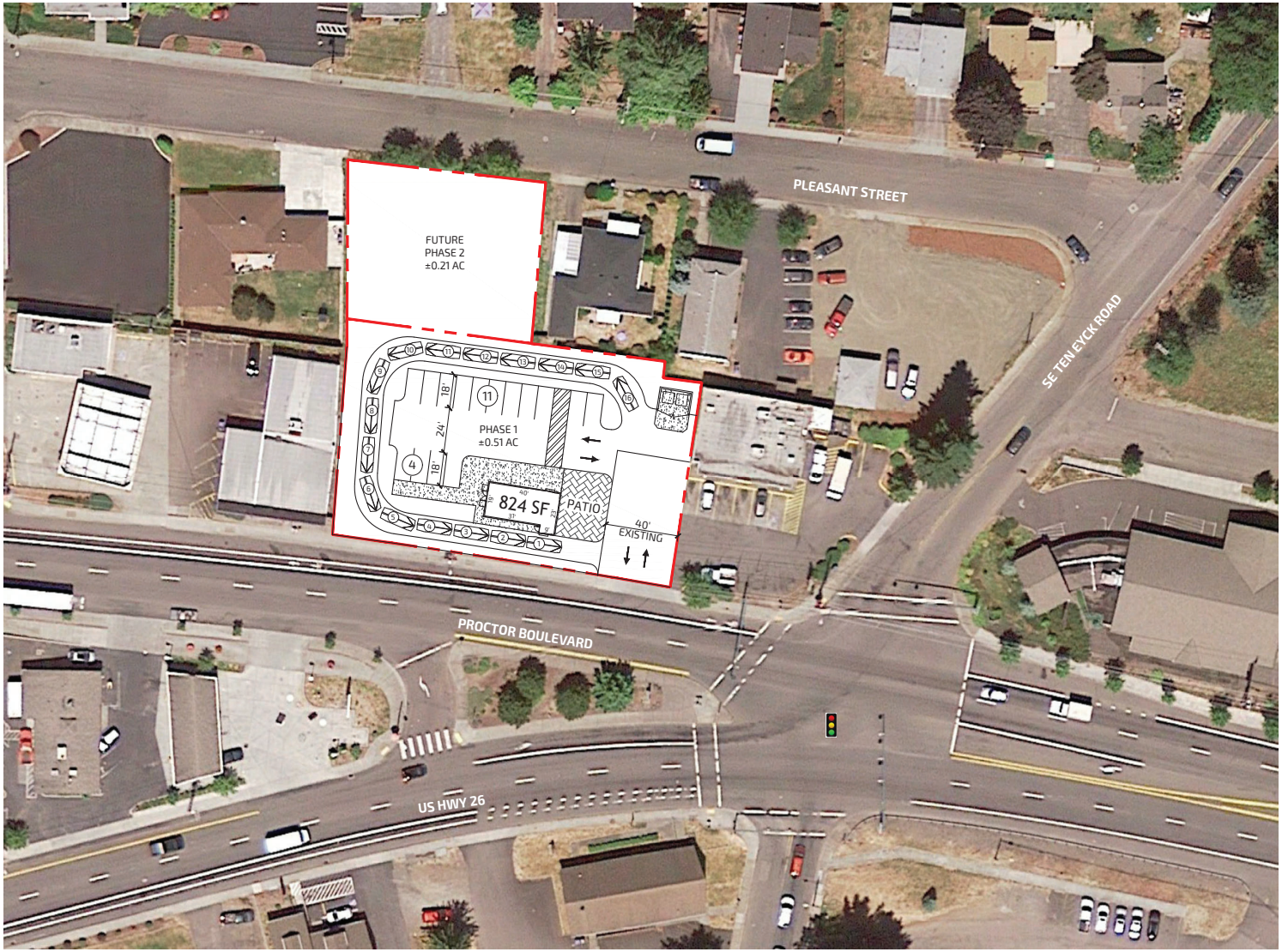
Conclusions

The proposed development is projected to generate 48 trips during the morning peak hour of adjacent street traffic as well as the morning peak hour of the generator. It is projected to generate 12 trips during the evening peak hour of adjacent street traffic and 14 trips during the peak hour of the generator.

The City of Sandy development standards for access driveway widths, minimum intersection spacing, and intersection sight distance are met, and no mitigations are necessary or recommended.

If you require any further assistance or have any questions, please feel free to contact us.

Appendix



Layout is schematic only and is subject to review & approval by governing agencies. Property line and existing conditions are from GIS information and has not been confirmed.

SITE DATA

SITE AREA	±0.51 AC - PHASE 1
BUILDING	824SF - COFFEE SHOP
PARKING	PROVIDED 15 SPACES

NORTH

0 25' 50' 100'

SCALE: 1" = 50' PRINT 11X17

project

SANDY, OREGON

STREET AND
STREET AVENUE

drawing title

PROPOSED SITE PLAN

date	drawing no.
07.06.2018	1

1e

TRIP GENERATION CALCULATIONS

Land Use: Coffee/Donut Shop with Drive-Through Window and No Indoor Seating
Land Use Code: 938
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 0.824

AM PEAK HOUR OF GENERATOR

Trip Rate: 344.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**142**	**142**	**284**

PM PEAK HOUR OF GENERATOR

Trip Rate: 106.67

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**44**	**44**	**88**

WEEKDAY

Trip Rate: 2000.00

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**824**	**824**	**1,648**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Coffee/Donut Shop with Drive-Through Window and No Indoor Seating
Land Use Code: 938
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 0.824

AM PEAK HOUR

Trip Rate: 337.04

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**139**	**139**	**278**

PM PEAK HOUR

Trip Rate: 83.33

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**35**	**34**	**69**

WEEKDAY

Trip Rate: 2000.00

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**824**	**824**	**1,648**

Source: TRIP GENERATION, Ninth Edition

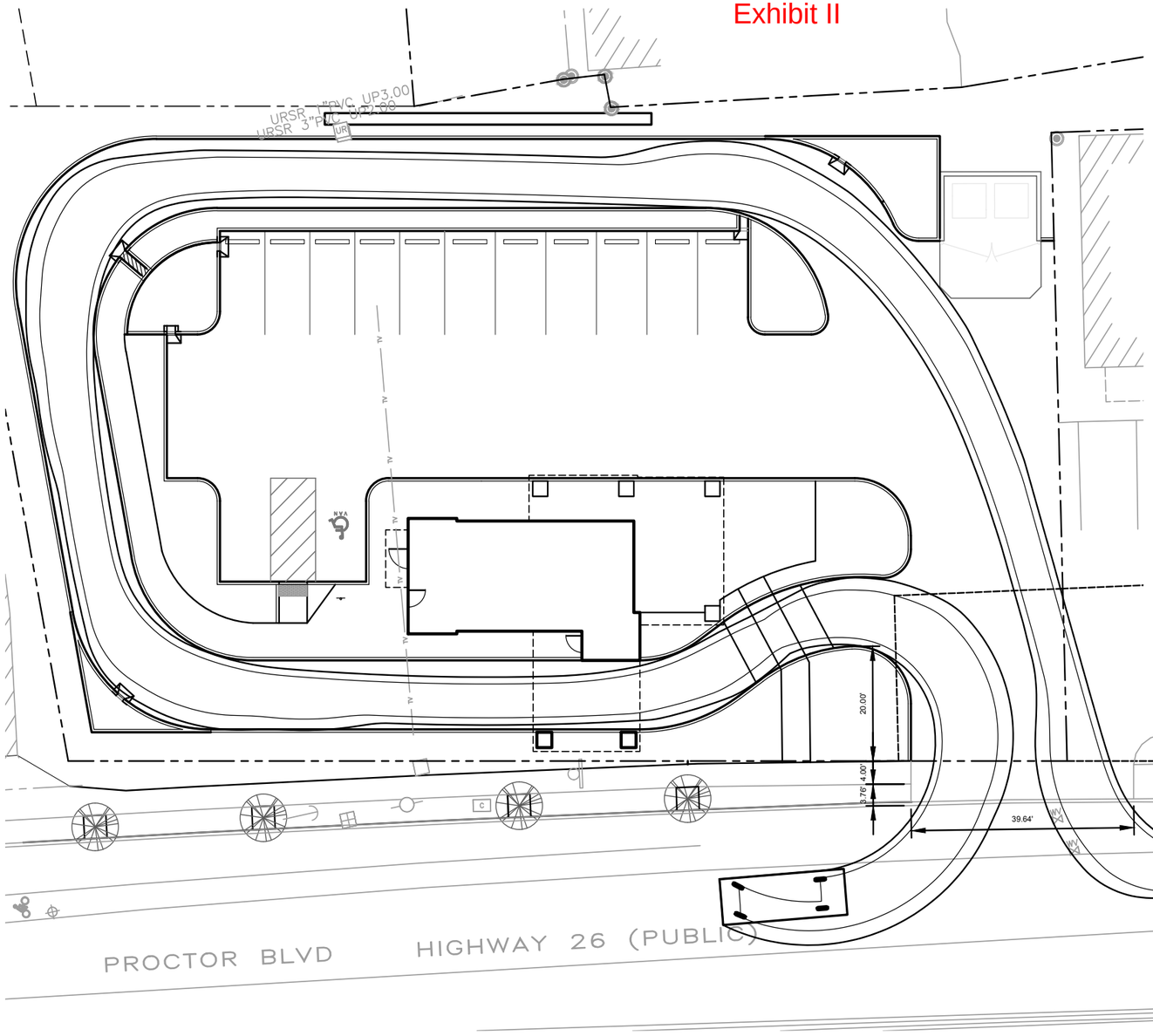


Exhibit II

Vehicle Tracking V18.02.800(20171204) (c) Autodesk, Inc. www.Autodesk.com

Notes:
Turn(s) based upon a design speed of 5.00mph.

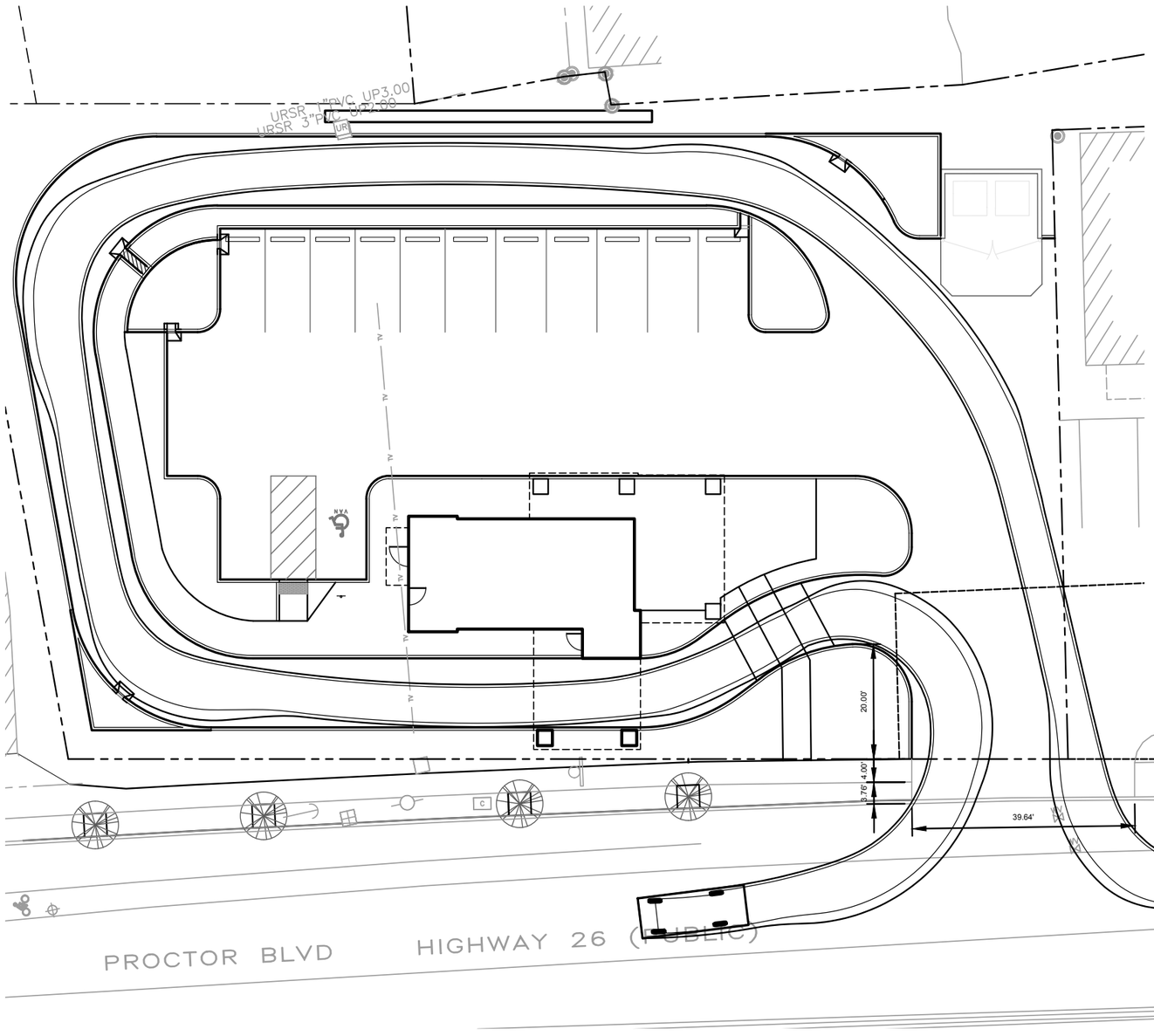
Title:
F-350 CrewCab 4x2/4x4 LWB

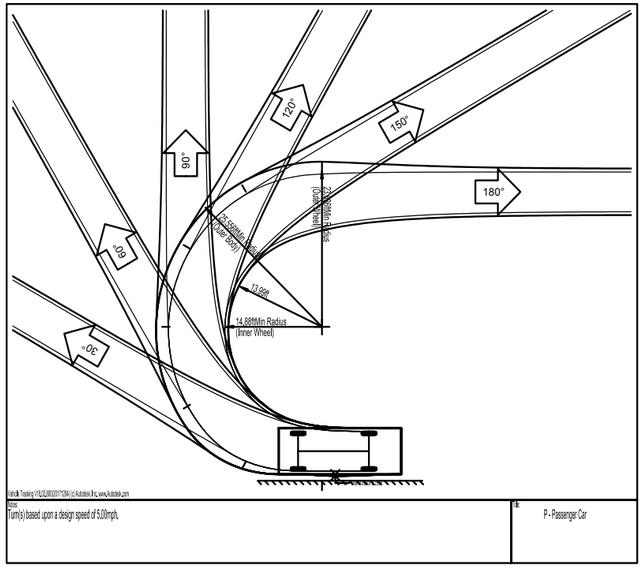
F-350 CrewCab 4x2/4x4 LWB	
Overall Length	22.180ft
Overall Width	8.000ft
Overall Body Height	6.384ft
Min Body Ground Clearance	0.825ft
Max Track Width	5.690ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	26.150ft

F-350 CrewCab

SCALE:1"=20'

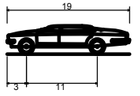
0 20' 40'





Note:
Turn(s) toward upon a design speed of 5.00mph.

P - Passenger Car

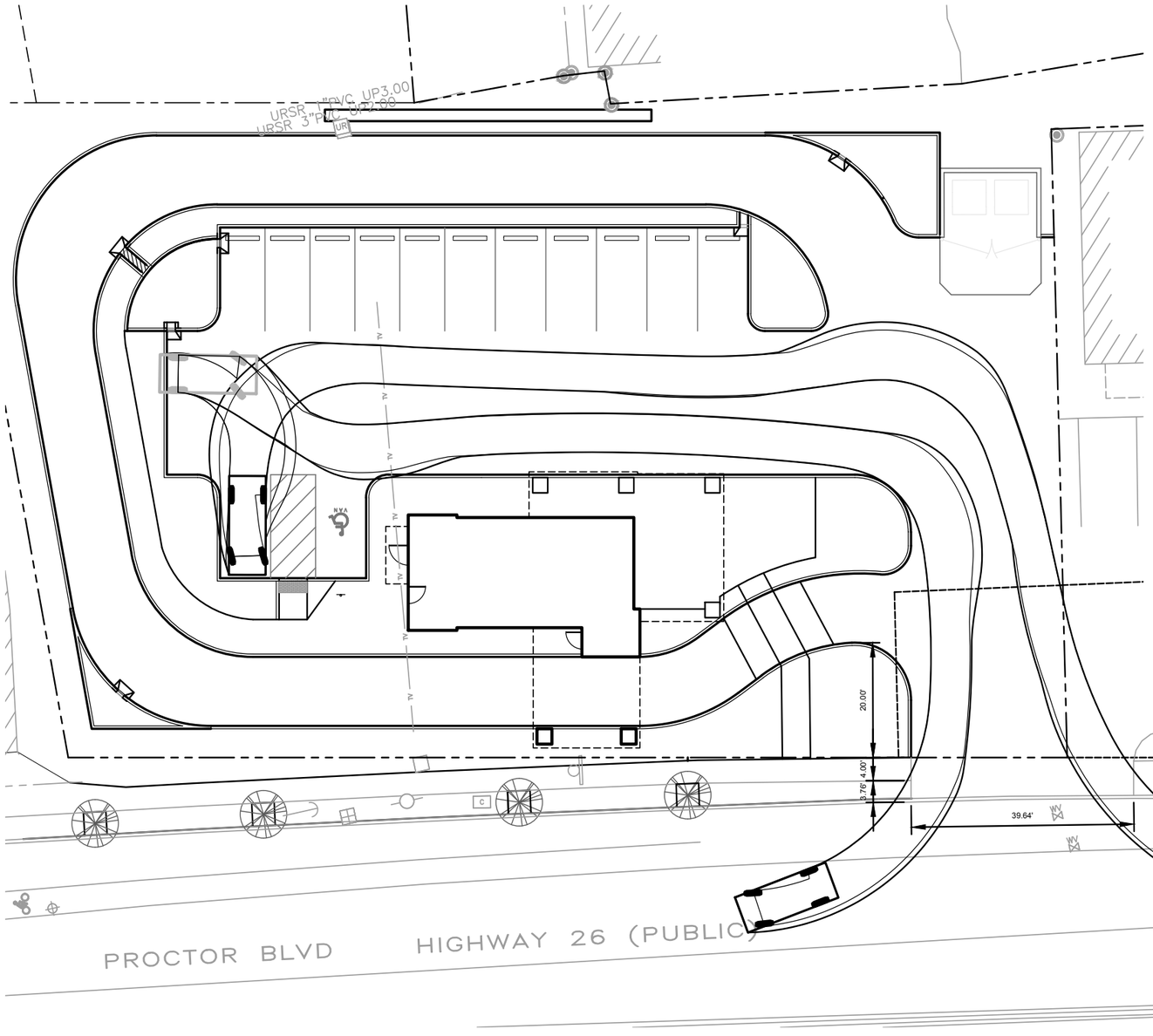


P - Passenger Car	
Overall Length	19.000ft
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Track Width	6.000ft
Lock-to-lock time	4.00s
Max Steering Angle (Virtual)	31.60°

Passenger

SCALE:1"=20'

0 20' 40'



Vehicle Tracking V18.02.800(20171204) (c) Autodesk, Inc. www.Autodesk.com

Notes:
Turn(s) based upon a design speed of 5.00mph.

Title:
Mercedes Sprinter Panel Van
209CDI Short Std. Roof

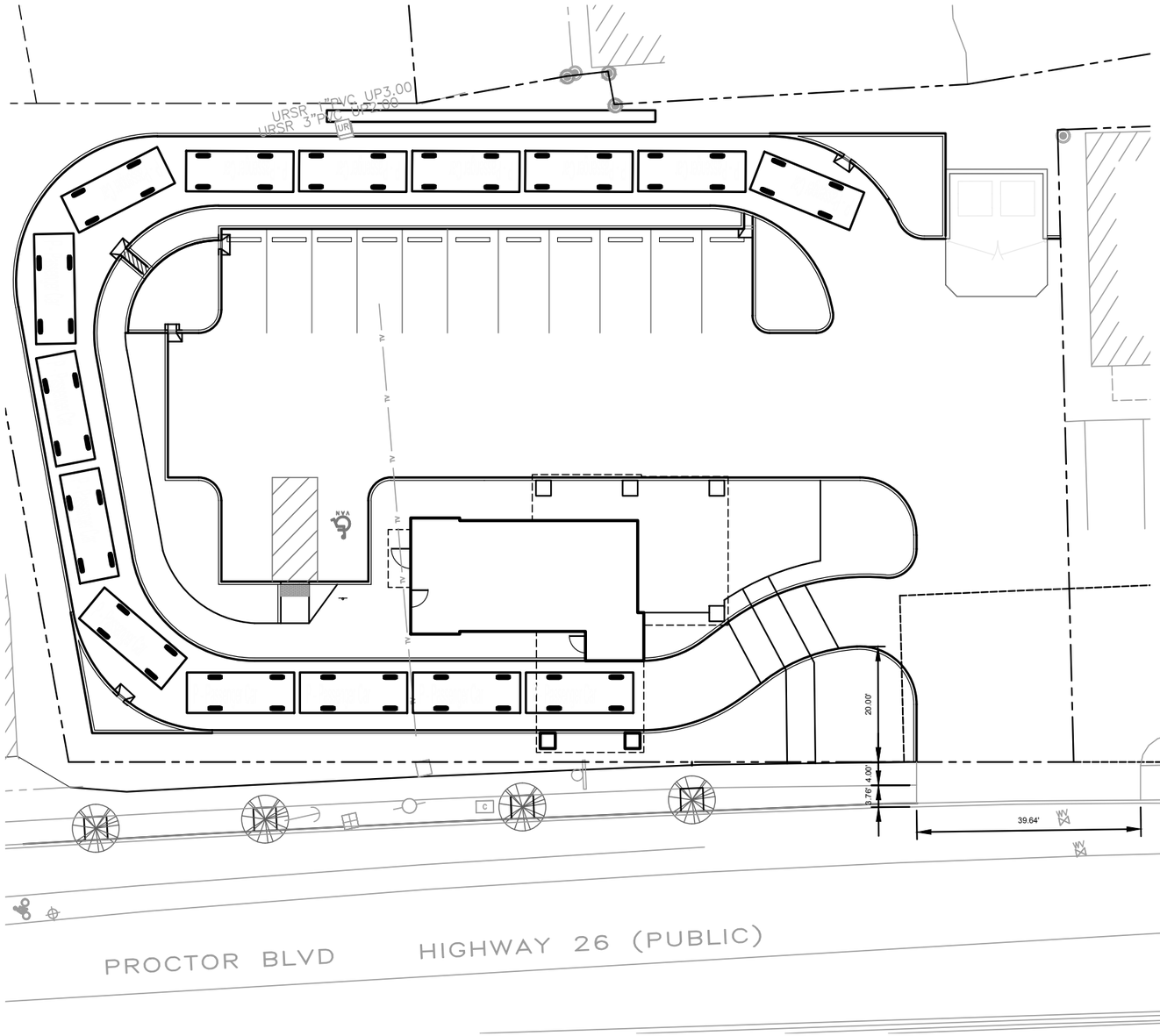
Mercedes Sprinter Panel Van 209CDI Short Std. Roof

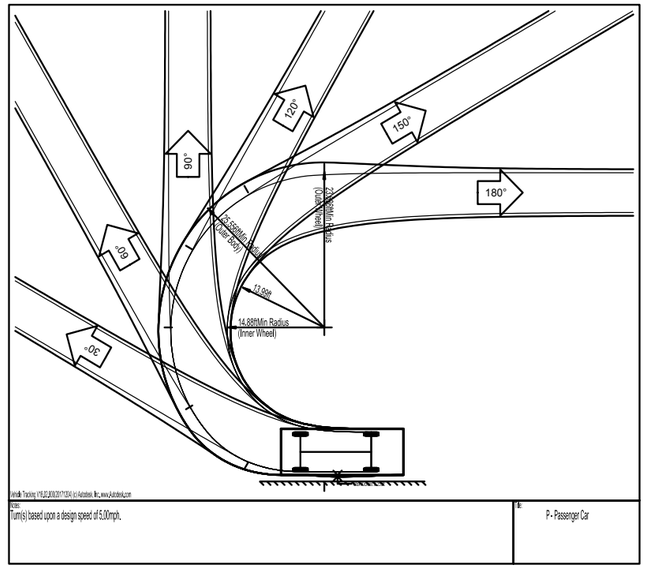
Overall Length	17.208ft
Overall Width	6.539ft
Overall Body Height	7.990ft
Min Body Ground Clearance	1.312ft
Track Width	6.539ft
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	20.177ft

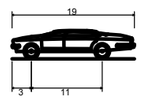
Loading - Van

SCALE:1"=20'

0 20' 40'





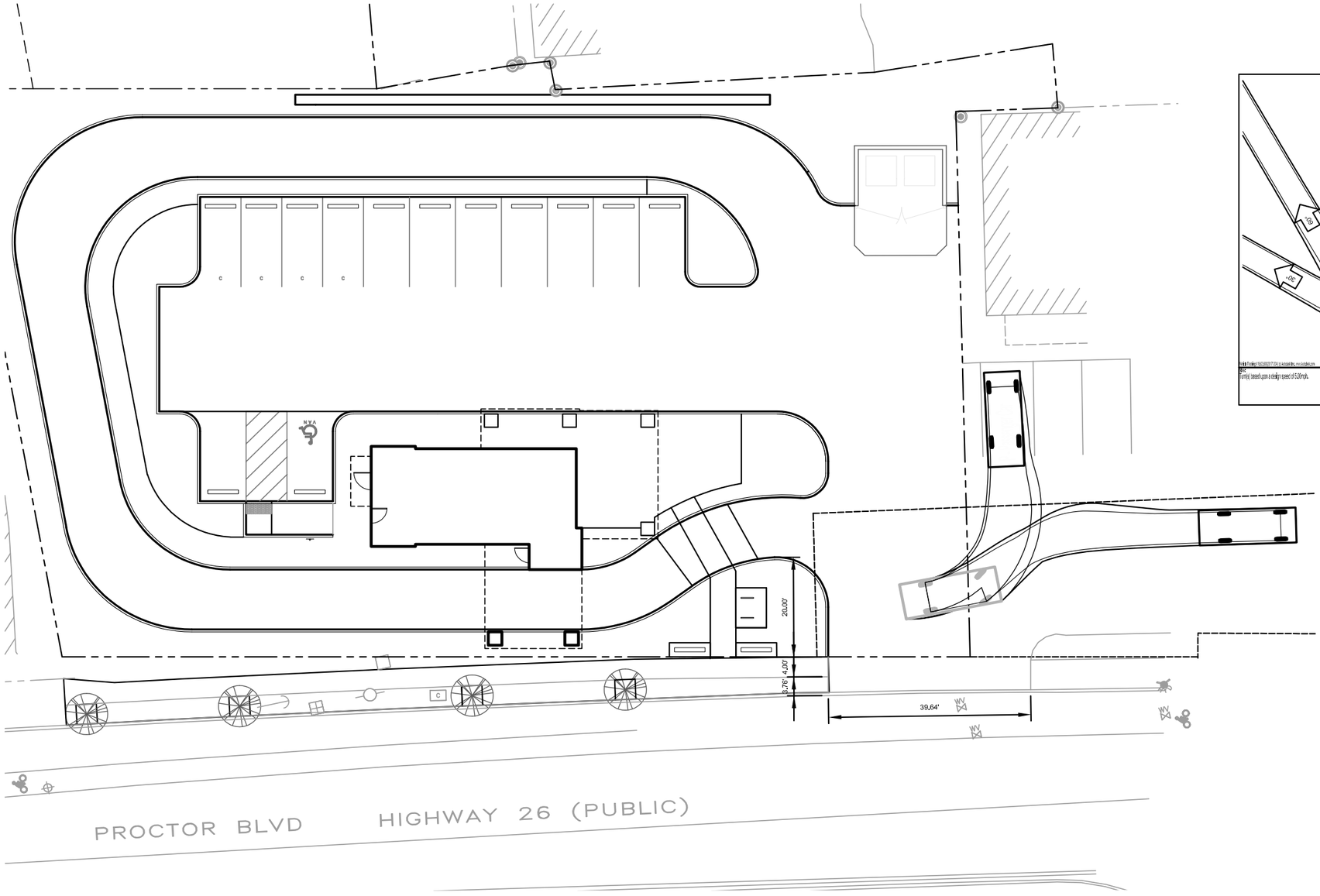


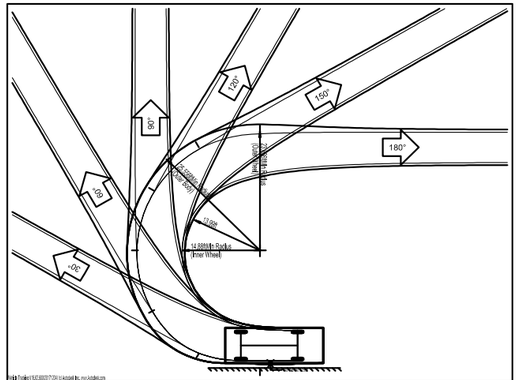
P - Passenger Car	
Overall Length	19.000ft
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Track Width	6.000ft
Lock-to-lock time	4.00s
Max Steering Angle (Virtual)	31.60°

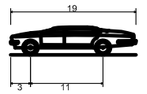
Passenger Queue

SCALE:1"=20'

0 20' 40'







P - Passenger Car	
Overall Length	19.000ft
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Track Width	6.000ft
Lock-to-lock time	4.00s
Max Steering Angle (Virtual)	31.60°

Passenger - 7-11

SCALE:1"=20'

0 20' 40'

Exhibit JJ

James Cramer <jcramer@ci.sandy.or.us>

Dutch Bros.

Hassan Ibrahim <hai@curran-mcleod.com> Tue, Jun 11, 2019 at 5:44 AM
To: MW <mwalker@ci.sandy.or.us>, James Cramer <jcramer@ci.sandy.or.us>

James and Mike,

Tentatively the submitted storm calc's appear to be in conformance with COP SWMM, we just need a final report submitted with the final plans.

Thanks,

Hassan Ibrahim, P.E.
CURRAN-McLEOD, INC.
6655 SW Hampton St, Ste. 210
Portland, OR 97223
Tel: 503-684-3478
Fax: 503-624-8247
Cell: 503-807-2737
email: hai@curran-mcleod.com

[Quoted text hidden]

Exhibit KK

James Cramer <jcramer@ci.sandy.or.us>

Dutch Bros. comments

1 message

MW <mwalker@ci.sandy.or.us> Mon, May 20, 2019 at 11:09 AM
To: James Cramer <jcramer@ci.sandy.or.us>

James,

I understand that there were several comments submitted regarding the Dutch Bros application. Based on my understanding of the comments please find below responses to these comments:

1. Combined sanitary and stormwater easement width. The City Engineer made a suggestion that the combined easement be widened from 15 ft. to 20 ft. since it contains two facilities and section 17.84.90(A)2 requires a 20 ft. wide easement for two utility facilities. This section of the Municipal Code only applies to public utility facilities. The proposed utilities in the easement will be private. Hassan's comment should be considered a suggestion.

2. The proposed public stormwater line in Pleasant St. should be extended to the farthest (in this case easternmost) boundary of the site per section 17.84.60 SMC.

Let me know if you have any questions.

--

Mike Walker

Director of Public Works

City of Sandy

39250 Pioneer Blvd.

Sandy, OR 97055

503-489-2162 V

503-668-8714 F

www.ci.sandy.or.us

Exhibit LL

James Cramer <jcramer@ci.sandy.or.us>

Dutch Bros.

MW <mwalker@ci.sandy.or.us> Mon, Jun 10, 2019 at 3:09 PM
To: James Cramer <jcramer@ci.sandy.or.us>
Cc: Hassan Ibrahim <hai@curran-mcleod.com>

James,

As long as we have some sort of statement indicating that Stormwater conveyance, storage and treatment plans will be reviewed for conformance with the COP SWMM and Chapters 13.18 and 13.20 SMC with the building permit submittal. We should be OK.

[Quoted text hidden]

--

Mike Walker

Director of Public Works

City of Sandy

39250 Pioneer Blvd.

Sandy, OR 97055

503-489-2162 V

503-668-8714 F

www.ci.sandy.or.us

Exhibit MM

Bateman Seidel

Carrie A. Richter
crichter@batemanseidel.com
www.batemanseidel.com
Telephone DID: 503.972.9903
Fax DID: 503.972.9904

April 18, 2019

Mr. James A. Cramer
City of Sandy Planning Department
39250 Pioneer Boulevard
Sandy, OR 97055

Transmitted via Email to: jcramer@ci.sandy.or.us

Re: Dutch Bros. Application – City File No. 18-057 DR/CUP

Dear Mr. Cramer:

This firm represents Mr. Dale Hult, the owner of property located adjacent to the proposed Dutch Bros. development site. Mr. Hult has numerous substantive objections regarding this proposal, but the most immediate concern is that the original April 3 and revised April 10 mailed notices are so misleading that they are likely to prejudice participation by the public in this review.

First, the notice appears to rely on a Type II rather that a Type III hearing template. SDC 17.22.10 and .20. A blank comment sheet is attached to the notice with an explanation that written comments for this proposal must be submitted within "14 days of the date of this notice." In fact, the City has received comments from Daniel Valerde on such a sheet suggesting that these instructions are being followed. Yet, in other places, the notice states that written and oral testimony will be taken at the Planning Commission hearing on April 22. Following the Type II instructions, the 14-day comment period deadline from the date of the revised April 10 notice would give the public until April 24 – two days after the Planning Commission is scheduled to take action on this matter, to submit testimony, if no continuance is requested. A public notice is to provide clear instruction about how to participate in the City's review. These two notices fail in this respect.

Second, these notices fail to reference a number of critical approval criteria that apply to this proposal. ORS 197.763(3)(b) and SDC 17.22.40(B). SDC 17.18.100 requires that where more than one review is proposed to accommodate a development, consolidated review will be elevated to the highest number procedure. The application includes a request to partition the property; a consolidated request that must include this land division request. As a result, the SDC 17.100 Land Division criteria are applicable and must be referenced in the notice. The notices similarly fail to reference SDC 17.20 Public Hearing, which is clearly applicable by virtue of the Planning Commission holding a hearing. SDC 17.16 Similar Uses which is

required for this drive-thru use to be considered an eating or drinking establishment, is similarly not referenced. Again, the failure to identify the applicable criteria prejudices the public's ability to adequately prepare and meaningfully participate in this decision.

These errors cannot be cured by simply giving the public more time to prepare through a continued hearing. The request is for a drive-thru coffee kiosk that will be highly vehicle intensive, shining headlights into the surrounding residences early in the morning until late in the evening. These impacts are significant and require an inclusive and thoughtful review. These defective notices start the City's review of this matter off on the wrong foot.

For these reasons, I ask that staff instruct the Planning Commission to continue the April 22 Planning Commission hearing to another date to allow the City to mail a notice that complies with state and local law. If staff is not willing to make this request, I respectfully request that the Planning Commission instruct staff to mail a new notice to affected property owners and continue this matter as necessary to accommodate this request. Please place this letter in the record for these proceedings.

Sincerely,

Carrie A. Richter

CAR:dc
cc: David Doughman (via email)

April 22, 1019

Exhibit NN

Dear Sandy Planning Commission:

Please accept my public comments regarding File No. 18-057 DR/CUP, Dutch Brothers Drive-Through. I was saddened to learn that a Dutch Brothers Coffee drive-through with three design variances has been proposed on the old Sandy Oil site. On one hand it will be nice to finally see something developed on this site, but in my opinion a drive-through coffee business that does not comply with the City's standards is not a good choice for this location. The subject property is a key gateway when entering Sandy from the East and the proposed use is likely to be a significant traffic generator. This use and building will significantly define the East end of the downtown and it is important the application be carefully considered.

The proposed use is not a permitted outright use in the C-1, but rather requires a Conditional Use Permit. As such, the Planning Commission has quite a bit of latitude to require the proposal to comply with code standards or deny the application as it sees fit.

Chapter 17.42 - Central Business District
The intent section of Chapter 17.42, Central Business provides guidance when reviewing applications in the downtown. The underlined language is key for the current proposal.

17.42.00 - Intent
This district is intended to provide the community with a mix of retail, personal services, offices and residential needs of the community and its trade area in the city's traditional commercial core. **This district is not intended for intensive automobile or industrial uses.** This district is intended to provide the principal focus for civil and social functions within the community.

This commercial district is intended for civic uses and to provide all basic services and amenities required to keep the downtown the vital center of our community. While the district does not permit new low density building types, it is not intended to preclude dwelling units in buildings containing commercial activities. All development and uses shall be consistent with the intent of the district, as well as compatible with the space, access and exposure constraints and opportunities of the central city.

The proposed use would appear to be contrary to the intent of this zone.

Variance Requests - The applicant has requested three Special Variances with this application.

1. To exceed the maximum allowed setback;
2. To construct a flat roof on the building rather than a pitched roof; and
3. To reduce the building frontage standard.

What is the difference between a regular variance and a special variance?
Regular variances are dependent on unique features or circumstances of the property. In contrast, special variances do not have this requirement and are considered the "magic wand" of variances. I suggest the Planning Commission seriously consider the ramifications of approving the proposed use in this location with three special variances.

1. **Variance A: Maximum Allowed Setback** - The code requires a maximum 10-foot front setback in the C-1 zone and the applicant proposes exceeding this standard by 80% (eight feet). As noted by staff on page 8 of the staff report:
   "There do not appear to be any unique characteristics of the subject property that differ from neighboring properties and the site planning is of the applicant's making so a Type II Variance request would have to be denied. Therefore, the applicant requests a Type III Special Variance to increase the maximum front setback from 10 feet to 18 feet."

   The applicant's submittal and staff's review of the special variance criteria do not provide any reasoning as to why this variance is needed. Since it is the applicant's burden to prove why the proposal cannot comply with the standard I suggest this request be denied. Apparently, the reason for the request seems to be driven by the location of the proposed drive-through in front of the building. This arrangement is completely contrary to the intent stated in the zoning district and design standards in Chapter 17.90. A drive-through ordering window should not be located between the street and the front of the building.

2. **Variance B: Flat Roof** - The applicant proposes constructing the building with a flat roof versus a pitch roof which is required. Subsection 17.90.110(C)(1) requires buildings with a span of 50 feet or less to have a minimum 6:12 pitched roof. The span of the building is about 24 feet as determined by staff, significantly less than

50 feet. The applicant has provided no real justification as to why compliance with this standard cannot be achieved. The applicant's narrative states,

> *"Section 17.90.110(C.8) provides for exceptions but is intended for larger span buildings. The condition on this project could be considered the opposite case - the building itself is so small that it would difficult to screen equipment effectively without detracting from the roof elements fundamental to Sandy Style."*

Section 17.90.110(C)(1) is very clear that pitched roofs are required on all new buildings with a span of 50-feet or less. Section 17.90.110(C)(8) allows an exception to this standard but only when the building span is greater than 50-feet or the internal function of the building such as large rooftop stove vents make construction of a pitched roof impractical. As noted above, the building span is 24 feet and the roof does not include stove venting.

Even if the building qualified for an exception to the pitched roof standard, Section 17.90.110(C)(8a) states that an **"applied pitched roof is the preferred alternative roof form and shall be considered first."** Neither the applicant or staff have addressed this language but instead jumped straight to the flat roof option.

As presented, the applicant has not provided sufficient evidence to allow the Planning Commission to approve this request. I request this Special Variance be denied and the building be redesigned to feature a pitched roof in compliance with the code.

Variance C: Reduce Building Frontage - The applicant requests a third Special Variance to reduce the required 50 percent building frontage standard of Subsection 17.90.110(D)(1) to 23 percent (32 percent including the covered civic area). This is a tricky one for smaller buildings on large lots. Of more concern to me is the location of the drive-through pick-up window between the sidewalk and the building. I think a better arrangement would be to change the site plan so the combined ingress/egress is separated (one way in another way out), the pick-up window be relocated to the West side of the building, and the building be turned 90 degrees so the narrowest roof span faces Proctor Blvd. This arrangement would better address the intent of this section and the required pitched roof would then face the street as desired by the code.

For additional guidance I have included the language of the intent section of the Building Orientation and Entrances standards in Section D below:

> *Intent: To maintain and enhance downtown and village commercial streetscapes as public spaces, emphasizing a pedestrian-scale and character in new development, consistent with the Sandy Style; and to provide for a continuous*

pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style.

Review of Conditional Use Permit - The proposed drive-through use requires approval of a Conditional Use Permit. The applicant's submittal has not provided sufficient information to allow the Planning Commission to approve this request. A review of the findings contained in the staff report also does not adequately address approval criteria. Instead, the staff report proposes a long list of conditions specifying changes to the design or requiring additional information. The Planning Commission should require these conditions be completed prior to approval. As required by the code, failure to submit this information may be grounds for denial of the application.

Selected Conditions from Staff Report Requiring Revisions or More Information

6. The applicant shall redesign the north elevation to include a pedestrian shelter that extends the length of the elevation. The proposal shall incorporate a pedestrian shelter to extend the length of the west elevation.

9. The applicant shall update the plans to demonstrate compliance with Subsection 19.90.110(C)(b)(2) as well as include cornice features projecting at least six (6) inches from the building face on all elevations as they are visible from abutting public rights-of- ways and pedestrian ways.

11. The applicant shall update the proposed parking area lights with lights that have a smaller distribution and emit less intense light and shall add pedestrian scale lighting along the walkway between the civic space and right-of-way as well as along the pathways adjacent to the building's façade such that they are illuminated at 1.5 – 2.0 foot candles.

13. The applicant shall submit line of sight analysis for the rooftop equipment prior to submitting building permits.

14. The applicant shall install tree protection fencing located 5 feet outside of the dripline of all existing trees on site.

22. The applicant shall submit parking analysis with the missing information, the proposed fixed seats or stools and the number of employees associated with the proposal and use, that supports the proposed 13 vehicle spaces or redesign the parking to limit the site to 4 vehicle spaces.

24. The applicant shall submit the following:

a. A narrative discussion of the vehicular movements for both sites, identifying any on-site conflicts that that could impact traffic on US 26 westbound.
b. An exhibit demonstrating the maneuvering areas on the 7-11 site and the path of passenger vehicles backing out of the westernmost spaces on the 7-11 site as well as exiting the lot via the shared approach

29. Staff recommends the proposed Minor Partition be approved with the condition that the following actions are taken prior to final plate:

a. The applicant shall record a cross-access easement with the adjacent property, &-Eleven, with state highway frontage with the County Assessor to facilitate future shared access or provided evidence that these requirements have been fulfilled. Once either option has been fulfilled update the tentative plat to include the record number associated with the access easement.

30. The applicant's stormwater management plan (required by Section 13.18 Sandy Municipal Code) shall be updated to review and discuss the use of open graded stone backfill for storage and the potential to transport stormwater or shallow groundwater impacted by Petroleum Contaminated Soil (PCS) from the site to the City's stormwater conveyance system.

35. The Phase I Environmental Sit Assessment Submitted (Exhibit F) recommends further investigation at the project site. Based on the submitted assessment the applicant shall:

36. Further investigation and confirm that any remaining contamination that exists is below occupational levels, and that future users of the project site will be protected. The applicant shall submit confirmation from DEQ.

37. Evidence of undocumented fill is indicative of a potential recognized environmental condition for the site. Complete testing of the undocumented fill material to ensure that the fill material is void of contaminants and safe to use during redevelopment.

38. Investigate the western boundary, near the Mattress World site, soil to ensure no environmental risk exist for the project.

39. Contact the Oregon DEQ to inquire about the unassigned regulatory status of the adjacent site.

44. The applicant shall submit a detailed narrative describing the proposed membrane to be used for the development to be reviewed with constructions plans.

Conclusion

Please accept these comments as my public testimony regarding the proposed Dutch Brothers Drive-Through project. I am most concerned with the proposed drive-through use and the design of the proposed building. The applicant has requested three Special Variances without providing sufficient justification. Two of these items (increased setback and building roof design) should be easy to comply with and should be required. The third variance is tougher to comply with due to the size of the building relative the overall lot width. To address this section I suggest the Planning Commission consider requiring the site plan be revised as suggested in my review of

this variance above in addition to requiring decorative features be provided along the street such as decorative arbors or walls. These features will help to fill the space along the street frontage and will also to lessen the visual impact caused by a bunch of cars waiting in a long drive-through queue. I don't believe the proposed Landscape Plan adequately serves this purpose. Decorative arbors were included in front of the Walgreens that complement the building design.

With these comments I request the public hearing for this application be continued to allow the applicant to address these items and that staff and the public be given sufficient time to review the additional information prior to the continued hearing. In the alternative, I request the application be denied as submitted.

I am sorry I will not be able to be in attend tonight's hearing.

Sincerely,

Tracy Brown
17075 Fir Drive
Sandy, OR. 97055

Exhibit OO

Misc. Contracts & Agreements
No. 21319

Misc. contracts & agreements no. _____

INTERGOVERNMENTAL SPECIAL TRANSPORTATION AREA MANAGEMENT AND DESIGN PLAN CITY OF SANDY

THIS AGREEMENT is made and entered into by and between THE STATE OF OREGON, acting by and through its Department of Transportation, hereinafter referred to as "ODOT"; and The City of Sandy, acting by and through its City Council, hereinafter referred to as "CITY".

RECITALS

1. By the authority granted in ORS 190.110 and 283.110, state agencies may enter into agreements with units of local government or other state agencies for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

2. Highways 26 and 211 are part of the State Highway system under the jurisdiction and control of the Oregon Transportation Commission. Highway 26 is classified as a Statewide Freight Route. Highway 211 is classified as District Highway. Between milepoint 23.87 and milepoint 24.61, Highway 26 functions as a one-way couplet with east-bound traffic routed on Proctor Boulevard and west-bound traffic routed on Pioneer Boulevard. Highway 211 intersects with Pioneer at the east end of the couplet.

3. The improvement, operation, and maintenance of Highways 26 and 211 are the jurisdiction of ODOT. CITY retains full jurisdiction and control beyond the curb, of Highway 26 within the one-way couplet area per Intergovernmental Agreement 2811, executed February 10, 1965.

4. Within this one-way couplet area Highways 26 and 211 provide access to community activities, businesses, and residences and accommodate pedestrian movements along and across the state highways. This area is completely within the Urban Growth Boundary and city limits of the CITY as shown on Exhibit "C", attached hereto and by this reference made a part hereof.

5. CITY designated the area within the one-way couplet along Highway 26 between milepoints 23.87 and 24.61 (between and including the intersections of Bluff Road and Ten Eyke Road), as a Special Transportation Area (STA) in 1995.

6. As described in the 1999 Oregon Highway Plan (OHP), an STA is a designated compact district located on a state highway within an urban growth boundary in which the need for appropriate local access outweighs the considerations of highway mobility except on designated Freight Highways where accessibility and mobility needs are balanced.

7. Planning standards for state highway facilities are controlled by the OHP. The OHP requires the preparation and adoption of a Management Plan for a designated STA on Statewide Freight Routes. CITY and ODOT have prepared a Management Plan described in Exhibit "A" and Design Plan described in Exhibit "B", attached hereto and by this reference made a part hereof. The Management Plan finds that the OHP mobility performance standards can be maintained in the one-way couplet area and the State Highways can accommodate freight and through traffic movement within the planning period of the Management Plan.

8. CITY has adopted the Sandy Comprehensive Plan (CP), the Sandy Transportation System Plan (TSP), and the Sandy Urban Renewal Plan (URP) all of which are attached hereto by reference and made a part hereof. These plans contain elements, including projects, programs and actions that are described in Exhibit A and Exhibit B which will support a compact, mixed use, pedestrian friendly downtown and are consistent with the OHP regarding land use and transportation.

9. Upon execution, this agreement shall replace Agreement Number 20840 between the CITY and ODOT and Agreement Number 20840 shall have no further force or effect.

NOW THEREFORE, the premises being in general as stated in the foregoing recitals, it is agreed by and between the parties hereto as follows:

TERMS OF AGREEMENT

1. Under such authority, CITY and ODOT agree to implement the Management Plan and Design Plan and those relevant portions of the CITY CP, TSP and URP in the manner agreed to in this IGA.

2. This Agreement serves as ODOT's written permission to CITY to perform work identified in this agreement within the State Highway Roadway pursuant to ORS 374.305.

3. The obligations of the Management Plan and Design Plan shall begin on the date all required signatures of the IGA are obtained and the Oregon Transportation Commission amends the OHP to designate these state highway segments as an STA. This IGA shall terminate 10 years from the date of execution, unless extended by a fully executed amendment agreed upon by both parties.

CITY OBLIGATIONS

1. CITY shall design and complete improvements identified in the Management Plan and Design Plan and relevant sections of the CITY CP, TSP and URP within the STA boundaries in the following manner.

   A. In developing these projects, CITY shall follow the general design elements and guidelines included in the CITY CP, TSP and URP, and design guidelines in "A

Policy on Geometric Design of Highways and Streets", 2001 (or latest version) by the American Association of Highway and Transportation Officials, and may incorporate design elements recommended in the ODOT publication "A Highway Runs Through It."

B. CITY shall prepare general cost estimates, designate the party or parties responsible for implementation of improvements, likely funding sources, and an anticipated time frame for completion of improvements for each planned improvement.

C. Prior to construction of improvements, CITY shall consult with ODOT on project design and construction.

D. CITY is responsible for all maintenance and costs associated with any projects or improvements designed, constructed and funded by CITY beyond the curbs and on the road pavement between the curbs on the State Highways within the STA area. All projects relating to or affecting traffic signals on State Highways will require a separate Agreement to address maintenance responsibilities and costs.

E. Proposed locations for future traffic signals have been determined for the STA area and adopted in the CITY TSP. CITY acknowledges that the State Traffic Engineer must approve the installation of all new traffic signals on the State Highways. Any future signals approved by State Traffic Engineer as a pilot project will be monitored for the effects of safety.

F. If CITY determines that additional traffic signals are needed on State Highways within the STA area, CITY agrees that the location of any additional traffic signals not currently part of the CITY TSP must be consistent with the street network indicated in the CITY CP Map and the Manual on Uniform Traffic Control Devices (MUTCD) and such installations on State Highways must be approved by the State Traffic Engineer. If additional signals are approved these signals would be considered a pilot project, and will be monitored for the effects on safety.

G. CITY agrees to comply with the MUTCD for any signs designed and installed adjacent to the roadway.

H. CITY shall obtain road approach permits from ODOT, pursuant to OAR 734 Division 51, for changes in public street connections to the State Highways.

I. CITY will work to provide the primary access to STA from city streets. The planned goal regarding access spacing is to have public private driveways spaced at least 500 feet apart and traffic signals spaced at least one-half mile apart. Consolidation and elimination of private driveways on State Highways within STA area will take place over time as safety issues are identified, or in concert with construction projects or with changes in use.

J. CITY shall obtain permits from ODOT for utility work (e.g., water, sewer, and telecommunications) between the curbs of Proctor and Pioneer Boulevards within the STA area. However, no permit fees will be assessed for utility work in the Pioneer Blvd roadway since it remains within CITY right-of-way.

2. CITY agrees to retain CITY Sign Code, Section 15.32.050 that explicitly allows ODOT to place street identification and traffic control signs beyond the roadway curb without the requirement of a city permit.

3. CITY shall continue to require design review process of projects and improvements that occur beyond the curb, including street lights, traffic signals and controllers.

4. CITY shall submit notice of development proposals adjacent to Highways 26 and 211 to ODOT for review and comment.

5. CITY and ODOT must agree to the traffic analysis methodology for development proposals adjacent to Highways 26 and 211. The analysis must be consistent with the Oregon Highway Plan.

6. CITY shall adopt zoning regulations which allow a mix of uses appropriate and desirable in the downtown area, including public and civic uses, service and retail uses, professional office uses, art galleries and limited residential development.

7. CITY agrees to comply with all federal, state, and local laws, regulations, executive orders and ordinances applicable to the work under this Agreement, including, without limitation, the provisions of ORS 279.312, 279.314, 279.316, 279.320 and 279.555, which hereby are incorporated by reference. Without limiting the generality of the foregoing, CITY expressly agrees to comply with (i) Title VI of Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1990 and ORS 659A.142; (iv) all regulations and administrative rules established pursuant to the foregoing laws; and (v) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations

8. CITY shall be exclusively responsible for all costs and expenses related to its employment of individuals to perform the work under this Agreement including, but not limited to, retirement contributions, workers compensation, unemployment taxes, and state and federal income tax withholdings. All employers, including CITY, that employ subject workers who work under this Agreement in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage unless such employers are exempt under ORS 656.126. CITY shall ensure that each of its subcontractors complies with these requirements.

9. CITY shall, to the extent permitted by the Oregon Constitution and the Oregon Tort Claims Act, indemnify, defend, save, and hold harmless the State of Oregon, Oregon Transportation Commission and its members, Department of Transportation, its officers and employees from any and all claims, suits, and

liabilities which may occur in the performance of any projects within the STA boundaries.

ODOT OBLIGATIONS

1. ODOT shall continue to administer road approach permits for access to the State Highways, pursuant to OAR 734 Division 51.

2. ODOT retains authority over, and responsibility for, maintenance and operation of the road pavement between the curbs on Pioneer and Proctor Boulevards in the STA area. ODOT may contract with CITY for maintenance activities such as street sweeping or snow removal

3. ODOT agrees that the maintenance of any new city-sponsored projects that are constructed between the curbs on Pioneer and Proctor Boulevards after the date of this agreement will be the responsibility of CITY. ODOT and CITY may enter into agreements to appropriately address how those responsibilities will be met.

4. ODOT will consult with the CITY for all improvements ODOT makes to the State Highways within the STA before construction. At its option, ODOT may transfer funding for the development and construction of such highway improvements to the CITY by separate agreement.

5. ODOT agrees that projects designed, funded and constructed by ODOT through the STIP or other funding sources will be maintained by ODOT unless agreed to in a separate agreement.

6. The ODOT State Traffic Engineer shall consider all applications for installation of new traffic signals on the State Highways within the STA. In determining whether a new signal is appropriate, the State Traffic Engineer will exercise maximum flexibility allowed under its authority and will consider the goals identified in the CITY TSP for the STA.

7. ODOT agrees that any utility relocations necessitated by work on Pioneer Boulevard in the STA will be performed at no cost to the CITY. Reasonable expenses for utility relocation or adjustment performed by the CITY or its contractors in this area shall be reimbursed by ODOT after prior review for approval.

8. ODOT agrees to review and provide comments on all CITY sponsored improvements that physically involves the road pavement and air space between the curbs on the State Highways within the STA within 30 days.

GENERAL PROVISIONS

1. This Agreement may be terminated by mutual written consent of both parties upon 30 days' notice, in writing and delivered by certified mail or in person.

ODOT may terminate this Agreement effective upon delivery of written notice to CITY, or at such later date as may be established by ODOT, under any of the following conditions.

a. If CITY fails to provide services called for by this Agreement within the time specified herein or any extension thereof.

b. If CITY fails to perform any of the other provisions of this Agreement in accordance with the terms and conditions of this Agreement or so fails to pursue the work as to endanger performance of this Agreement in accordance with its terms, and after receipt of written notice from ODOT fails to correct such failures within 10 days or such longer period as ODOT may authorize.

c. If Federal or State laws, regulations or guidelines are modified or interpreted in such a way that either the work under this Agreement is prohibited or if ODOT is prohibited from paying for such work from the planned funding source.

Any termination of this Agreement shall not prejudice any rights or obligations accrued to the parties prior to termination.

2. CITY acknowledges and agrees that ODOT, the Secretary of State's Office of the State of Oregon, the federal government, and their duly authorized representatives shall have access to the books, documents, papers, and records of CITY which are directly pertinent to the specific agreement for the purpose of making audit, examination, excerpts, and transcripts for a period of three years after final payment. Copies of applicable records shall be made available upon request. Payment for costs of copies is reimbursable by ODOT.

3. This Agreement, attached exhibits, and all other agreements referenced herein, constitute the entire agreement between the parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. Where there may be conflicts within the five plans and this Agreement, the terms of this Agreement will control. No waiver, consent, modification or change of terms of this Agreement shall bind either party unless in writing and signed by both parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of ODOT to enforce any provision of this Agreement shall not constitute a waiver by ODOT of that or any other provision.

IN WITNESS WHEREOF, the parties hereto have set their hands and affixed their seals as of the day and year hereinafter written.

The Oregon Transportation Commission is scheduled to amend the OHP to designate these Highway segments as an STA on January 14, 2004.

The Oregon Transportation Commission on June 18, 2003, approved Delegation Order No. 2, which authorizes the Director to approve and execute agreements for day-to-day operations.

On September 6, 2002, the Director of the Oregon Department of Transportation approved Subdelegation Order No. 2, in which the Director delegates authority to the Division and Region Managers to approve and execute agreements for day to day operations.

City of Sandy, by and through its elected officials

By Linda C Malone

Title Mayor

Date 12-19-03

By _____

Title _____

Date _____

STATE OF OREGON, by and through its Department of Transportation

By _____
Region Manager

Date 12/10/03

By William A Barnhart
District Manager

Date 12-22-03

APPROVED AS TO LEGAL SUFFICIENCY

By _____
City Legal Counsel

Date _____

CITY Contact:

Gen H5341.doc
IGA Rev. 08-22-2003

SANDY SPECIAL TRANSPORTATION AREA

Exhibit A

MANAGEMENT PLAN

And Exhibit B

DESIGN PLAN

SEPTEMBER 2003

Prepared by the City of Sandy
And the Oregon Department of Transportation Region 1

SANDY STA
MANAGEMENT AND DESIGN PLAN

This plan is a requirement of, and an addendum to, the May 2003 Agreement (ODOT miscellaneous contracts and agreements # 20840) between the City of Sandy and the Oregon Department of Transportation.

The Mt Hood Highway is part of the State Highway system. The improvement, operation, and maintenance of the highway is the jurisdiction if the Oregon Department of Transportation. ODOT recognizes that, in the Sandy downtown, the highway serves a function to provide access to community activities, businesses, and residences and to accommodate pedestrian movements along and across the highway. The downtown and the boundaries of the Special Transportation Area are defined as Pioneer and Proctor Boulevards, between and including the intersections of Bluff Road and Ten Eyck Road; highway mile post numbers 23.87 to 24.61)

This Management Plan recognizes that the City of Sandy has adopted a Comprehensive Plan, a Transportation System Pan, and an Urban Renewal Plan. These plans support a compact, mixed use, pedestrian friendly downtown and are consistent with the ODOT Highway Plan Policies on Land use and Transportation.

In the name of governmental efficiency the City of Sandy, therefore, desires to be able to implement projects in the downtown on the State Highway consistent with the appropriate plans without the need for ODOT permits.

Exhibit A Management Plan

Management Plan: Roles and Responsibilities:

A. **Responsibilities and authority under the STA agreement.**

1. City will design and complete projects based on the STA Design Plan as an agent of ODOT. City will consult with ODOT on project design and construction, but ODOT will not require issuance of permits for these projects. City Agrees to follow "A Policy on Geometric Design of Highways and Streets, 2001 (or latest version) by the American Association of Highway and Transportation Officials and the Manual of Uniform Traffic Control Devices (MUTCD). Projects may include lane restriping, curb extensions, undergrounding utilities, and widening sidewalks.

However, the State Traffic Engineer shall approve the installation of signals as required by Oregon Administrative Rule. The State Traffic Engineer will exercise maximum flexibility allowed by the office and take into account the need identified in the Sandy TSP, the 25MPH speed in the CBD, the fact that the design is consistent with the MUTCD, the fact that the signals would be a pilot project, and that the installation will be monitored for the effects on safety.

3. City agrees to maintain any projects designed, and constructed and funded by the City on the state highway in the STA area. This responsibility remains even if this agreement is dissolved.

4. Projects funded and built directly by ODOT (through the STIP or other funding sources) may be designed and managed by ODOT, with consultation with the City on design and construction issues. At its option, ODOT may delegate these projects to the City.

5. City agrees to indemnify and hold ODOT harmless for liability claims arising from the deviations from standard ODOT practices identified in this agreement.

B. Responsibilities and authority not affected by the STA agreement.

1. The City will continue to be subject to ODOT permits for utility work (e.g., water, sewer, and telecommunications) between the curbs of Proctor and Pioneer Blvds. No permit fees will be assessed for Pioneer Blvd (since it remains City right-of-way), but a permit application will be required.

2. The City retains full jurisdiction and control behind the curb, per the 1965 agreement. This includes:

   Sign regulation. The City Sign Code, 15.32.050 explicitly allows ODOT to place street identification and traffic control signs without the requirement for a city permit. City agrees to comply with MUTCD for any signs designed and installed.

   The City will continue design review of projects and improvements behind the curb, including street lights, traffic signals and controllers.

3. ODOT retains authority over, and responsibility for, maintenance and operation of the area between the curbs on Pioneer and Proctor

Boulevards. This does not preclude ODOT from contracting with the City in areas such as street sweeping or snow removal. The City, however, agrees to maintain projects funded and constructed by the City.

4. ODOT will continue to administer the Access Management Rule.

Management Plan: Oregon Highway Plan Elements

The Oregon Highway Plan requires the preparation and adoption of a management plan for Special Transportation Areas on Statewide Freight Routes. The Mt Hood Highway through Sandy is such a route. The Management Plan must address the following requirements according to Action 1B.11 of the 1999 Oregon Highway Plan (p54):

Management Plan. The management plan for each STA in the local transportation system plan shall include:

- Clearly defined STA boundaries;
- Goals and objectives;
- Design standards that are to be applied to the STA to improve local access and community functions. These may include highway mobility standards, street spacing standards, signal spacing standards and street treatments, and must be reviewed by the Technical Services Manager or his/her designee;
- Strategies for addressing freight and through traffic including traffic speed, possible signalization, parallel or other routes, and actions in other parts of the corridor which address through traffic needs;
- Parking strategies, which address on and off street and shared parking;
- Provisions for a network of local traffic, transit, pedestrian, and bicycle circulation;
- An analysis of the regional and local traffic and safety impacts of the STA to determine the effects of the STA designation. All parties must agree to the analysis methodology, and it must be consistent with regional plans and ODOT analysis methods;
- Identification of needed improvements within the STA or improvements that will support access to the STA and designation of the party responsible for implementation; likely funding source and anticipated time frame; and
- Identification of maintenance and operational strategies to be employed.

A. CLEARLY DEFINED STA BOUNDARIES;

The Sandy STA is located on that portion of Highway 26 routed on Pioneer and Proctor Boulevards, a one way couplet, between and including the intersections

of Bluff Road and Ten Eyck Road. The Highway mile posts numbers are 23.87 to 24.61. The STA is completely within the Urban Growth Boundary and the City limits of the City of Sandy, Oregon.

B. GOALS AND OBJECTIVES;

(1) Oregon Highway Plan

The primary objective of managing highway facilities in the City of Sandy Special Transportation Area is to provide access to community activities, businesses, and residences and to accommodate pedestrian movement along and across the highway in the downtown business district. Direct street connections and shared on-street parking are encouraged. Direct property access is limited in an STA. Local auto, pedestrian, bicycle and transit movements to the business district are generally as important as the through movement of traffic. Traffic speeds are slow, generally 25 miles per hour (40 kilometers per hour) or less. The Land Use and Transportation Policy addresses the relationship between the highway and patterns of development both on and off the highway. It emphasizes development patterns that maintain state highways for regional and intercity mobility and compact development patterns that are less dependent on state highways than linear development for access and local circulation.

(2) The City of Sandy Comprehensive Plan.

Downtown Commercial Policies Consistent with the STA Designation:

In order to create a vital downtown that has mixed uses to serve the variety of Sandy area residents and visitors, the City shall:

11. Adopt design guidelines to provide the framework for public and private improvements within the downtown area. (See the Sandy Comprehensive Land Use Plan, the Sandy Transportation Systems Plan (TSP), and the Sandy Urban Renewal Plan)
12. Allow permitted and conditional uses which meet the purposes of the central business district and which are in scale and character to a traditional downtown business district.
13. Adopt zoning regulations which allow a mix of uses appropriate and desirable in the downtown area, including public/civic uses, service/retail uses, professional office uses, art galleries and limited residential development.
14. Recognize the downtown area as the focal point for concentrated, small-scale commercial retail and service uses, which can be integrated with public uses and spaces.

15. Limit expansion of the downtown commercial area to the north of the existing downtown rather than east or west along Highway 26 in order to avoid linear strip development.
16. Develop the west and east ends of the downtown as gateways to the downtown.
17. Encourage a mix of office, commercial uses, residential uses, and retail shopping within buildings or development sites in the downtown core.
18. Encourage offices, housing, and other non-storefront type of uses to occupy the upper floors of buildings in the downtown area in compliance with applicable design standards.
19. Require that all developments be connected by safe, direct sidewalks. Sidewalks shall be located along all downtown streets, and the use of mid-block walkways should be discouraged except on unusually long blocks.
20. Require public spaces such as small plazas or sitting areas as part of commercial or mixed use projects of over 10,000 gross square feet in the downtown core. A fee in lieu of the provision of such public space may be assessed by the City.
21. When feasible, ensure the creation of transit stops in the downtown core and surrounding area. Consider the possibility of locating park-and-ride lots immediately adjacent to, or within, downtown.

In order to ensure that the downtown area develops at sufficient intensity, the City of Sandy shall:

22. Encourage new development that is two or more stories in height unless market and other factors strongly dictate otherwise.
23. Encourage higher density residential development such as apartment buildings, row houses, townhouses, condominiums, and residences above first floor commercial in the downtown area. A density of 10 to 20 dwelling units per gross acre is encouraged for the residential district abutting the Central Business District. No minimum density shall be required for residential development located above commercial development in the downtown area.
24. Encourage new development that has the potential of having an average of at least 30 jobs per net acre in the downtown commercial areas. This employment density may be adjusted to allow for the fact that retail employment densities are lower (typically about 25 jobs per acre), and for mixed-use developments that include residential units above the ground floor.
25. Prohibit new single-family detached residential development in the downtown area.

26. Encourage shared parking arrangements whenever neighboring facilities have different peak use periods.
27. Require convenient and safe bicycle parking as part of the parking requirement for all new development in the downtown area.

C. DESIGN STANDARDS THAT ARE TO BE APPLIED TO THE STA TO IMPROVE LOCAL ACCESS AND COMMUNITY FUNCTIONS.

(1) Highway Mobility Standards

The Sandy Transportation Systems Plan (TSP[i]) recognizes that the planning standards applicable to State Highway facilities are controlled by the Oregon Highway Plan (OHP)

The level of service for design hour operation conditions through 20 year horizon for an STA on a Statewide Highway is a LOS E. The Sandy TSP concluded that if the STA designation was adopted by the OTC a LOS E can be maintained on the existing two lane couplets for at least 20 years. Maintenance of the higher levels-of-service required without the designation would require additional lanes. (Sandy TSP, p 72)

(2) Street And Driveway Spacing Standards

It is the policy of the City of Sandy to work toward providing primary access in the Downtown via City streets and consolidate private accesses. Consolidation and elimination of driveways would take place over time as safety issues are identified, or in concert with constructions projects or with changes in use. The Sandy TSP identifies the following guidelines to work toward: public road spacing at least one-fourth mile (1320 feet); private driveway spacing at least 500 feet; and signal spacing at least one-half mile.

(3) Highway Plan Spacing Standards

Minimum spacing for public road approaches is either the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways, and driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum spacing for driveways is 175 feet or mid-block if the current city block spacing is less than 350 feet. (OHP Appendix C)

(4) Signal Spacing Standards

The Sandy TSP identified the need for additional signals in the downtown for the purpose of providing adequate pedestrian circulation. The goal is to have a signal spacing

such that no pedestrian would have to walk more than 400 feet to a protected pedestrian crossing. Additional signals are planned at either Scales and Strause or alternatively at Alt-Shelly, Beers, and Bruns Avenues. (TSP, p104)

D. STRATEGIES FOR ADDRESSING FREIGHT AND THROUGH TRAFFIC INCLUDING TRAFFIC SPEED, POSSIBLE SIGNALIZATION, PARALLEL OR OTHER ROUTES, AND ACTIONS IN OTHER PARTS OF THE CORRIDOR WHICH ADDRESS THROUGH TRAFFIC NEEDS;

(1) Freight and Through Traffic

The Sandy TSP concluded that OHP level of service standards can be maintained in downtown Sandy. Therefore, freight and through traffic will be accommodated.

E. PARKING STRATEGIES WHICH ADDRESS ON AND OFF STREET AND SHARED PARKING;

(1) Sandy Comprehensive Plan Policies

23. Wherever feasible, encourage the provision of on-street parking on both sides of streets. Cooperation with ODOT will be necessary along Highway 26 and Highway 211.
24. Reduce parking requirements for development proposals where existing on-street parking and excess parking from adjacent development is available to meet parking requirements. Consideration should also be given to allowing payment of fees in lieu of required on-site parking. The fees shall be dedicated to the development of public parking lots.
25. Public parking lots may be developed for commercial and other areas in order to help relieve obligations for off-street parking and to encourage commercial development with higher floor-to-area ratios.
26. Encourage shared parking arrangements when parking demands for the sharing uses can be satisfied.
27. Require convenient and safe bicycle parking as part of the parking requirement for all new development, except single-family houses.
28. Require that each downtown development project be connected to adjacent developments by a direct and continuous sidewalk.

(2) Sandy Transportation System Plan

The TSP calls for continuing to provide parking on both sides of these streets: Proctor and Pioneer (TSP, p75, Parking)

F. PROVISIONS FOR A NETWORK OF LOCAL TRAFFIC, TRANSIT, PEDESTRIAN, AND BICYCLE CIRCULATION;

(1) Network Of Local Traffic

a. Sandy Comprehensive Plan: Major Roadway Circulation Policies;

20. Work with property owners and developers to limit the number of accesses onto major roadways. Encourage the use of shared driveways, off-street connections between properties, and access from lower order streets.
21. Work with ODOT to determine locations for necessary traffic control signals. Proposed locations for future traffic signals have been determined for the downtown area in the City of Sandy Transportation System Plan. Other locations need to be determined in order to improve the safety and convenience of pedestrians, bicycles, and automobiles. The location of traffic signals should be consistent with the street network indicated in the Comprehensive Plan Map and current traffic engineering standards.
22. Submit notice of development proposals impacting Highways 26 and 211 to ODOT for review and comment.

b. Sandy Transportation Systems Plan

The Sandy Street Plan begins on page 94 of the Sandy TSP (December 1995 as amended). The planned street network is identified on figure 18.

(2) Transit

a. Sandy Comprehensive Plan: Transit

17. Promote local transit service for Sandy.
18. Promote the creation of transit stops in neighborhood centers and other areas of the city. The City shall consider the possibility of locating park-and-ride lots

immediately adjacent to, or within, the downtown and other neighborhood centers.

19. Identify bus pull-outs and spaces for bus stops and shelters. Some type of bus shelter or other protection from weather should be included at all bus stops in the downtown area. Such protection may consist of awnings or other overhangs from adjacent buildings, provided the sheltered area is adequate to meet the needs of waiting transit riders as well as pedestrians.

b. Sandy Transportation Systems Plan

The Sandy Transit Plan begins on page 91 of the Sandy TSP (December 1995 as amended)

(3) Pedestrian Circulation

a. Sandy Comprehensive Plan: Pedestrian Friendly Street and Streetscape Design

8. Encourage the planting of street trees in tree-deficient areas of the city.
9. Require buildings, awnings, landscaping, and modifications to the street width and sidewalks in commercial areas to create a sheltered, interesting, and safe environment that works for pedestrians as well as for automobiles.
10. Encourage the development of sidewalks on both sides of all streets, especially in high pedestrian activity areas such as near schools and in the downtown area.
11. Develop street, bicycle, and pedestrian facilities that encourage pedestrian-friendly streetscapes.

b. Sandy Transportation Systems Plan

The Sandy Pedestrian Plan begins on page 83 of the Sandy TSP (December 1995 as amended)

(4) Bicycle Circulation

a. Sandy Comprehensive Plan: Bicycle Facilities

12. Establish a system of designated bicycle routes and pathways that link neighborhoods, schools, parks, employment centers, and other points of interest.
13. Establish a logical and coherent transportation network within the city, and provide connections to larger, regional

facilities. Bicycle facilities should be constructed in accordance with the design standards of the Oregon Bicycle and Pedestrian Plan or other approved plan.

14. Make provisions for bicycle facilities in accordance with the bicycle network map. Recognize that this map represents a conceptual plan. Actual bicycle routes will be determined when the proposed street network is more fully developed.
15. Identify and develop local or collector streets which can provide good parallel bicycle facilities with less vehicular traffic within a short distance of an arterial as the preferred bicycle route.
16. Encourage the provision of bicycle racks for existing commercial, industrial, civic, and school facilities.

b. Sandy Transportation Systems Plan

The Sandy Bicycle Plan begins on page 84 of the Sandy TSP (December 1995 as amended).

G. AN ANALYSIS OF THE REGIONAL AND LOCAL TRAFFIC AND SAFETY IMPACTS OF THE STA TO DETERMINE THE EFFECTS OF THE STA DESIGNATION. ALL PARTIES MUST AGREE TO THE ANALYSIS METHODOLOGY, AND IT MUST BE CONSISTENT WITH REGIONAL PLANS AND ODOT ANALYSIS METHODS;

Major safety issues were not identified in the TSP process. The TSP concluded that all intersections on US 26 through Sandy are considered to be operating safely (p40). The STA designation is not likely to alter those findings because speeds are relatively low and lane widths are adequate. Implementation of the downtown plan should increase safety for pedestrians.

H. IDENTIFICATION OF NEEDED IMPROVEMENTS WITHIN THE STA OR IMPROVEMENTS THAT WILL SUPPORT ACCESS TO THE STA AND DESIGNATION OF THE PARTY RESPONSIBLE FOR IMPLEMENTATION, LIKELY FUNDING SOURCE AND ANTICIPATED TIME FRAME;

(1)Sandy Transportation Systems Plan

A Transportation Needs Project list begins on page 125. Improvements to US 26 within the STA include new signals on Pioneer and Proctor Boulevards at Scales and Strauss Avenues, signal coordination, sidewalks, curb extensions and cross-walks at the signalized intersections as well as Proctor and Hoffman,

Alt, Bruns, and Beers, and at Pioneer and Hoffman, Shelley, Bruns, Scales, and Beers.

(2) City of Sandy Urban Renewal Plan (December 1998).

The Urban Renewal District includes all of the downtown in the STA. The plan includes projects for sidewalks, curb extensions, parking, streetlights, streetscape, traffic signals, and open spaces (see the plan for a list of projects costs and schedules).

I. IDENTIFICATION OF MAINTENANCE AND OPERATIONAL STRATEGIES TO BE EMPLOYED

(1) The City will continue to be subject to ODOT permits for utility work (e.g., water, sewer, telecommunications) between the curbs of Proctor and Pioneer Blvds. No permit fees will be assessed for Pioneer Blvd (since it remains City right-of-way), but a permit application will be required.

(2) Utility relocations necessitated by work on Pioneer Blvd. in the couplet area will be performed at no cost to the City. Expenses for utility relocation or adjustment performed by the City or its contractors in this area shall be reimbursed by ODOT.

(3) The City retains full jurisdiction and control behind the curb, per the 1965 agreement. This includes:

a. Sign regulation. The City Sign Code, 15.32.050 explicitly allows ODOT to place street identification and traffic control signs without the requirement for a city permit. The City agrees to comply with the MUTCD in the design and placement of signs.

b. Design review of projects and improvements behind the curb, including street lights, traffic signals and controllers, sidewalks, and curb extensions.

(4) ODOT retains authority over, and responsibility for, maintenance and operation of the area between the curbs on Pioneer and Proctor Boulevards. This does not preclude ODOT from contracting with the City in areas such as street sweeping or snow removal.

(5) City will maintain projects that are designed and constructed by the City in the highway right-of-way.

EXHIBIT B

SANDY STA DESIGN PLAN

Design Standards The City Of Sandy Will Use In The Implementation Of The STA

The City of Sandy may make improvements to the Sandy Downtown using the design elements incorporated into the Transportation Systems Plan, the Sandy Comprehensive Plan, and the Sandy Urban Renewal Plan. The City may design and construct other improvements not explicitly listed here, in keeping with the goal of a compact, main street character with buildings spaced close together, adjacent to the street, with little or no setback. They may incorporate elements recommended in the ODOT publication, "A Highway Runs Through It."

A. **Sandy Transportation systems Plan**

The following elements of the Sandy Transportation System Plan (TSP) relating to downtown traffic and improvements are hereby incorporated in this Design Plan. The elements include:

1. Speed Limit
   Designs will be based on the 25 mph speed limit that currently exists in the STA.

2. Pedestrian Signals
   The incorporation of additional pedestrian traffic signals on Pioneer and Proctor Boulevards. These signals will be timed with signals at Bluff and Meinig so as not to impede through traffic. The Alternative locations listed in the TSP are:

   a. Alternative A-1. Alt/Shelley, Bruns, and Beers: or
   b. Alternative A-2, Strauss and Scales.

3. Access Management
   The City shares the ODOT goal of reducing driveway access to Pioneer and Proctor, where possible, and to encourage access from the cross streets.

4. Through Traffic
   Coordination of signal timing on Highway 26, to provide for a smooth flow of through traffic at posted speeds.

5. Parking

6. Transportation System
   a. Continuation of the one way couplet: Pioneer eastbound, Proctor westbound.

   b. Eventual construction of a bypass to re-route truck traffic out of the downtown.

7. Cross-section

   a. The City will follow AASHTO Guidelines in determining lane widths and striping

   b. In the allocation of scarce right-of-way the City will use the following priority.

      (a). Sidewalks to the maximum identified in the TSP: 8'

      (b). Reduction of travel lane widths to 11' minimum

      (c.) In recognition that US 26 is a Statewide Bike Route, removal of the bicycle lane will be considered only if an adequate alternative bike route is designated and the Sandy TSP is amended.

8. As per minimum AASHTO guidelines the minimum lane widths will apply to the cross;-section of Proctor and Pioneer in the STA:

   a. Travel lanes: 11'

   b. Parking lanes; 8'

   c. Bicycle lane: 4'

B. Sandy Urban Renewal Plan

The City may implement the following elements of the Sandy Urban Renewal Plan. Project activities are intended to improve the visual appearance of the renewal area, and provide a safer, more attractive pedestrian environment. The City has adopted standards for downtown public improvements, including streetscape, street furniture, the aesthetics of street lighting and signal equipment, sidewalks, trees and grates, etc.

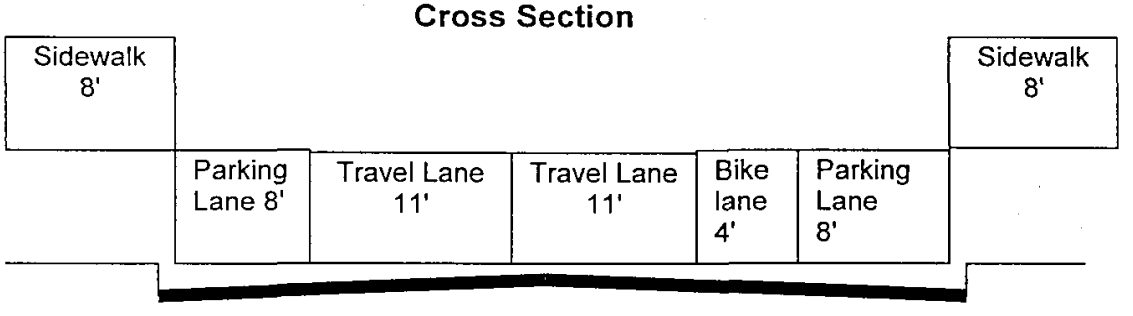
1. Streetscaping, and landscaping

2. Street lighting improvements
3. Street trees
4. Murals and public art
5. Public Parking
6. Traffic signalization
7. Rehabilitation and renovation of properties in the renewal Area
8. A design plan to guide the design and development of the renewal Area
9. Improvements to fire protection in the renewal area
10. Street improvements
11. Construction of a public park or plaza in the renewal area
12. Undergrounding of utility wires
13. Authority to acquire and dispose of land for public improvements, rights-of-way, utility improvements, and private development

C. Traffic Calming

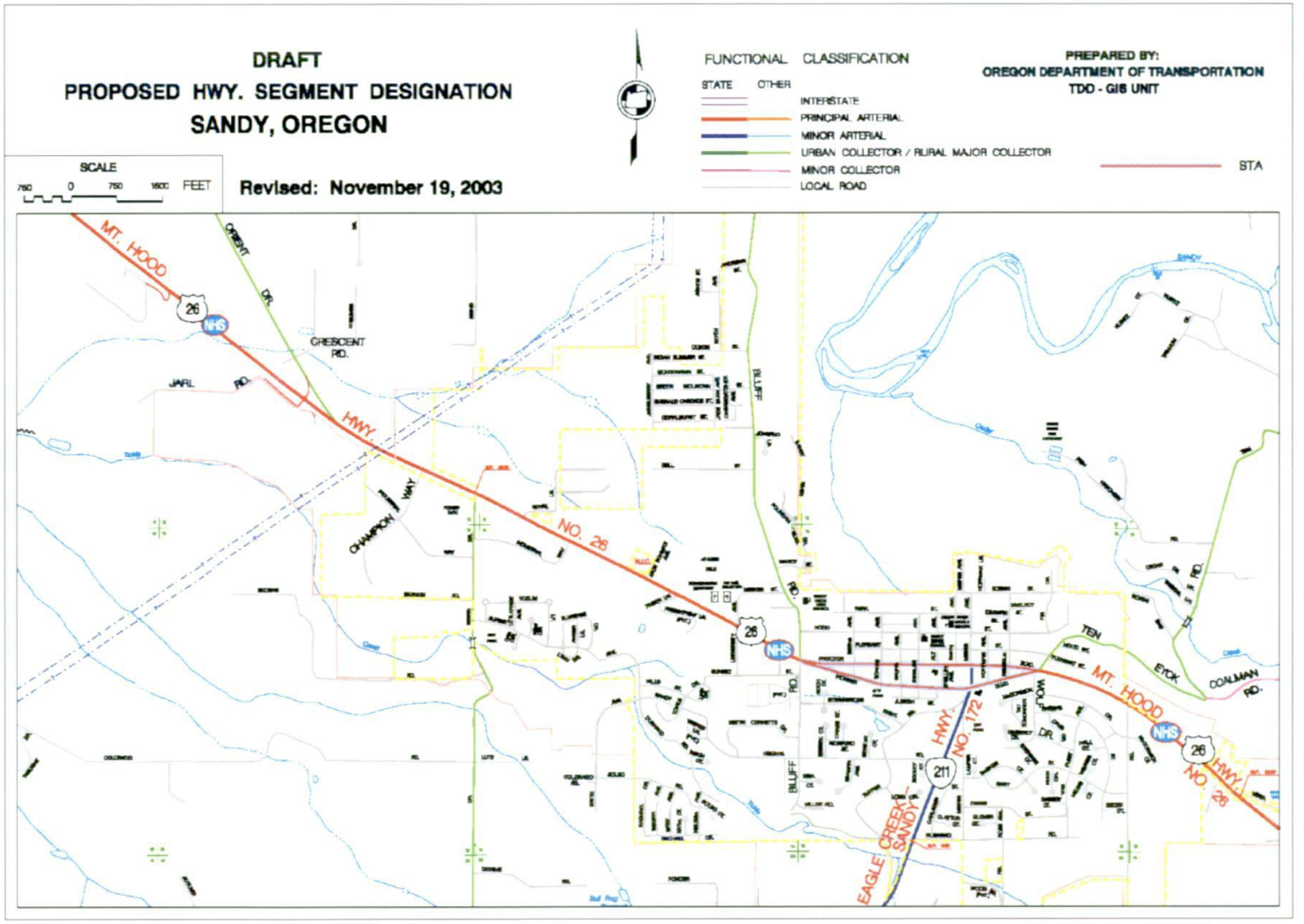
The following projects and improvements may be used to encourage traffic to stay within the 25 mph speed limit:

1. Striping or contrasting materials (e.g., bricks, pavers) at crosswalks.
2. Curb extensions (bulb outs).
3. Flashing overhead or embedded lights at crosswalks.
4. Landscaped medians at the east and west entrances to downtown (i.e., east of Ten Eyck/Wolf and west of Bluff).
5. Narrowed travel lanes (see below) and widened sidewalks.
3. Street trees, streetlights, and building placement spaced so as to create a sense of being in a downtown, pedestrian-oriented area.
5. Phasing (timing) of the traffic signals.
6. Speed enforcement and/or photo radar, as allowed by state law.
7. Speed humps or other intentional mutilation of the road surface will not be used for traffic calming on Proctor or Pioneer Blvds,



Mimimum Cross Section on Proctor and Pioneer Streets in the Sandy STA
(US26)

Exhibit C


DRAFT
PROPOSED HWY. SEGMENT DESIGNATION
SANDY, OREGON
Revised: November 19, 2003
SCALE
750 0 750 1500 FEET
FUNCTIONAL CLASSIFICATION
STATE OTHER
INTERSTATE
PRINCIPAL ARTERIAL
MINOR ARTERIAL
URBAN COLLECTOR / RURAL MAJOR COLLECTOR
MINOR COLLECTOR
LOCAL ROAD
STA
PREPARED BY:
OREGON DEPARTMENT OF TRANSPORTATION
TDD - GIS UNIT
MT. HOOD
HWY.
NO. 26
CRESCENT RD.
JARL RD.
CHAMPION WAY
BLUFF RD.
TEN EYCK
COALMAN RD.
HWY. NO. 172
EAGLE CREEK SANDY
26
211
NHS