



Todd Prager & Associates
LLC

MEMORANDUM





DATE: January 19, 2023
TO: Emily Meharg (City of Sandy)
FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist
RE: Tree Preservation and Removal Review for 38105 Highway 26

This memorandum is a summary of my review of the tree preservation and removal plan for the mixed-use development proposal at 38105 Highway 26 in Sandy, Oregon.

The City of Sandy requested a third-party review of the tree preservation and removal plan for the 38105 Highway 26 mixed-use project to address the following items:

- Review the arborist report for mixed-use development proposal on the vacant flag lot east of 38015 Highway 26 (Tax Lot 902);
- Provide recommendations on how to minimize the negative impact to the trees on adjacent parcels;
- Provide an assessment of whether tree # 28 can be adequately protected; and
- Provide a recommendation for mitigation trees in the northwest corner of the site.

My review is based on the arborist report dated September 22, 2022, by Teragan & Associates, Inc. in Attachment 1 as well as the excerpted plan set dated July 29, 2022, in Attachment 2. Note that I added the following markups on pages 7 through 9 of the arborist report in Attachment 1 and sheets 2, 3, L1.1, and L2.1 in the plan set in Attachment 2 to aid in my review:

-  - Potential retention tree (11-inch+ DBH and good condition)
-  - Neighboring tree to be retained
-  - Typical root protection zone radius of one foot per inch of DBH
-  - Typical minimum construction setback radius of 0.5 feet per inch of DBH

Arborist Report Review

The arborist report in Attachment 1 includes the required elements: an inventory and assessment of existing trees; tree removal and preservation recommendations based on the proposed construction impacts; and protection recommendations for the trees to be retained. However, there are a few outstanding issues that should be addressed:

1. **Sec. 17.102.50.A Tree Retention:** This code standard requires at least three trees that are at least 11-inches in trunk diameter (DBH) per acre of contiguous development to be retained. City staff has determined that based on this code standard, seven trees are required to be retained. The City of Sandy's administrative practice is to require retention trees to be in good health condition. In reviewing pages 7 and 8 of the arborist report, there are six potential retention trees at the site (trees 4, 5, 11, 28, 33, and 34, which I highlighted in yellow). Of these trees, tree 28 is proposed for retention while the remaining trees will be removed. Trees 33 and 34 do not appear practicable to retain based on their locations towards the center of the site within the proposed parking lot. However, trees 4, 5, and 11 may be possible to retain if the site access could be reconfigured. It should be clarified whether the driveway reconfiguration is an ODOT requirement, or a recommendation. Based on this clarification, a determination can be made as to whether up to four retention trees could be retained, or if only one retention tree can be retained. The balance of required retention trees could be mitigated if a variance is approved by the Planning Commission according to Sec. 17.102.70.
2. **Differing Site Plans:** The site plan included on page 9 of the arborist report is different from the site plans provided in the plan set in Attachment 2. The main differences appear to be on the east side of the site adjacent to trees 28 through 30. The site plan changes should be reviewed by the project arborist to ensure the trees will be adequately protected. Particular attention should be paid to the location of the proposed retaining wall adjacent to trees 31 and 32 (see sheet 3 in Attachment 2) and the proposed grading that potentially conflicts with the root zones of trees 28 and 29 (see sheet 7 in Attachment 2).

Protection of Trees on Adjacent Properties

I identified 21 trees on adjacent properties that are proposed to be retained and protected with development. These trees are highlighted in green on pages 7 through 9 of the arborist report and on sheets 2, 3, and L1.1 in the plan set in Attachment 2. The City of Sandy requested my recommendations on how to minimize the negative impact to these trees on adjacent properties.

The City of Sandy's administrative practice is to limit construction disturbances to no closer than a radius from a tree of 0.5 feet per inch of trunk diameter (DBH) if no more than 25 percent of the root protection zone area (estimated at one

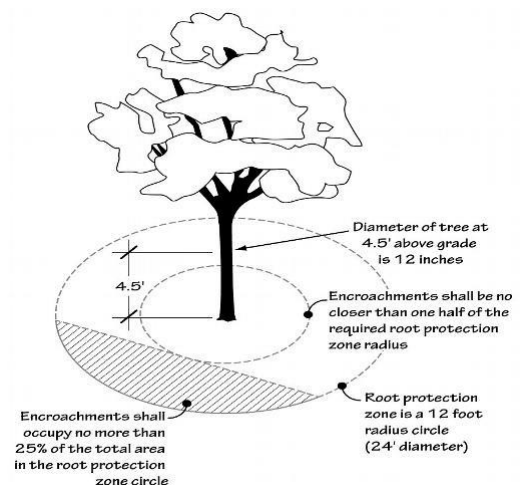


Figure 1: Typical minimum protection zone

foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

I included the typical root protection zone radii and typical minimum construction setback radii for the trees on neighboring properties to be retained on page 9 of Attachment 1 and sheets 2, 3, and L1.1 in the plan set in Attachment 2. In reviewing the proposed construction in relation to the typical minimum protection zones in Figure 1, there are 12 neighboring trees that do not meet the Figure 1 minimum tree protection zone (trees 2.1, 2.3, 13.2, 15, 21, 23, 24, 25, 26, 29, 31, and 32).

The following protection measures should be considered for protecting trees on the neighboring property in addition to the protection measures described in the project arborist report:

Trees 2.1, 2.3, and 13.2: Consider shifting the pedestrian pathway so it is directly adjacent to the driveway alignment at the driveway entrance adjacent to trees 2.1 and 2.3. Also, consider shifting the entire driveway further from all three trees if allowed by ODOT.

Tree 15: Consider locating utilities under the sidewalk or driveway so they are further from the tree.

Trees 21, 23, 24, 25, and 26: Trees 21, 24, 25, and 26 are nuisance species (sweet cherry, *Prunus avium*). Consider discussing removal with the tree owner rather than protecting this low value species. If the owner does not want to remove these trees, determine whether the sidewalk can be constructed without disturbing the existing grade as recommended by the project arborist. Alternative sidewalk materials should be considered if they would be less impactful to the trees' root zones. The sidewalk may also be meandered further from these trees, and potentially avoid the typical minimum construction setback radius of tree 23.

Trees 29, 31, and 32: These trees have the greatest potential to be impacted based on the sizes of the root zones and proximity of grading or retaining walls. Consider whether a retaining wall could be used to prevent grading within the typical minimum construction setback radius of tree 29. For trees 31 and 32, consider removing the parking space closest to the tree and shifting the retaining wall to the edge of the parking lot and driveway access to avoid the typical minimum construction setback radii of the trees.

Protection of Tree 28

The City of Sandy requested my opinion as to whether tree 28 can be adequately protected from construction impacts and to include a measurement of the percent of root zone that is impacted by the proposed development.

On sheet L2.1 in Attachment 2, I provided a markup of the typical root protection zone radius and typical minimum construction setback radius for tree 28. I also provided a measurement of the area of root zone impacts by the proposed construction, grading, and retaining wall in the root zone of the tree. The currently proposed impacts include grading within four feet of the tree's trunk and disturbance

of approximately 40 percent of its root zone. This well exceeds the City's typical minimum tree protection zone in Figure 1 and will likely not provide adequate protection for tree 28.

The applicant should explore whether it is possible to construct a retaining wall as shown in the example markup on sheet L2.1 in Attachment 2 to limit root zone disturbance to less than 25 percent and limit grade changes and any construction to at least 14 feet from tree 28. If this is possible, the tree could be adequately protected.

Mitigation Tree Recommendations

If a tree retention variance is approved per Sec. 17.102.70, the applicant will be required to plant mitigation trees at a ratio of at least 2:1. If the only retention tree retained is tree 28, then mitigation would be required for six retention trees and at least 12 mitigation trees would be required to be planted. The City may require a fee-in-lieu of mitigation tree planting and/or planting trees on the 38015 Hwy 26 lot. The City noted that if trees were to be planted on the flag lot, they would likely be placed in the 1,785 square foot open lawn area in the NW corner of the flag lot. The City asked for my opinion as to how many mitigation trees (large, native, evergreen) I would recommend for that area.

As shown on sheet L2.1 in Attachment 2, there is one black gum (*Nyssa sylvatica*) proposed in that location, which has a 20- to 30-foot-wide mature crown spread. That leaves a remaining planting space of approximately 55 to 60 linear feet. I recommend no more than one to two large, native, evergreen trees to be planted in the 1,785 square foot open lawn area to avoid excessive competition over time between trees growing in that location.

Conclusion

Based on my review of the tree preservation and removal plan for the mixed-use development proposal at 38105 Highway 26, I recommend the following:

- Consider whether site plan and/or construction modifications are possible to retain additional retention trees, and increase protections for certain offsite trees and onsite tree 28;
- Have the design team work with their project arborist to ensure any site plan modifications will provide adequate tree protection; and
- Plant no more than one to two mitigation trees in the open lawn area in the northwest corner of the site.

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,



Todd Prager

ASCA Registered Consulting Arborist

ISA Board Certified Master Arborist, WE-6723B

ISA Qualified Tree Risk Assessor

AICP, American Planning Association

Attachment 1 – Project Arborist Report with Redlines

Attachment 2 – Excerpted Plan Set with Redlines

9/22/2022

Emily Moran
State Street Homes
123 NW Northrup St #125
Portland, OR 97209

Re: Tree Protection Plan for 38015 HWY 26, Sandy, Oregon

Summary

The property at 38015 Hwy 26 in Sandy, Oregon is planned for development and the construction of a 48,811 square foot, four-story building. Also planned is a parking lot with seventy-six spaces, and a shared access road on the west side of the property.

Assignment

Prepare a Tree Protection Plan to meet the requirements outlined in the City of Sandy Code 17.102.

Observations

A tree inventory of the undeveloped site was completed on 9/20/2022. All trees on the property were included in the inventory, as well as trees on adjacent properties which may be impacted by the planned construction. Twenty-four (24) trees will be impacted by site disturbance and are recommended for removal. Twenty-two (22) trees bordering the property are recommended to be retained and protected due to their location on neighboring properties and/or their health and structure.

Discussion

The proposed changes to the site will be within the critical root zones of existing trees. Existing asphalt will be removed and replaced, and new sidewalk will be excavated and poured. Twenty-four (24) trees are recommended for removal to accommodate the new construction. It is not possible to retain these trees with the proposed development. Twenty-two (22) trees around the outside of the of the planned construction shall be protected as outlined in the tree protection plan (Appendix 5). The trees to be retained and protected are near the property lines and in some cases on adjacent properties. Tree protection zones shall be fenced during the duration of the project and no changes to the native soil in these areas is planned.

As outlined in Appendix 5, the project arborist shall be onsite during excavation within the critical root zones of retained trees 13.2, 14, 15, 21, 23, 24, 25, 26, 28, 29, 31, and 32. The project consulting arborist shall evaluate and oversee the proper cutting of roots with sharp cutting tools. If many significant roots are encountered during excavation in the zones highlighted in Appendix 5, an alternative layout for areas requiring excavation should be considered to maintain the health and safety of retained trees. Alternate methods of construction may also be necessary for the preservation of significant roots of retained trees. Other construction methods include but are not limited to: bridging over significant roots, constructing sidewalks on top of grade over landscape fabric without excavation, and using post and beam construction instead of conventional footing foundations within the critical root zone.

Teragan & Associates, Inc.
3145 Westview Circle, Lake Oswego, OR 97034
E: info@teragan.com | O: 503.697.1975

Recommendations

Based on the proposed development, my observations, and requirements of the proposed development at 38015 Hwy 26, I recommend the following actions:

1. **Tree protection fencing.** Tree protection fencing that is a minimum of six-feet tall and chain link shall be installed per the tree protection plan (Appendix 5).
 - a. Tree protection fencing is to be installed before any ground disturbing activities and remain in place for the duration of the project, or a planning official approves removal.
 - b. Tree protection is not to be moved without written consent from the project arborist.
2. **Tree removal.** Remove twenty-four (24) trees negatively impacted by site improvements.
3. **Report sharing.** Share this report in its entirety to the project team, including contractors performing demolition and concrete work.

Additional tree protection recommendations for the trees to be retained are included in Appendix 3, Tree Protection Specifications.

Conclusion

The proposed renovation to the north of the north parking lot will require the removal of twenty-four (24) trees. Tree protection fencing shall be installed for the twenty-two (22) trees near or over the property line on adjacent properties that may be impacted by site disturbance. The project arborist shall be present during excavation within the critical root zones outlined in Appendix 5. This report meets the requirements outlined in the City of Sandy Code 17.102.

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,

Caleb Lattimer

Caleb Lattimer
ISA Certified Arborist®, PN-8644A
ISA Tree Risk Assessment Qualified
caleb@teragan.com

Enclosures:

- | | |
|-------------|-------------------------------------|
| Appendix 1: | Certification of Performance |
| Appendix 2: | Assumptions and Limiting Conditions |
| Appendix 3: | Tree Protection Specifications |
| Appendix 4: | Tree Inventory |
| Appendix 5: | Tree Protection Plan |

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Appendix 1: Certification of Performance

I, Caleb Lattimer, certify:

- That a representative of Teragan & Associates, Inc., has inspected the tree(s) and/or the property referred to in this report. The extent of the evaluation is stated in the attached report.
- That Teragan & Associates, Inc. has no current or prospective interest in the vegetation of the property that is the subject of this report, and Teragan & Associates, Inc. has no personal interest or bias with respect to the parties involved.
- That Teragan & Associates, Inc.'s compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.
- That the analysis, opinions, and conclusions that were developed as part of this report have been prepared according to commonly accepted arboricultural practices.
- That a Board-Certified Master Arborist has overseen the gathering of data.

Appendix 2: Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Teragan and Associates, Inc. checked the species identification and tree diameters in the field.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultants' role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. This report is to certify the trees that are on site, their size and condition and create a tree plan. Tree plan to include the measures necessary to protect trees that are to be retained during the construction process.

Appendix 3: Tree Protection Specifications

It is critical that the following steps be taken to ensure that trees slated for retention are protected.

Before Construction Begins

1. **Tree removals** within the tree protection area.
 - a. Prior to construction, allow tree removal within the tree protection area to occur.
 - i. The project arborist shall oversee the removal of any trees within the tree protection zone.
 - b. Installing tree protection fencing immediately following the removal of trees within the tree protection area (see 3 below). Tree protecting shall be installed after removals to ensure:
 - i. Tree removals are performed safely.
 - ii. Tree protection fencing is not accidentally or intentionally moved.
2. **Notify all contractors of the tree protection procedures.** For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection. It can only take one mistake with a misplaced trench or other action to destroy the future of a tree.
 - a. Hold a Tree Protection meeting with all contractors to fully explain goals of tree protection.
 - b. Have all sub-contractors sign memoranda of understanding regarding the goals of tree protection. Memoranda to include penalty for violating tree protection plan. Penalty to equal appraised value of tree(s) within the violated tree protection zone per the current Trunk Formula Method as outline by the Council of Tree & Landscape Appraisers current edition of the *Guide for Plant Appraisal*. Penalty is to be paid to owner of the property.
3. **Fencing.**
 - a. Establish fencing around each tree or grove of trees to be retained.
 - b. The fencing is to be put in place before the ground is cleared in order to protect the trees and the soil around the trees from any disturbance at all.
 - c. Fencing is to be placed at the edge of the root protection zone. Root protection zones are to be established by the project arborist based on the needs of the site and the tree to be protected.
 - d. Fencing is to consist of 6-foot high chainlink fence secured to the ground with metal posts every ten feet to prevent it from being moved by contractors, sagging or falling down OR as required by municipal code.
 - e. Fencing is to remain in the position that is established by the project arborist and not to be moved without written permission from the project arborist until the end of the project.
4. **Signage**
 - a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

VEGETATION/TREE PROTECTION ZONE

DO NOT REMOVE OR ADJUST THIS FENCING.

The fence locations are approved to protect vegetation & trees.

NOTE: Moving these fences is a civil violation.

Please contact the Code Enforcement Specialist and project arborist if alterations to the approved location of the protection fencing is requested.

Project Arborist: TERAGAN & ASSOCIATES, INC 503-697-1975

- b. Signage should be placed as to be visible from all sides of a tree protection area and spaced every 75 feet.

During Construction

1. Protection guidelines Within the Root Protection Zone

- a. No traffic shall be allowed within the root protection zone. No vehicle, heavy equipment, or even repeated foot traffic.
 - b. No storage of materials including but not limiting to soil, construction material, or waste from the site.
 - i. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
 - c. Construction trailers are not to be parked / placed within the root protection zone without written clearance from project arborist.
 - d. No vehicles shall be allowed to park within the root protection areas.
 - e. No activity shall be allowed that will cause soil compaction within the root protection zone.
- 2. Tree pruning.** The trees shall be protected from any cutting, skinning or breaking of branches, trunks or roots.
- 3. Root pruning.** Any roots that are to be cut from existing trees that are to be retained, the project consulting arborist shall be notified to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots are to be immediately covered with soil or mulch to prevent them from drying out.
- 4. Grade changes.** No grade change should be allowed within the root protection zone.
- 5. Root protection zone changes.** Any necessary deviation of the root protection zone shall be cleared by the project consulting arborist or project owner.
- 6. Watering.** Provide water to trees during the summer months. Tree(s) that will have had root system(s) cut back will need supplemental water to overcome the loss of ability to absorb necessary moisture during the summer months.
- 7. Utilities.** Any necessary passage of utilities through the root protection zone shall be by means of tunneling under roots by hand digging or boring.

After Construction

- 1. Landscaping.** Carefully landscape in the area of the tree. Do not allow trenching within the root protection zone. Carefully plant new plants within the root protection zone. Avoid cutting the roots of the existing trees.

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2. **Irrigation.** Do not plan for irrigation within the root protection zone of existing trees unless it is drip irrigation for a specific planting or cleared by the project arborist.
3. **Drainage.** Provide for adequate drainage of the location around the retained trees.
4. **Tree pruning.** Pruning of the trees should be completed as one of the last steps of the landscaping process before the final placement of trees, shrubs, ground covers, mulch, or turf.
5. **Pest and disease inspection.** Provide for inspection and treatment of insect and disease populations that can damage the retained trees and plants.
6. **Fertilization.** Trees that are retained may need to be fertilized as called for by project arborist after final inspection.



Survey Number	Common Name	Scientific Name	DBH	Condition Health	Condition Structure	Field Notes/ Comments	Remove	Retain
001	Colorado blue spruce	<i>Picea pungens</i>	14	Poor	Poor		X	
002	western red cedar	<i>Thuja plicata</i>	6	Fair	Good		X	
002.1	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	Good	Good	Tree may be on property to east		X
002.2	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	Good	Good	Tree may be on property to east		X
002.3	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	Good	Good	Tree on property to east. Obvious large surface roots at 8' from base of tree.		X
002.4	English holly	<i>Ilex aquifolium</i>	4	Good	Good	Tree may be on property to east		X
003	western red cedar	<i>Thuja plicata</i>	8	Fair	Good		X	
004	Colorado blue spruce	<i>Picea pungens</i>	12	Good	Good		X	
004.1	Colorado blue spruce	<i>Picea pungens</i>	10	Good	Good		X	
005	western red cedar	<i>Thuja plicata</i>	11	Good	Good		X	
006	windmill palm	<i>Trachycarpus fortunei</i>	6	Good	Good		X	
006.1	Japanese maple	<i>Acer japonica</i>	2				X	
007	windmill palm	<i>Trachycarpus fortunei</i>	10	Good	Good	Tree on property to west	X	
008	western red cedar	<i>Thuja plicata</i>	10	Poor	Fair	Tree on property to west	X	
009	English holly	<i>Ilex aquifolium</i>	4	Good	Good	Tree on property to west	X	
010	sugar maple	<i>Acer saccharum</i>	16	Fair	Fair		X	
010.1	rhododendron	<i>Rhododendron</i>	4	Good	Good		X	
011	Norway spruce	<i>Picea abies</i>	15	Good	Good		X	
011.1	Japanese andromeda	<i>Pieris japonica</i>	3	Fair	Fair		X	
012	golden chain tree	<i>Laburnum anagyroides</i>	7	Fair	Fair	Sweeping trunk at base, codominant stems at 3'	X	
013	photinia	<i>Photinia serratifolia</i>	6	Good	Good		X	
013.1	photinia	<i>Photinia serratifolia</i>	6	Fair	Fair		X	
013.2	bigleaf maple	<i>Acer macrophyllum</i>	23	Poor	Poor	Tree may be on property to east. Thin crown		X
014	photinia	<i>Photinia serratifolia</i>	12	Good	Fair	Decay at base, tree may be on property line.		X
015	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	Good	Good	Tree on neighboring property to east		X
016	golden chain tree	<i>Laburnum anagyroides</i>	8	Poor	Poor	Tree on property to east. Significant decay in stem.		X
017	thundercloud plum	<i>Prunus cerasifera</i>	6	Fair	Fair	Tree on property to east		X
018	golden chain tree	<i>Laburnum anagyroides</i>	9	Fair	Fair	Tree on property to east		X

● - Potential retention tree (11-inch DBH and good condition)

● - Neighboring tree to be retained


Survey Number	Common Name	Scientific Name	DBH	Condition Health	Condition Structure	Field Notes/ Comments	Remove	Retain
019	golden chain tree	<i>Laburnum anagyroides</i>	8	Fair	Fair	Tree on property to east. Significant decay in stem		X
020	thundercloud plum	<i>Prunus cerasifera</i>	4	Fair	Fair	Tree on property to east		X
021	sweet cherry	<i>Prunus avium</i>	10	Poor	Poor	Tree on property to south. Thin crown with ivy in crown		X
022	sweet cherry	<i>Prunus avium</i>	6	Good	Good		X	
023	casara	<i>Frangula pershiana</i>	6	Good	Good	Tree on property to south		X
024	sweet cherry	<i>Prunus avium</i>	12	Fair	Fair	Tree on property to south		X
025	sweet cherry	<i>Prunus avium</i>	10	Poor	Fair	Tree on property to south		X
026	sweet cherry	<i>Prunus avium</i>	6	Poor	Poor	Tree on property to south. Stem originates on neighboring property		X
027	sweet cherry	<i>Prunus avium</i>	6	Poor	Poor	Tree appears to be on property to be developed	X	
028	bigleaf maple	<i>Acer macrophyllum</i>	28	Good	Fair	Multiple stems at base. Deadwood in crown		X
028.1	English holly	<i>Ilex aquifolium</i>	4	Fair	Fair	Tree appears to be on property to be developed	X	
029	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	Retain. Tree on property to east		X
030	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	Tree on property to east		X
031	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	Good	Good	Tree on property to east		X
032	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	Tree on property to east		X
033	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	Good	Fair	Tree base inaccessible. Branches at ground level	X	
034	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	Good	Fair	Tree base inaccessible. Branches at ground level	X	
035	bigleaf maple	<i>Acer macrophyllum</i>	12	Fair	Fair	Tree inaccessible. Suppressed crown	X	

● - Potential retention tree (11-inch+ DBH and good condition)

● - Neighboring tree to be retained

09/22/22

Laurus Designs, LLC



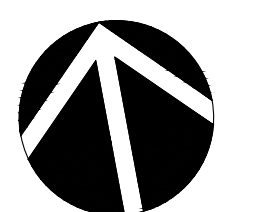
1012 Pine Street
Silverton, Oregon
503.784.6494

Multi-Family Sandy

38015 Highway 26
Sandy, Oregon

REGISTERED
643
PRELIMINARY
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

EXISTING TREE INVENTORY



SCALE: 1"=30'-0"
0' 15' 30' 60'
SCALE

July 11th, 2022

REVISIONS			
#	DATE	NOTES	INITIALS

L1.1

SHEET 1 OF 2

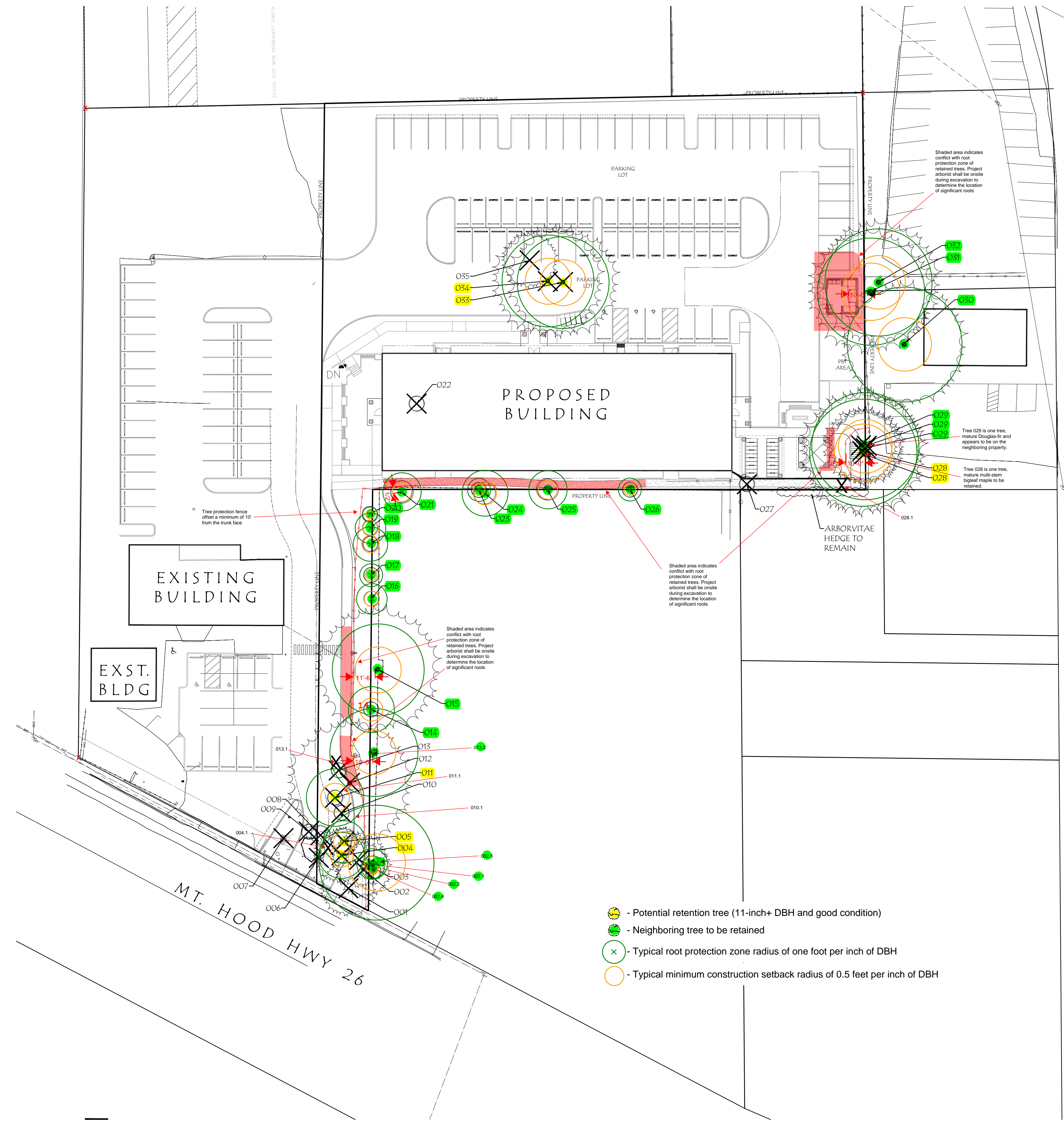
PROJECT #: 1409R
January 19, 2023
Page 14 of 28





- Legend:**
-  EXISTING DECIDUOUS TREE
 -  EXISTING EVERGREEN TREE
 -  EXISTING PALM TREE
 -  EXISTING TREE TO BE REMOVED
 -  TREE IDENTIFICATION NUMBER

- General Notes:**
1. TREE LOCATIONS BASED ON SITE SURVEY.
 2. SEE ARCHITECTURAL PLANS FOR SITE INFORMATION.
 3. TREE INVENTORY TABLE SEE THIS SHEET.

Existing Tree Inventory

TREE ID	TREE SPECIES	SIZE (DBH)	NOTES	REMAIN/REMOVE
001	Blue Spruce	12"		Remove, Development Impacts
002	Western Red Cedar	4"		Remove, Development Impacts
003	Western Red Cedar	8"		Remove, Development Impacts
004	Blue Spruce	10"		Remove, Development Impacts
005	Western Red Cedar	8"		Remove, Development Impacts
006	Windmill Palm	10"		Remove, Development Impacts
007	Windmill Palm	6"		Remove, Development Impacts
008	Conifer (Unknown)	10"	Dead	Remove
009	Holly	4"		Remove, Development Impacts
010	Sugar Maple	14"		Remove, Development Impacts
011	Cherry	14"		Remove, Development Impacts
012	Douglas Fir	24"		Remove, Development Impacts
013	Cherry	6"		Remove, Development Impacts
014	Filbert	14"		Remain
015	Douglas Fir	26"		Remain
016	Redbud	5"	Located on Property Line	Remain
017	Holly	5"	Located on Property Line	Remain
018	Thundercloud Plum	4"	Located on Property Line	Remain
019	Redbud	5"	Located on Property Line	Remain
020	Thundercloud Plum	4"	Located on Property Line	Remain
021	Red Maple	10"	Located on Adjacent Property	Remain
022	Filbert	6"		Remove, Development Impacts
023	Cherry	4"	Located on Property Line	Remain
024	Red Maple	6"	Located on Adjacent Property	Remain
025	Cherry	10"	Located on Property Line	Remain
026	Cherry	6"	Located on Property Line	Remain
027	Redbud	5"		Remove, Development Impacts
028	Douglas Fir	18", 18"	Located on Property Line	Remove, Development Impacts
029	Douglas Fir	12", 12", 12"	Located on Property Line	Remove, Development Impacts
030	Douglas Fir	36"	Located on Adjacent Property	Remain
031	Douglas Fir	36"	Located on Adjacent Property	Remain
032	Douglas Fir	36"	Located on Adjacent Property	Remain
033	Douglas Fir	24"		Remove, Development Impacts
034	Douglas Fir	24"		Remove, Development Impacts
035	Douglas Fir	12"		Remove, Development Impacts



-  - Potential retention tree (11-inch+ DBH and good condition)
-  - Neighboring tree to be retained
-  - Typical root protection zone radius of one foot per inch of DBH
-  - Typical minimum construction setback radius of 0.5 feet per inch of DBH



IN THE EVENT CONFLICTS ARE DISCOVERED BETWEEN THE ORIGINAL SIGNED AND SEALED DOCUMENTS PREPARED BY THE ARCHITECTS AND/OR THEIR CONSULTANTS, AND ANY COPY OF THE DOCUMENTS TRANSMITTED BY MAIL, FAX, ELECTRONICALLY OR OTHERWISE, THE ORIGINAL SIGNED AND SEALED DOCUMENTS SHALL GOVERN.

PROJECT # 2021-146
DATE: 07/29/2022

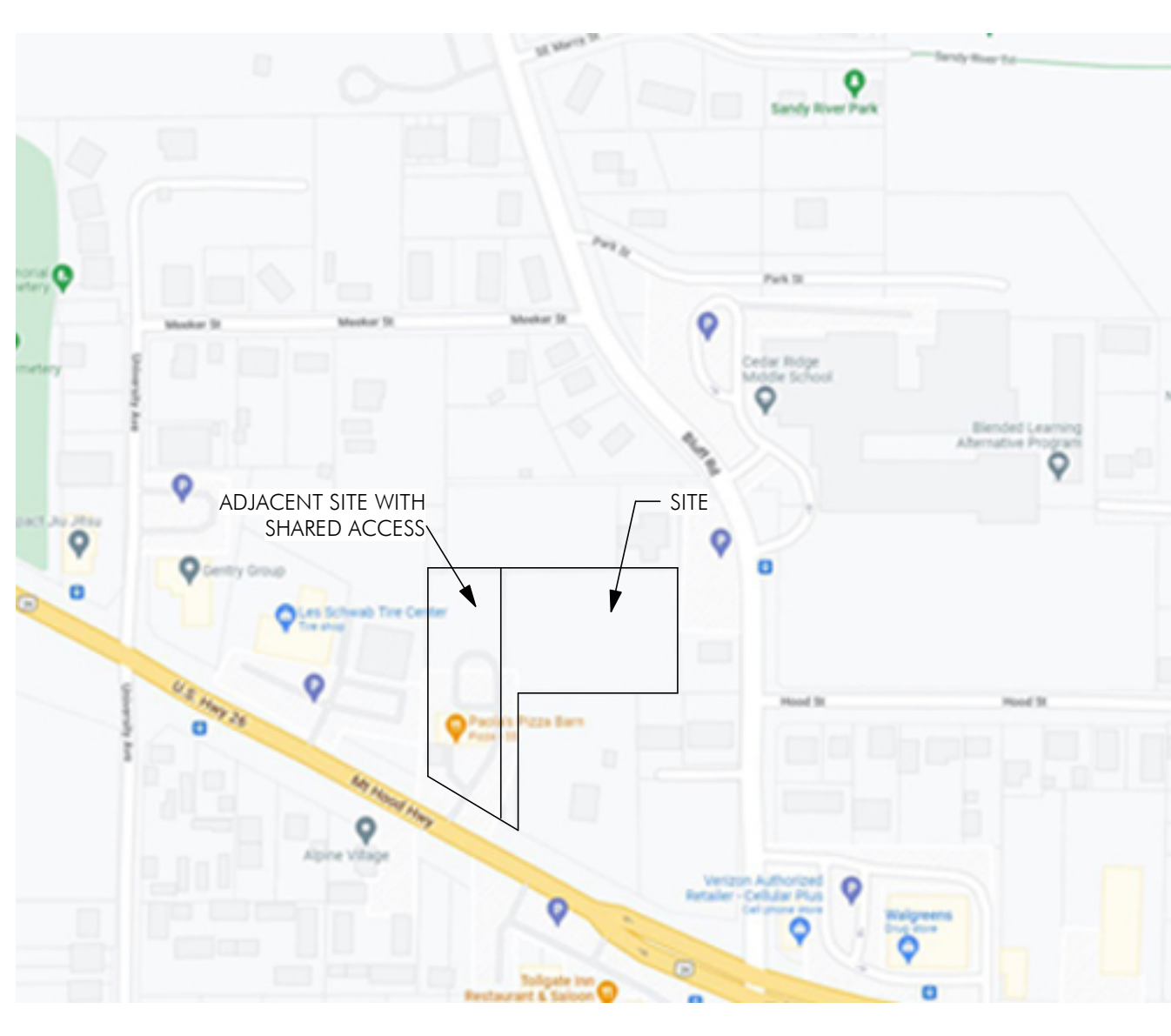
REVISIONS

SITE PLAN & DESIGN REVIEW

MIXED USE DEVELOPMENT

38105 Hwy 26, Sandy OR

VICINITY MAP:



AERIAL PHOTO:



DRAWINGS LIST:

GENERAL	
G0.01	COVER SHEET
CIVIL	
C1	COVER SHEET AND NOTES
C2	EXISTING CONDITIONS AND DEMO PLAN
C3	COMPOSITE SITE PLAN
C4	ENTRY UTILITY PLAN
C5	SITE UTILITY PLAN
C6	STORMWATER EXTENSION PLAN
C7	GRADING AND ESC PLAN
C8	WALL CROSS SECTIONS
C9	ENTRY GRADING PLAN
C10	CIVIC AREA GRADING PLAN
C11	ESC NOTES AND DETAILS
C12	SITE CIRCULATION PLAN
LANDSCAPE	
L1.1	EXISTING TREE INVENTORY
L2.1	PRELIMINARY PLANTING PLAN
ARCHITECTURAL	
A1.01	SITE PLAN
A1.02	ENLARGED SITE PLAN
A1.03	TRASH ENCLOSURE
A1.04	BICYCLE ENCLOSURE
A1.05	GAZEBO
A1.21	FLOOR PLAN - LEVEL 01
A1.22	FLOOR PLAN - LEVELS 02-04
A1.23	FLOOR PLAN - ROOF
A2.01	ELEVATIONS
A2.02	ELEVATIONS

PROJECT TEAM:

OWNER:
State Street Homes, Inc.
Brandon Gill
1233 NW Northrup St. #135
Portland, OR 97209
P: 503.954.8545
E: Brandon@statestreet-homes.com

ARCHITECT:
STUDIO 3 ARCHITECTURE, Inc.
Gene Bolante
275 Court Street St. NE
Salem OR 97301
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LANDSCAPE:
Laurus Designs, LLC
Laura Antonson
1012 Pine St.
Silverton, OR 97381
P: 503.784.6494
E: laura@laurusdesigns.com

CIVIL ENGINEER:
Firwood Design Group
Kelli Grover
359 E. Historic Columbia River HW
Troutdale, OR 97060
P: 503.668.3737
E: kg@firwooddesign.com

SYMBOL LEGEND:

ELEVATION DATUM:	WINDOW TYPE:
100.00 F.F.E.	REFER TO WINDOW ELEVATIONS SHOWN ON DRAWINGS AS 1X
SECTION REFERENCE:	DOOR NUMBER:
FILLED ARROW DENOTES BUILDING SECTION	DOOR SIZE OR NUMBER
OPEN ARROW DENOTES WALL SECTION/DETAIL	PLAN NOTE DESIGNATION
DETAIL NUMBER	PLAN OR SIDE NOTE NUMBER
SHEET NUMBER	MARK OR DIAGONAL NOTE NUMBER
SIDE NOTE IF REQUIRED	REVISION NUMBER
ELEVATION REFERENCE:	ROOM TITLE + NUMBER:
ELEVATION NUMBER OR DESIGNATION AS OCCURS	ROOM NAME
SHEET NUMBER	ROOM NUMBER
DETAIL REFERENCE:	WALL TYPE MARK:
DETAIL NUMBER	WALL OR PARTITION CONSTRUCTION TYPE. SEE LEGEND.
SHEET NUMBER	
SIDE NOTE IF REQUIRED	
DETAIL CUT LOCATION IF SHOWN	

NEW MULTI-FAMILY DEVELOPMENT

SANDY

38015 Hwy 26, Sandy, OR

SHEET:

GO.01

COVER SHEET

AS-BUILT NOTES

- 1 GRAVEL PARKING AREA USED FOR DELIVERY SEMIS WITH 35' TRAILER TURNING AND LARGE VEHICLE PARKING.
- 2 STORM DRAIN IN PAVED PARKING LOT.
- 3 PAVED PARKING AREA WITH VERY FADED PARKING LINES.
- 4 NEAREST DRIVEWAY APPROACH
- 5 EXISTING POND LANDSCAPE FEATURE WITH STONE BORDER AND SMALL PATH. SEVERAL ELECTRICAL OUTLETS IN THE AREA TO THE EAST.
- 6 EXISTING PAOLA'S PIZZA SIGN.
- 7 NEWER 6-FOOT WOOD FENCE BELONGING TO DEPRO.
- 8 OLD 2-FOOT WOOD DECORATIVE FENCE RUNS ALONG FRONTAGE ON BOTH SIDES OF APPROACH.
- 9 EXISTING SANITARY SEWER MANHOLE LID.
- 10 TREE DRIP LINE.
- 11 UNDERGROUND POWER TO GRABER RESIDENCE. LOCATION NOT VERIFIED. INFORMED OF IT'S EXISTENCE VIA GRABER AND TOLD IT IS 9' UNDERGROUND.
- 12 NORTHERN MOST LINE OF CENTER TURN LANE.
- 13 FOG LINE.
- 14 BIKE LANE.
- 15 6-FOOT CHAINLINK FENCE.
- 16 3-FOOT WELDED WIRE FENCE WITH GATE JUST WEST OF MANHOLE LID.

CONTOURS: 1' MINOR AND 5' MAJOR

FIELD WORK CONDUCTED ON JULY 14 AND 15, 2021. WATER AND SEWER LOCATES WERE NOT MARKED AT THE TIME OF SURVEY. SEE CITY MAP.

THIS DOES NOT CONSTITUTE A FORMAL BOUNDARY SURVEY. THIS BOUNDARY IS BASED ON A BEST FIT OF SNI1941 TO FOUND MONUMENTS. RIGHTS-OF-WAYS HAVE NOT BEEN RESOLVED AND MAY NOT BE ACCURATE.

LEGEND

- FOUND MONUMENT OF RECORD
- WOOD FENCE
- CHAINLINK FENCE
- BARBWIRE/WOVEN WIRE/FARM FENCE
- ⊙ EXISTING TREE WITH DIAMETER
- ⊙ ELECTRICAL OUTLET
- UGP UNDERGROUND ELECTRIC
- PWR OVERHEAD WIRE
- ⊙ UTILITY POLE
- GAS UNDERGROUND GAS LINE
- ⊙ IRRIGATION CONTROL BOX
- ⊙ 5' LAMP POST
- ⊙ FLOOD LIGHT
- ⊙ SANITARY SEWER MANHOLE
- SS SANITARY SEWER LINE
- ⊙ STORM SEWER MANHOLE
- ⊙ STORM CATCH BASIN
- ⊙ SPRINKLER HEAD
- CS SURVEY NUMBER, CLACKAMAS COUNTY SURVEY RECORDS
- DOC. NO. DOCUMENT NUMBER, CLACKAMAS COUNTY DEED RECORDS

DEMO KEY NOTES

- 1 SAWCUT AND REMOVE PORTION OF EXIST ASPHALT AS NECESSARY TO CONSTRUCT NEW ASPHALT MATCHLINE AND 6" EXPOSURE CURB AND 5' SIDEWALK, SEE SHEET 3
- 2 EXIST GRAVEL AREA TO BE REMOVED
- 3 REMOVE EXIST TREE (24 TOTAL), TYPICAL
- 4 REMOVE EXIST BRUSH
- 5 PROTECT EXIST ASPHALT
- 6 REMOVE EXIST FENCE
- 7 REMOVE EXIST STRIPING

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
MAY 26, 2015
SAMANTHA KAY TANNER
90079

RENEWS 6/30/2022



- - Potential retention tree (11-inch+ DBH and good condition)
- - Neighboring tree to be retained
- ⊗ - Typical root protection zone radius of one foot per inch of DBH
- - Typical minimum construction setback radius of 0.5 feet per inch of DBH

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PROJECT NO. E21-043		

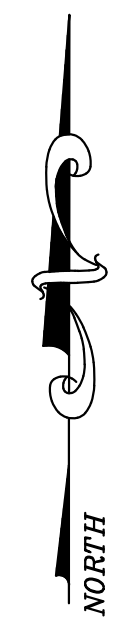
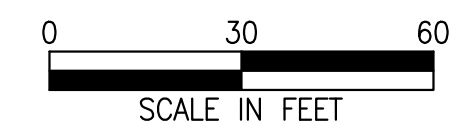
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Reliable Engineering Solutions

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STATE STREET HOMES
1233 NW NORTHRUP ST. #125
PORTLAND, OR 97209

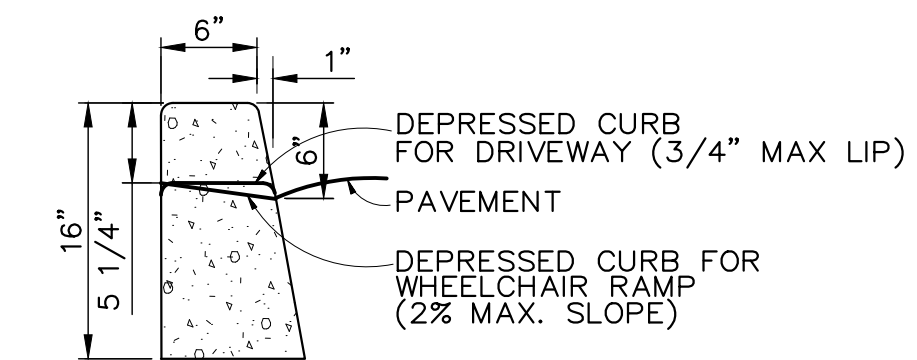
EXISTING CONDITIONS AND DEMO PLAN
MIXED USE SITE DEVELOPMENT
38015 HWY 26, SANDY, OR 97055

2
12



KEY NOTES

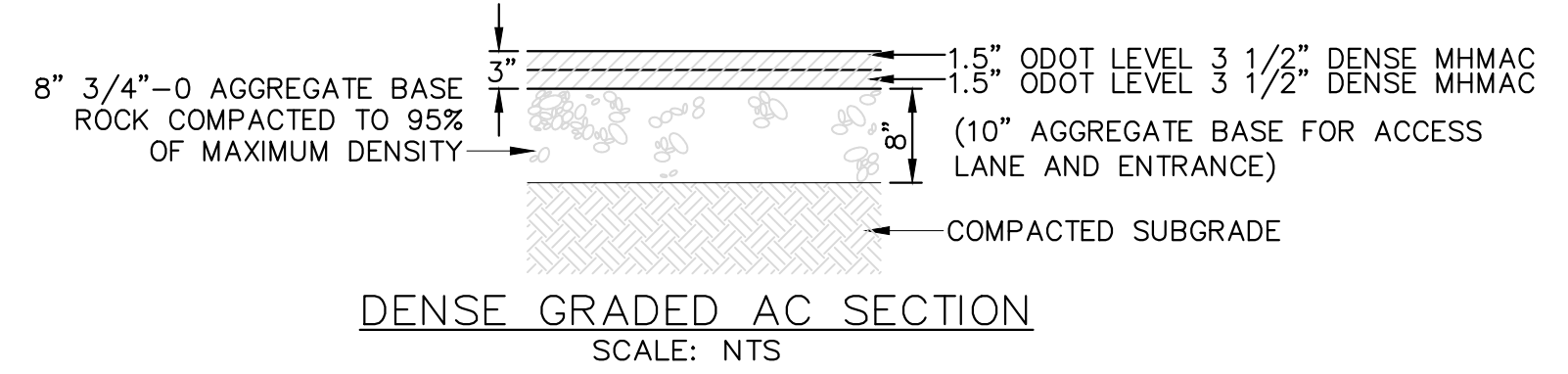
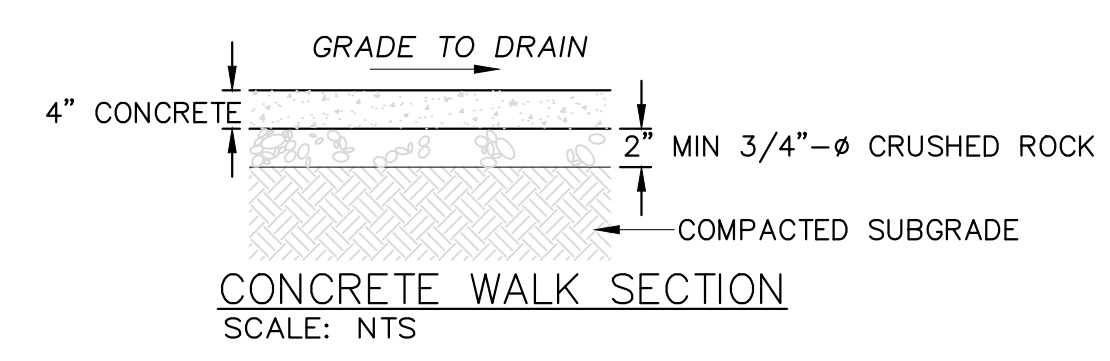
- 1A EXIST 35'± WIDE COMMERCIAL DRIVEWAY APPROACH
- 1B PROPOSED 26' WIDE DRIVEWAY ACCESS AND SIDEWALK
- 2 NEW ASPHALT DRIVELANE AND PARKING AREA, SEE TYPICAL SECTION DETAIL THIS SHEET, SEE SITE CIRCULATION PLAN ON SHEET 12 FOR EMERGENCY VEHICLE ACCESS PLAN
- 3A SAWCUT MIN 1" FROM EDGE OF EXIST EDGE OF ASPHALT, TYPICAL
- 3B SAWCUT EXIST ASPHALT FOR MATCH LINE TO EXIST AC PARKING, TYPICAL
- 4 CONCRETE SIDEWALK RAMP TO CIVIC AREA ACCESS WITH HAND RAILS, SEE ARCHITECTURAL PLANS FOR HAND RAILING DETAILS
- 5A DOWNWARD RAMP AND LANDING PATHWAY WITH HANDRAILS TO MAIN FLOOR, SEE ARCHITECTURAL PLANS FOR HANDRAIL DETAILS
- 5B RAMP DOWN PORTION OF SIDEWALK WITH HAND RAILS, SEE ARCHITECTURAL PLANS FOR HANDRAIL DETAILS
- 6 CURB WITH 6" EXPOSURE UNLESS OTHERWISE NOTED (TYPICAL), SEE TYPICAL SECTION THIS SHEET
- 7 DOWNSPOUT CONVEYANCE LINES TO STORM SYSTEM
- 8 DOUBLE DETECTOR CHECK VALVE AND VAULT AND WATER SERVICE METER AND VAULT FOR SPRINKLER AND POTABLE WATER SERVICE
- 9 CONNECT TO EXIST SEWER MAIN FOR SEWER SERVICE, CONTRACTOR TO VERIFY DEPTH PRIOR TO CONSTRUCTION
- 10 WATER QUALITY MANHOLE, SEE SHEET 5
- 11 FLOW CONTROL MANHOLE, SEE SHEET 5
- 12 PROPOSED 5' WIDE CONCRETE WALKWAY, MAX 2% CROSS SLOPE (1.5% TYPICAL) AND MAXIMUM 5% LONGITUDINAL SLOPE, SEE TYPICAL SECTION DETAIL THIS SHEET
- 13 CONCRETE WHEEL STOPS WITH STORMWATER UNDERDRAIN (TYPICAL)
- 14 ADA COMPLIANT SIDEWALK RAMP
- 15 12'± RETAINING WALL
- 16 8'± RETAINING WALL
- 17 7'± RETAINING WALL
- 18 60" DETENTION SYSTEM, SEE SHEET 5
- 19 10 STAIRS WITH LANDINGS TO TOP OF WALL, SEE SHEET 4 FOR SPOT GRADING PLAN
- 20 TRAIL



TYPICAL STRAIGHT CURB

- NOTES:
1. ALL RADII SHALL BE 3/4" EXCEPT AS OTHERWISE SHOWN.
 2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED.
 3. CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB AND GUTTER.
 4. A CONTRACTION JOINT SHALL BE PLACED ALONG AND OVER WEEP HOLE THROUGH THE CURB AND THROUGH THE SIDEWALK.
 5. WHEN SIDEWALKS ARE CONSTRUCTED, EXTEND 3" PIPE TO BACK OF SIDEWALK AND INSTALL COUPLING.

- Potential retention tree (11-inch+ DBH and good condition)
- Neighboring tree to be retained
- Typical root protection zone radius of one foot per inch of DBH
- Typical minimum construction setback radius of 0.5 feet per inch of DBH



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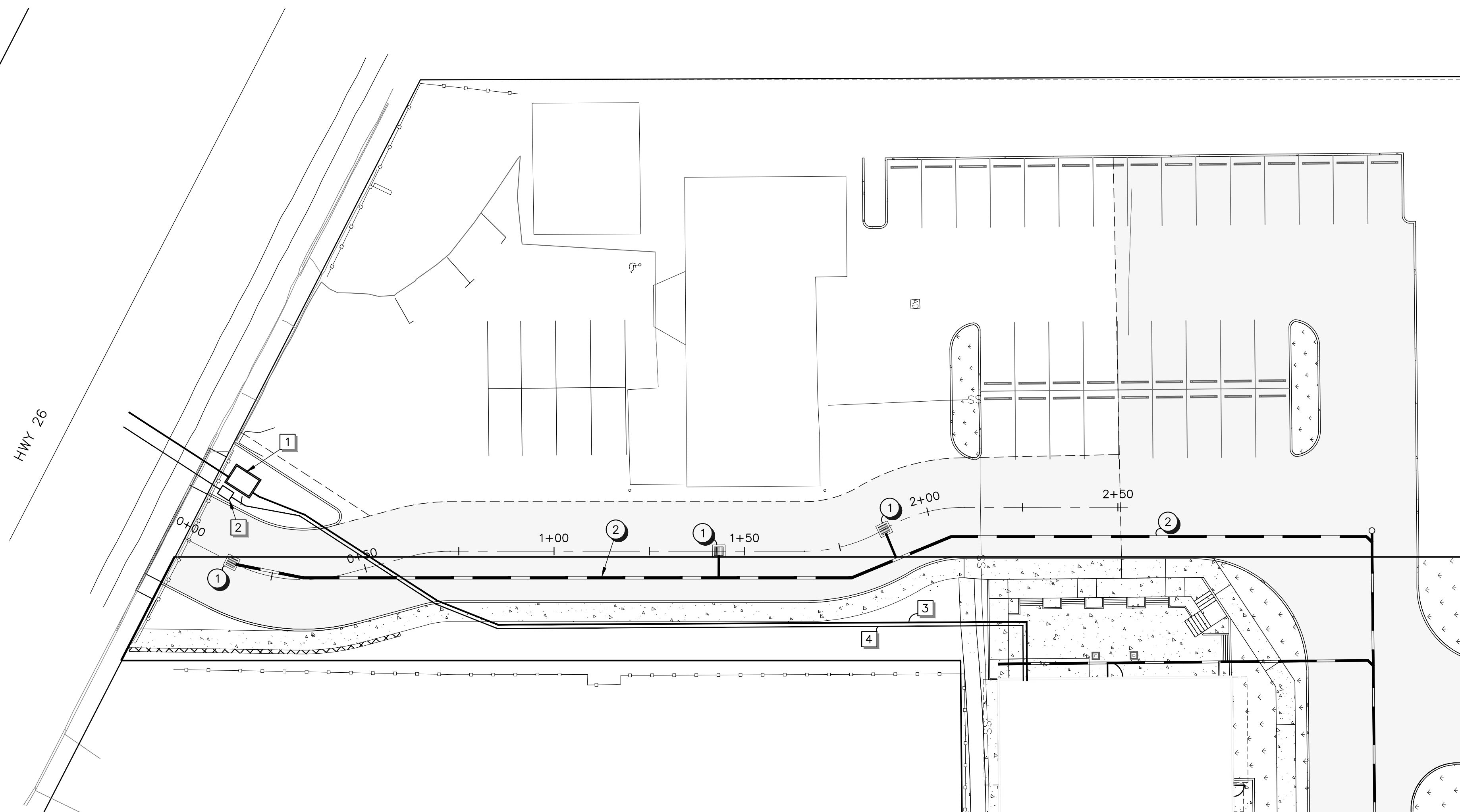
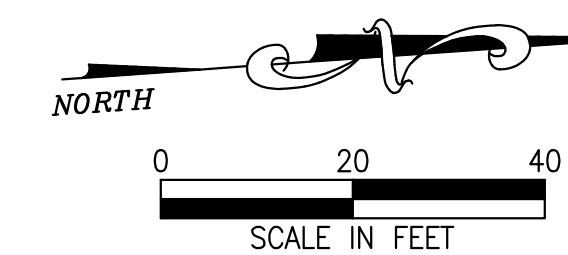
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SCALE: AS SHOWN	DATE: DECEMBER 2021	
PROJECT NO. E21-043		

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Reliable Engineering Solutions
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TROUTDALE, OREGON 97060
(503) 668-3737

STATE STREET HOMES
1233 NW NORTHRUP ST. #125
PORTLAND, OR 97209

COMPOSITE SITE PLAN
MIXED USE SITE DEVELOPMENT
38015 HWY 26, SANDY, OR 97055



KEY NOTES

- ① LYNCH TYPE TRAP CATCH BASIN
- ② STORM CONVEYANCE LINE TO DETENTION SYSTEM

WATERLINE KEY NOTES

- ① PROPOSED DOUBLE DETECTOR CHECK VALVE AND VAULT BY FIRE SUPPRESSION DESIGNER
- ② PROPOSED WATER METER SIZED BY WATER SYSTEM DESIGNER
- ③ NEW FIRE SUPPRESSION LINE, SIZE PROVIDED BY WATER SYSTEM DESIGNER
- ④ NEW POTABLE WATER SERVICE LINE, SIZE PROVIDED BY WATER SYSTEM DESIGNER

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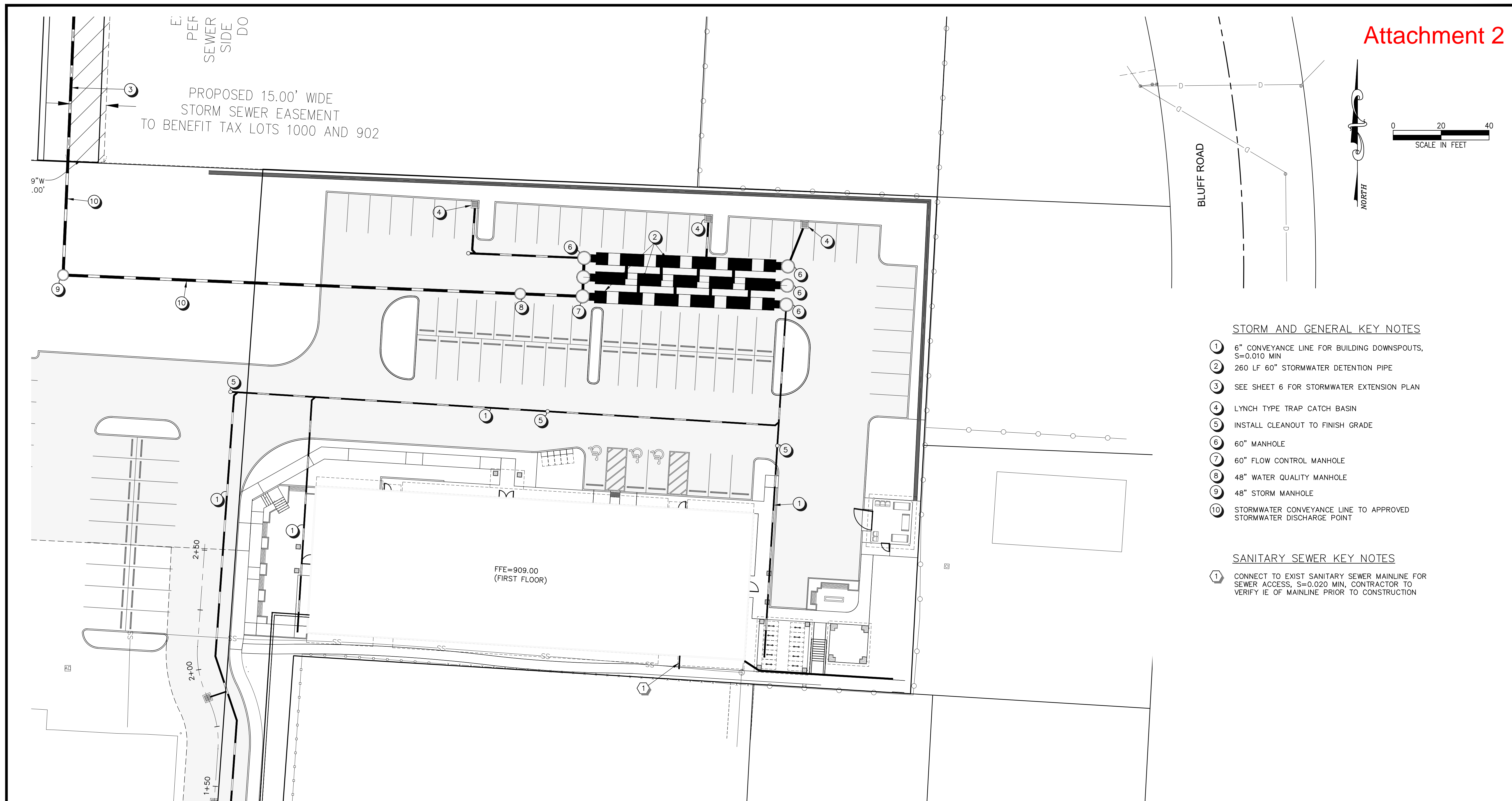
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SCALE: AS SHOWN	DATE: DECEMBER 2021	
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ENTRY UTILITY PLAN
 MIXED USE SITE DEVELOPMENT
 38015 HWY 26, SANDY, OR 97055

4
12



STORM AND GENERAL KEY NOTES

- ① 6" CONVEYANCE LINE FOR BUILDING DOWNSPOUTS, S=0.010 MIN
- ② 260 LF 60" STORMWATER DETENTION PIPE
- ③ SEE SHEET 6 FOR STORMWATER EXTENSION PLAN
- ④ LYNCH TYPE TRAP CATCH BASIN
- ⑤ INSTALL CLEANOUT TO FINISH GRADE
- ⑥ 60" MANHOLE
- ⑦ 60" FLOW CONTROL MANHOLE
- ⑧ 48" WATER QUALITY MANHOLE
- ⑨ 48" STORM MANHOLE
- ⑩ STORMWATER CONVEYANCE LINE TO APPROVED STORMWATER DISCHARGE POINT

SANITARY SEWER KEY NOTES

- ① CONNECT TO EXIST SANITARY SEWER MAINLINE FOR SEWER ACCESS, S=0.020 MIN, CONTRACTOR TO VERIFY IE OF MAINLINE PRIOR TO CONSTRUCTION



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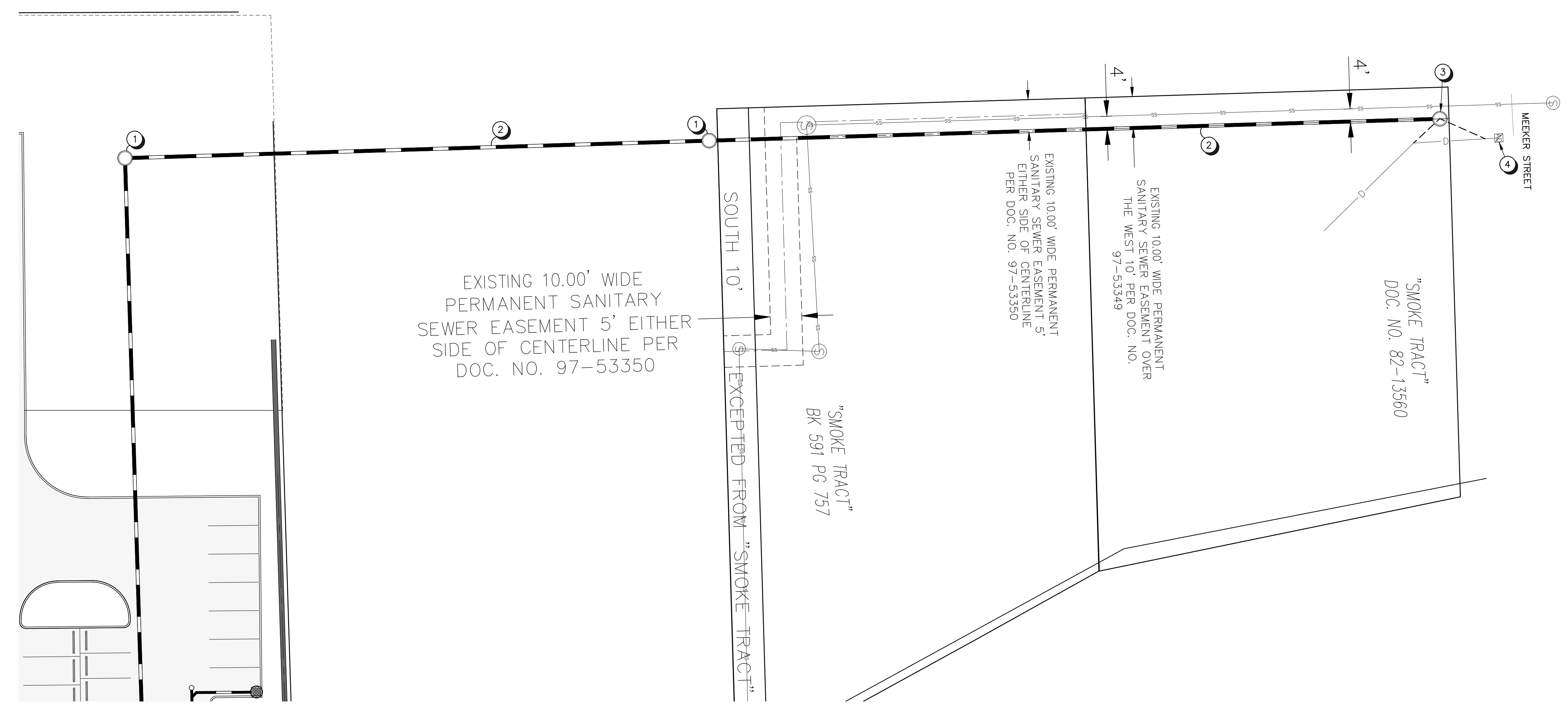
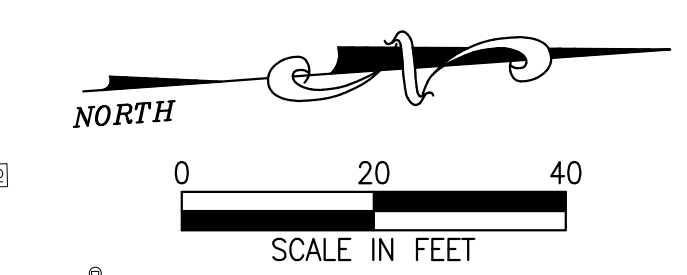
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SITE UTILITY PLAN
 MIXED USE SITE DEVELOPMENT
 38015 HWY 26, SANDY, OR 97055

5
12



KEY NOTES

- ① 48" STORM MANHOLE
- ② STORMWATER CONVEYANCE LINE TO APPROVED STORMWATER DISCHARGE POINT
- ③ REALIGN EXIST STORMLINE AND CONNECT INTO PROPOSED 48" MANHOLE
- ④ STORMWATER TO CONNECT INTO EXIST DITCH INLET, UTILIZE EXIST STORM LINE CONNECTION INTO DITCH INLET

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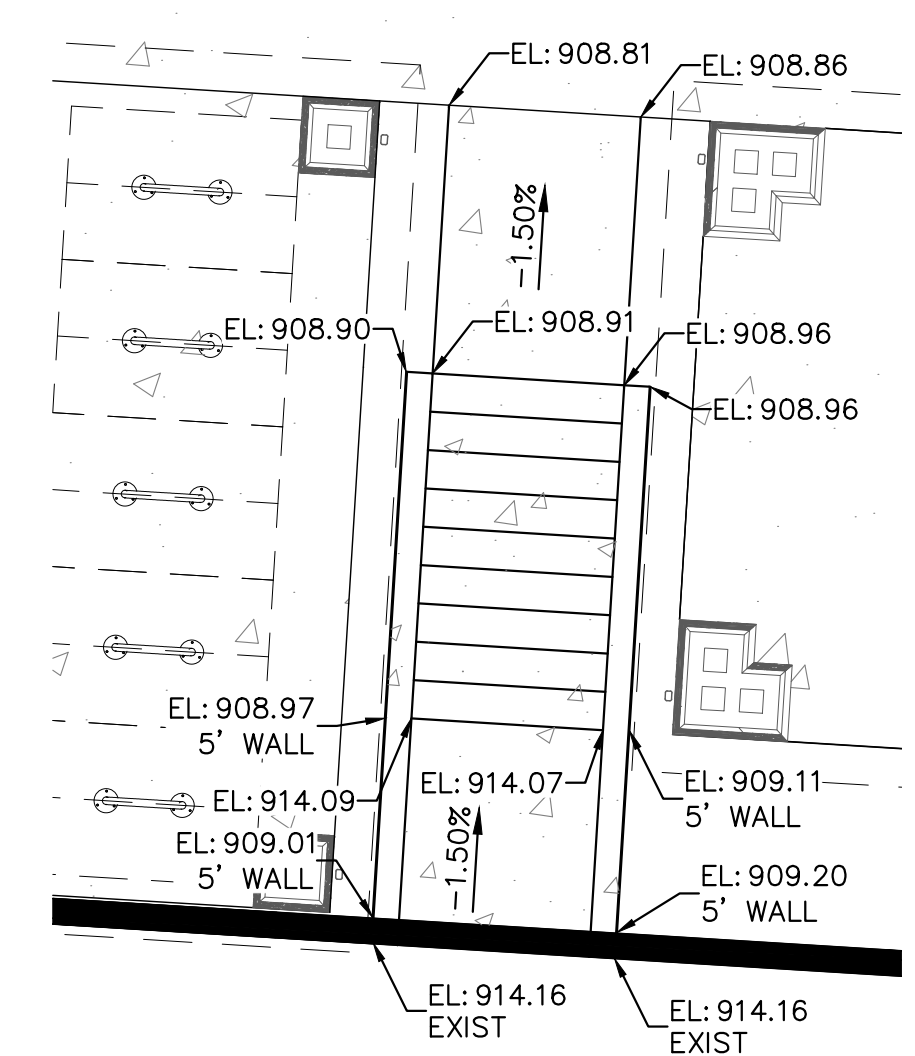
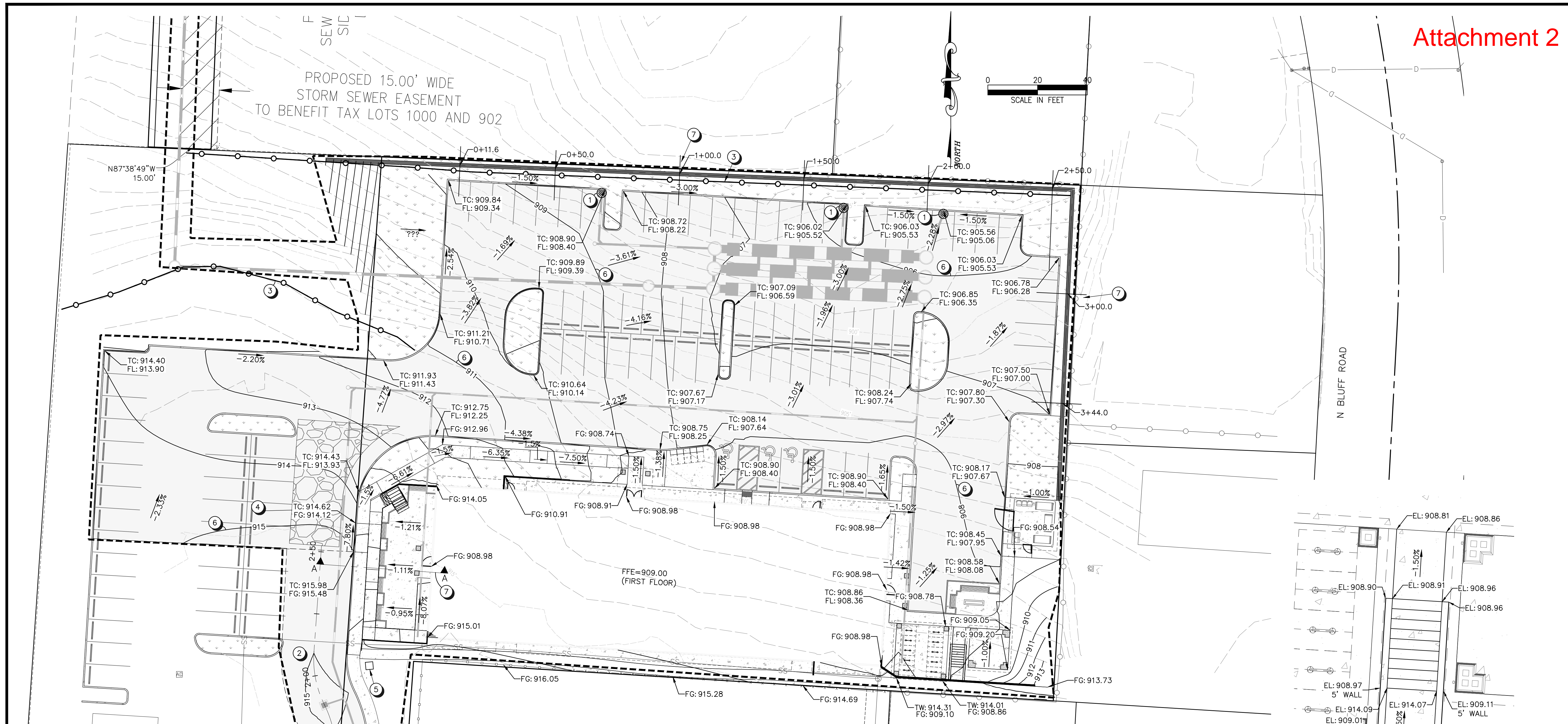
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STORMWATER EXTENSION PLAN
 MIXED USE SITE DEVELOPMENT
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KEY NOTES

- 1 CB INSERT INLET PROTECTION FOR AREA DRAIN TYPE CATCH BASIN, SEE DETAILS ON SHEET 11 (TYPICAL)
- 2 PROVIDE TEMPORARY INLET PROTECTION ON ALL STORMWATER INLETS WITHIN 250 LF DOWNSTREAM OF THE PROJECT SITE
- 3 TEMPORARY SILT FENCING, SEE DETAIL ON SHEET 11, ADJUST SILT FENCING AS NECESSARY DURING CONSTRUCTION
- 4 CONSTRUCTION ENTRANCE, SEE DETAIL THIS ON SHEET 11
- 5 CONSTRUCT TEMPORARY 3' X 3' X 2' DEEP SUMP AREA TO BE USED AS WASH AREA FOR CONCRETE TRUCKS. AFTER CURBS AND SIDEWALKS ARE INSTALLED AND BEFORE ROADS ARE PAVED, FILL AND COMPACT SUMP AREA PER STRUCTURAL REQUIREMENTS. DO NOT OVERFILL SUMP AREA, CONTRACTOR TO INCREASE SUMP WIDTH AS NECESSARY TO PROVIDE ADEQUATE VOLUME AS (IF) NEEDED
- 6 PROPOSED FINISH GRADE CONTOURS (TYPICAL)
- 7 SEE SHEET 8 FOR WALL CROSS SECTIONS, TYPICAL

ESTIMATED INPLACE QUANTITIES:

SITE SCRAPING OF ORGANICS AND HARD SURFACES (ASSUMED 4" AVERAGE, TO BE HAULD OFF): 790 CY
 ASPHALT DATUM TO SITE SCRAPING: 610 CY CUT, 4190 CY FILL
 SIDEWALK/LANDSCAPE DATUM TO SITE SCRAPING: 361 CY CUT, 940 CY FILL
 UNDER BUILDING (ASSUME SLAB CONSTRUCTION): 2030 CY CUT, 0 CY FILL

TOTAL CUT: 3,791 CY
 TOTAL FILL: 5,130 CY

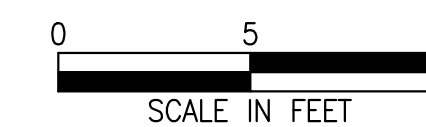
QUANTITY IS AN ESTIMATE FOR INPLACE QUANTITIES AND DOES NOT INCLUDE TRENCH SPOILS, CONTRACTOR RESPONSIBLE FOR DOING OWN QUANTITY ESTIMATE FOR CONSTRUCTION COST

STAIRS GRADING DETAIL

SCALE: SEE SCALE BAR

LEGEND

- TEMPORARY SEDIMENT FENCE
- BIO-BAG AND INLET INSERT PROTECTION
- LIMITS OF DISTURBANCE (1.9 ACRES)



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PROJECT NO. E21-043		

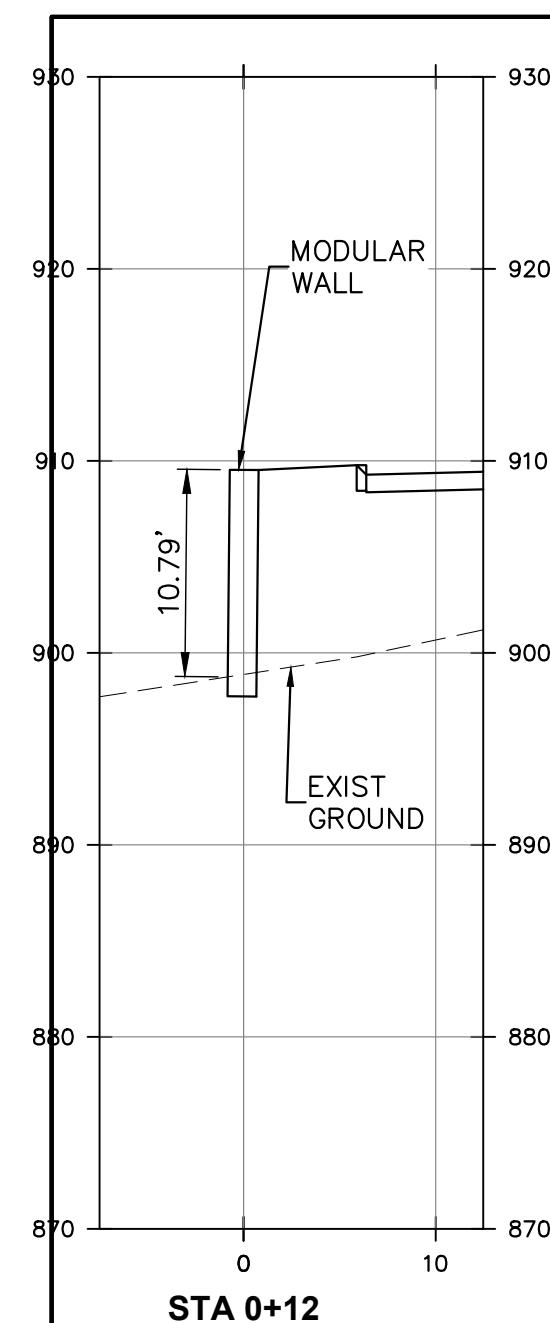


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 (503) 668-3737

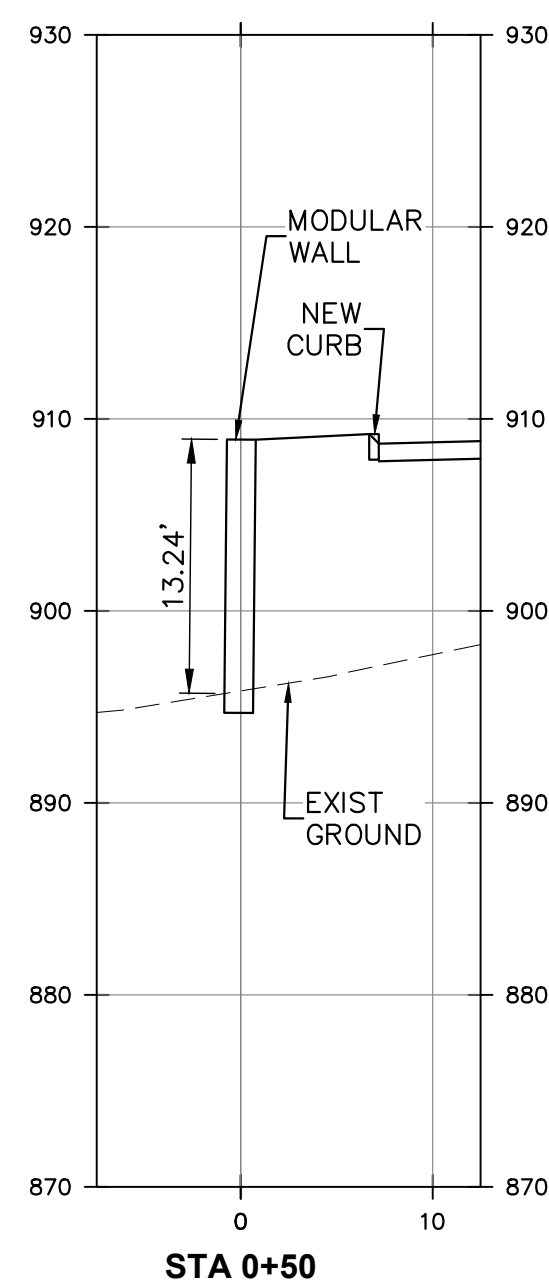
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 PORTLAND, OR 97209

GRADING AND ESC PLAN
 MIXED USE SITE DEVELOPMENT
 38015 HWY 26, SANDY, OR 97055

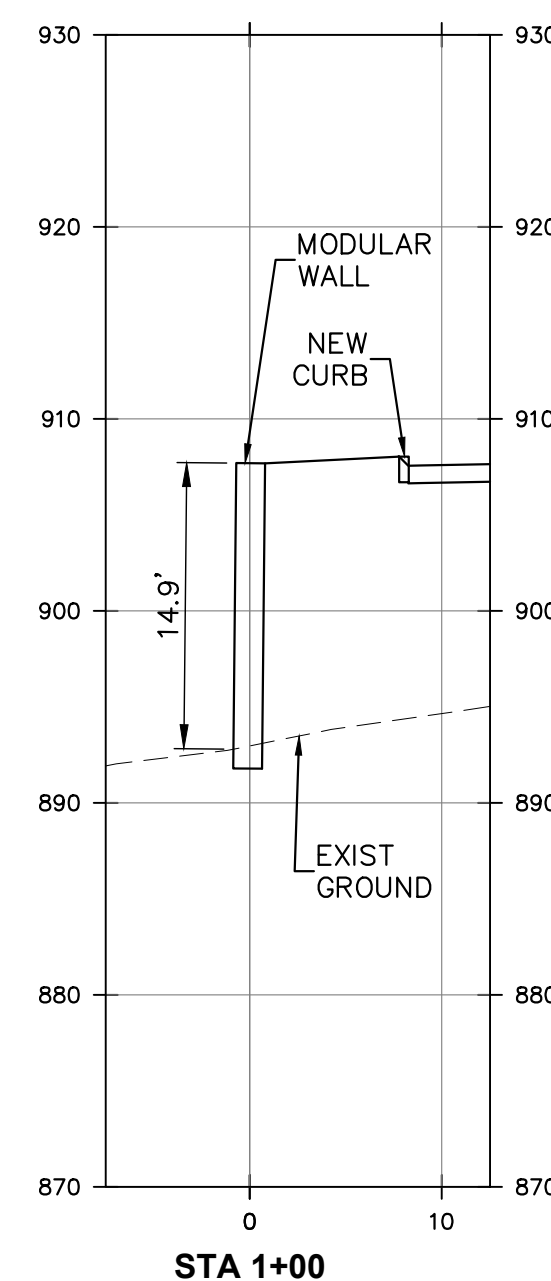
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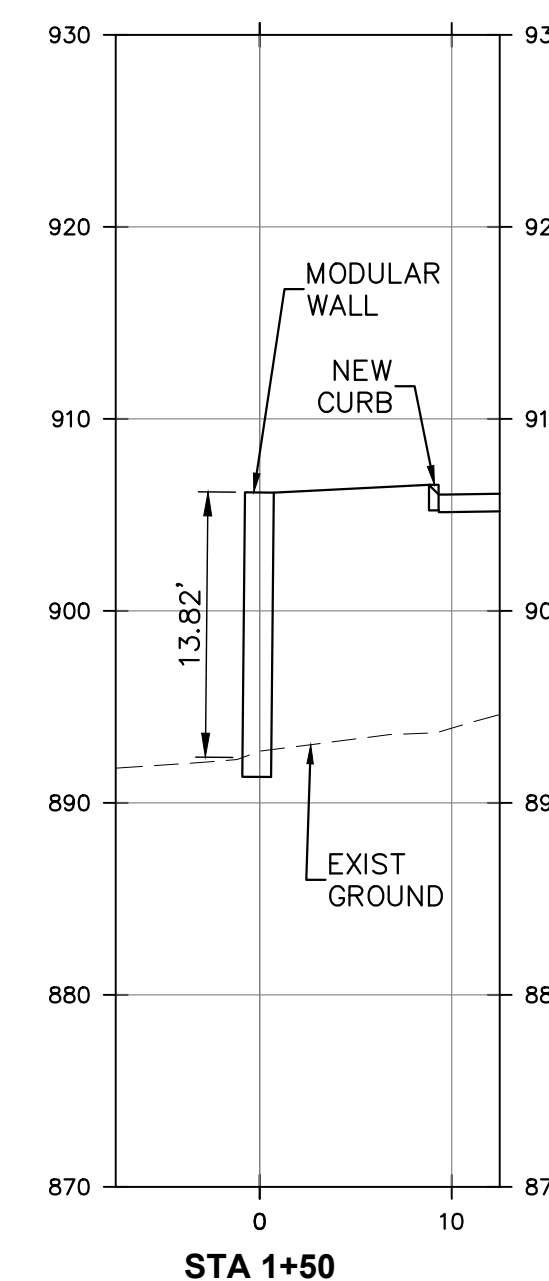
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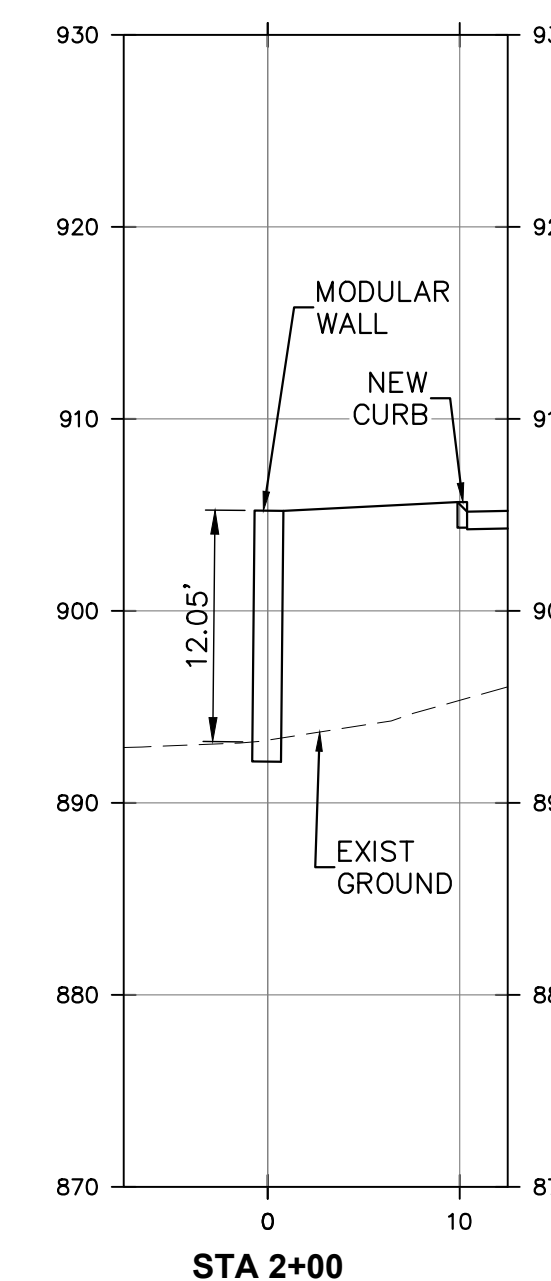
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STA 1+00

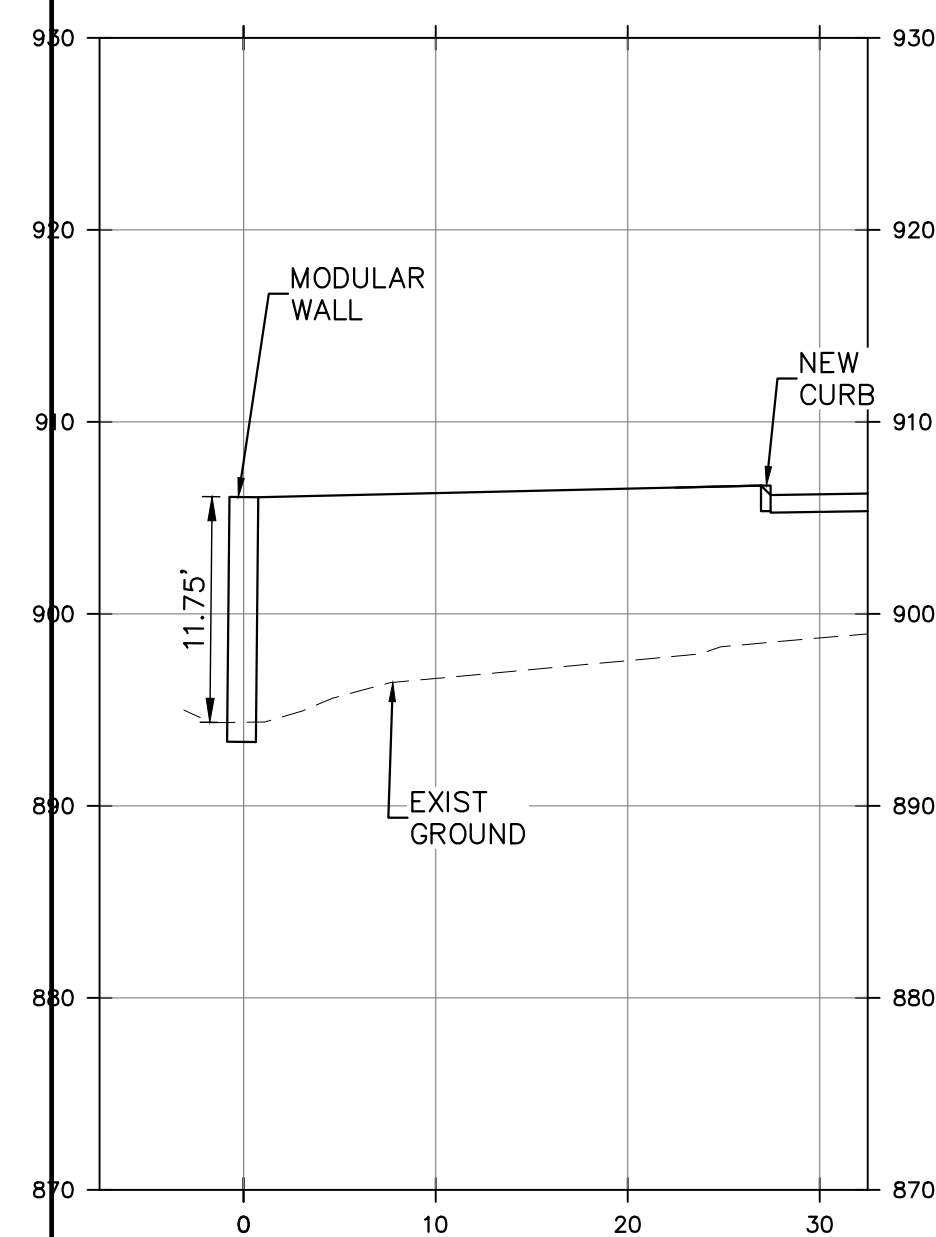


STA 1+50

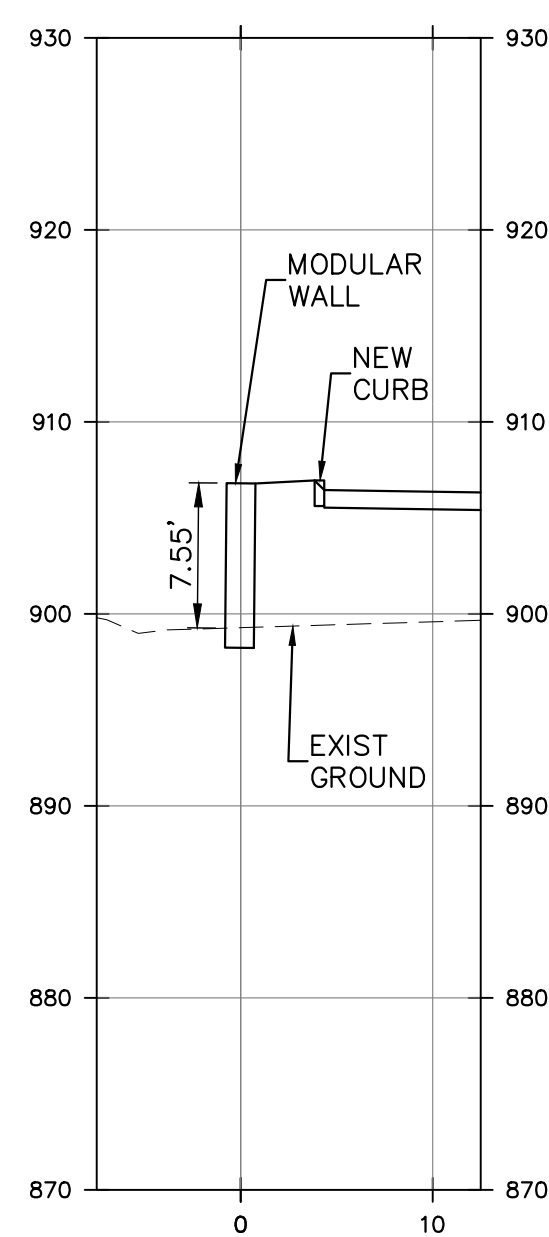


STA 2+00

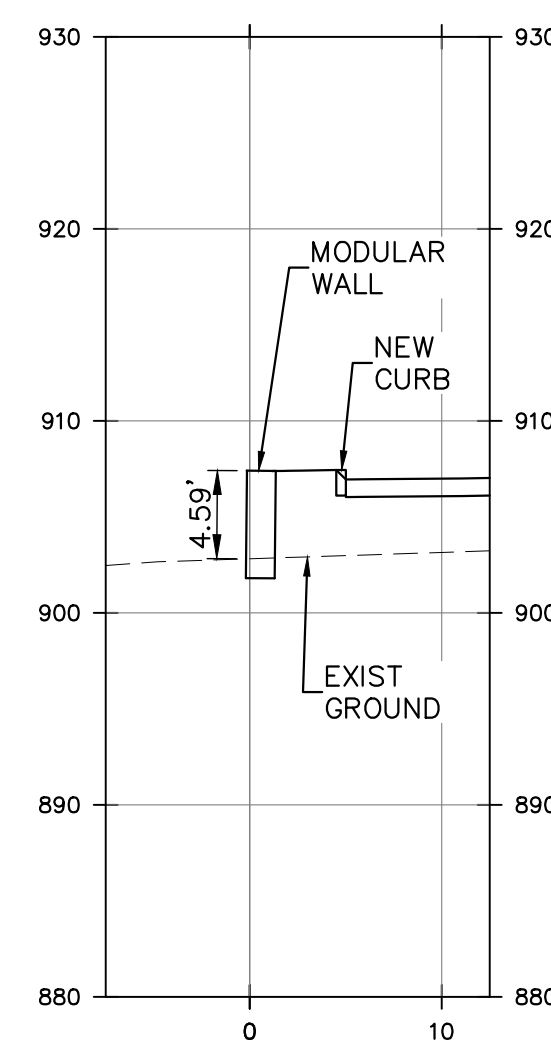
WALL CROSS SECTIONS
SCALE: SEE SCALE BAR
(SEE SHEET 7 FOR PLAN VIEW)



STA 2+50

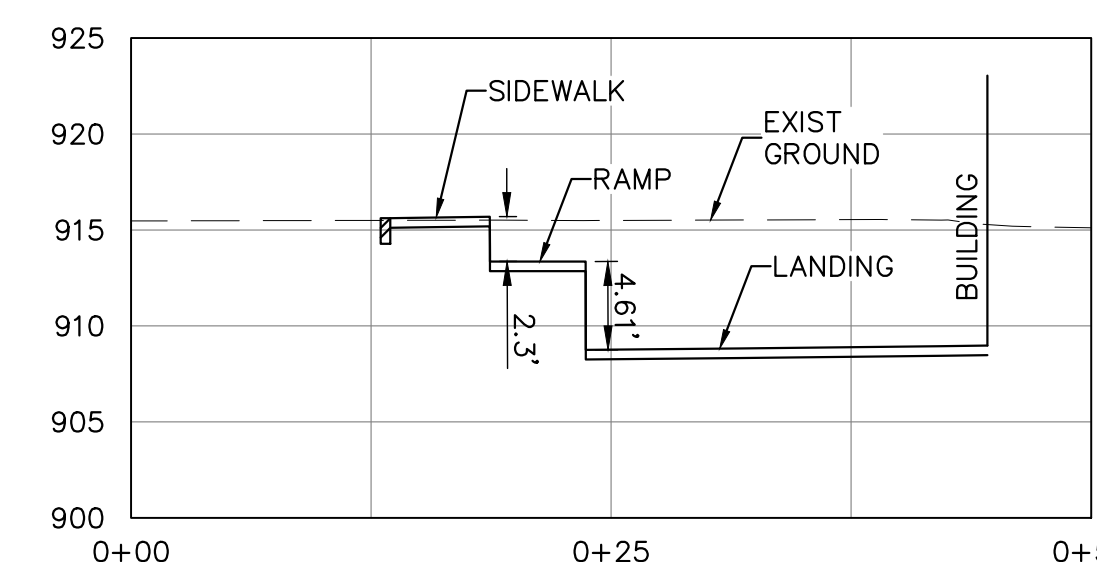


STA 3+00

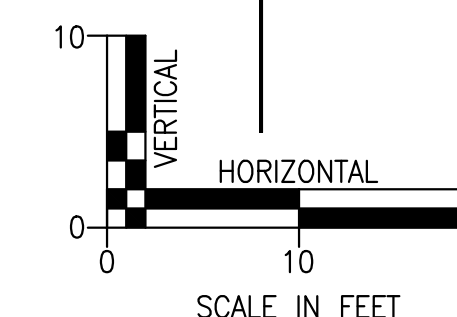


STA 3+44

WALL CROSS SECTIONS
SCALE: SEE SCALE BAR
(SEE SHEET 7 FOR PLAN VIEW)



WALL CROSS "A-A"
SCALE: SEE SCALE BAR
(SEE SHEET 7 FOR PLAN VIEW)



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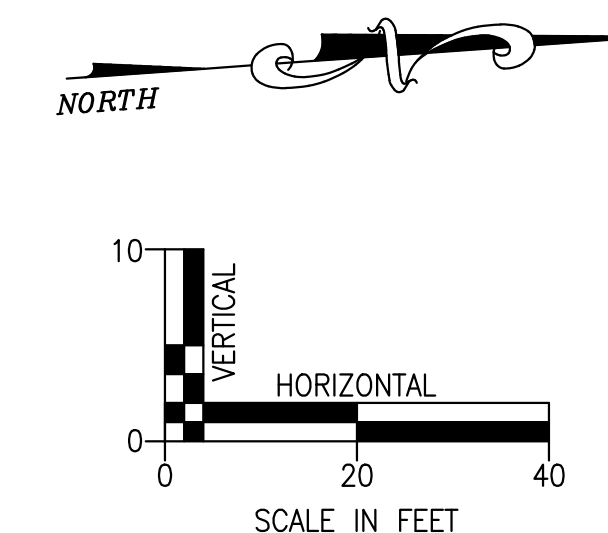
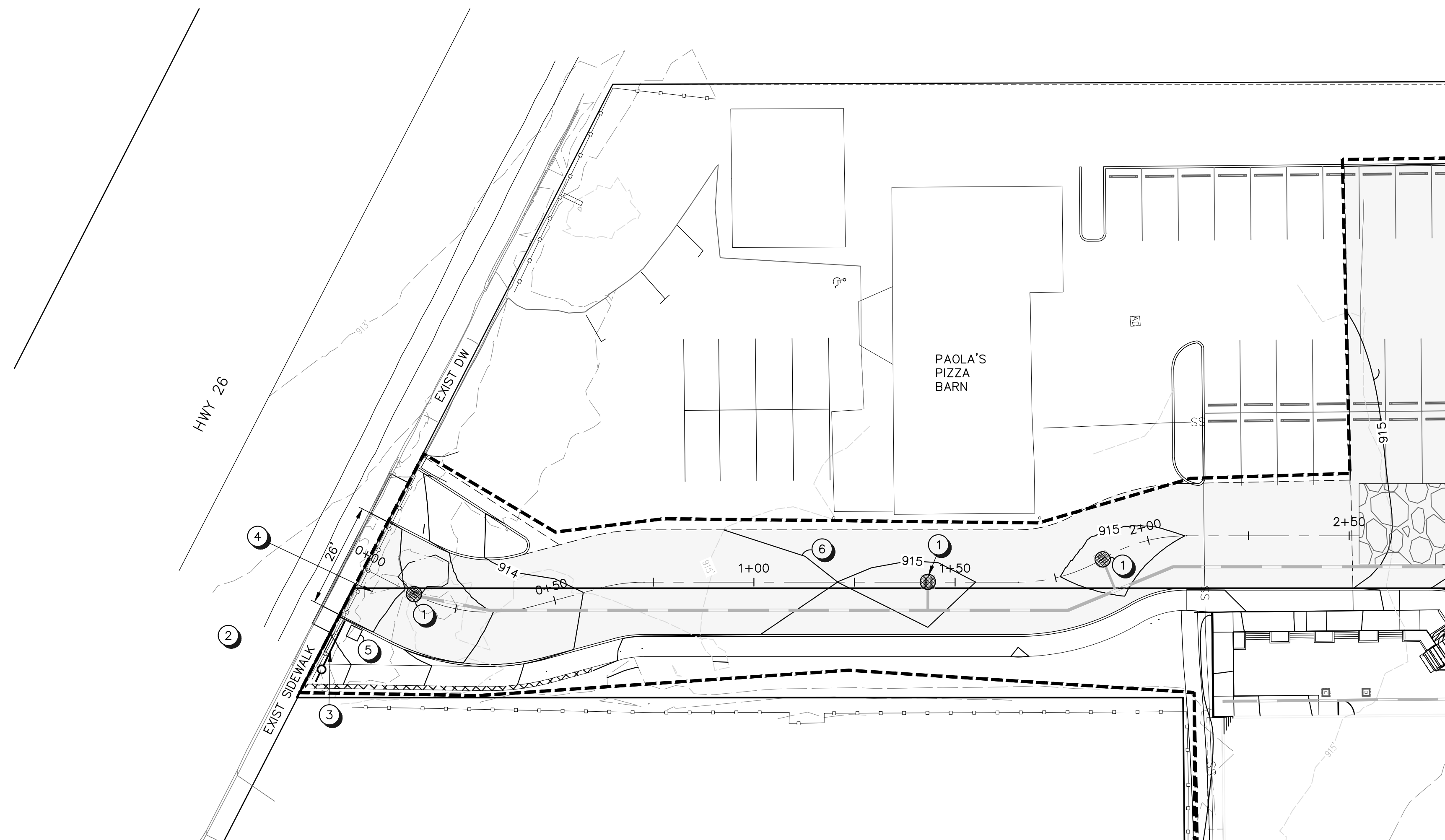
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SCALE: AS SHOWN	DATE: DECEMBER 2021	
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FIRWOOD DESIGN GROUP
Reliable Engineering Solutions
359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
(503) 668-3737

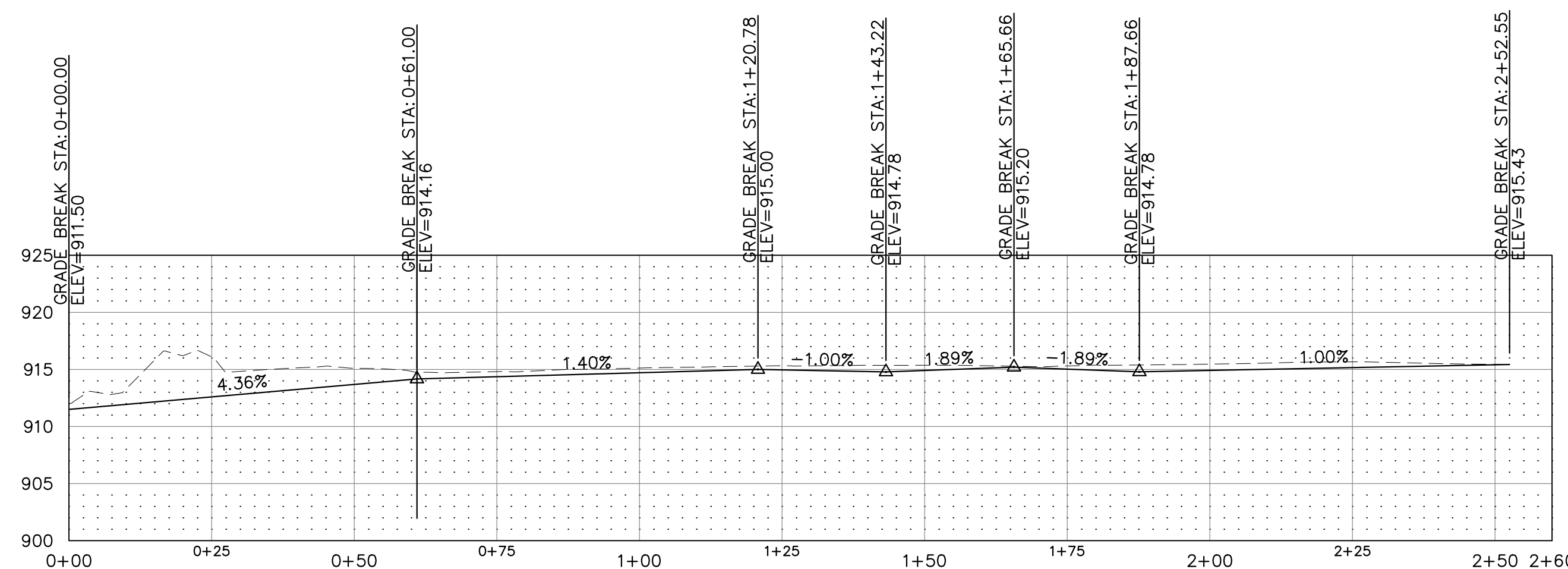
STATE STREET HOMES
1233 NW NORTHRUP ST. #125
PORTLAND, OR 97209

WALL CROSS SECTIONS
MIXED USE SITE DEVELOPMENT
38015 HWY 26, SANDY, OR 97055



KEY NOTES

- ① CB INSERT INLET PROTECTION FOR AREA DRAIN TYPE CATCH BASIN, SEE DETAILS ON SHEET 11 (TYPICAL)
- ② PROVIDE TEMPORARY INLET PROTECTION ON ALL STORMWATER INLETS WITHIN 250 LF DOWNSTREAM OF THE PROJECT SITE
- ③ TEMPORARY SILT FENCING, SEE DETAIL ON SHEET 11, ADJUST SILT FENCING AS NECESSARY DURING CONSTRUCTION
- ④ CONSTRUCTION ENTRANCE, SEE DETAIL THIS ON SHEET 11
- ⑤ CONSTRUCT TEMPORARY 3' X 3' X 2' DEEP SUMP AREA TO BE USED AS WASH AREA FOR CONCRETE TRUCKS, AFTER CURBS AND SIDEWALKS ARE INSTALLED AND BEFORE ROADS ARE PAVED, FILL AND COMPACT SUMP AREA PER STRUCTURAL REQUIREMENTS, DO NOT OVERFILL SUMP AREA, CONTRACTOR TO INCREASE SUMP WIDTH AS NECESSARY TO PROVIDE ADEQUATE VOLUME AS (IF) NEEDED
- ⑥ PROPOSED FINISH GRADE CONTOURS (TYPICAL)



ENTRY ROAD CENTERLINE PROFILE
1" = 20' HORIZ

- LEGEND
- TEMPORARY SEDIMENT FENCE
 - BIO-BAG AND INLET INSERT PROTECTION
 - LIMITS OF DISTURBANCE (1.9 ACRES)



EXPIRES: 06/30/23
SIGNATURE DATE: _____

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DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: DECEMBER 2021	
PROJECT NO. E21-043		

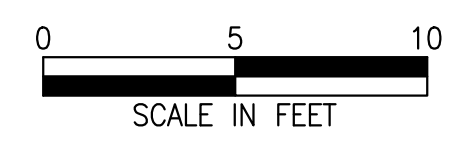


359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
(503) 668-3737

STATE STREET HOMES
1233 NW NORTHRUP ST. #125
PORTLAND, OR 97209

ENTRY GRADING PLAN
MIXED USE SITE DEVELOPMENT
38015 HWY 26, SANDY, OR 97055

9
12



EXPIRES: 06/30/23
SIGNATURE DATE: _____

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DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: DECEMBER 2021	
PROJECT NO. E21-043		

FIRWOOD DESIGN GROUP
Reliable Engineering Solutions
359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
(503) 668-3737

STATE STREET HOMES
1233 NW NORTHRUP ST. #125
PORTLAND, OR 97209

CIVIC AREA GRADING PLAN
MIXED USE SITE DEVELOPMENT
38015 HWY 26, SANDY, OR 97055

10
12

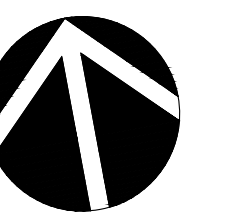


Multi-Family
Sandy

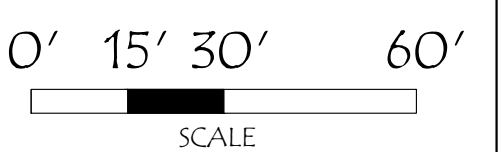
38015 Highway 26
Sandy, Oregon



EXISTING TREE
INVENTORY



SCALE: 1"=30'-0"



September 15th, 2022

REVISIONS

#	DATE	NOTES	INITIALS

L1.1

SHEET 1 OF 2

General Notes:

- TREE LOCATIONS BASED ON SITE SURVEY.
- SEE ARCHITECTURAL PLANS FOR SITE INFORMATION.
- TREE INVENTORY TABLE SEE THIS SHEET.

Attachment 2

Legend:

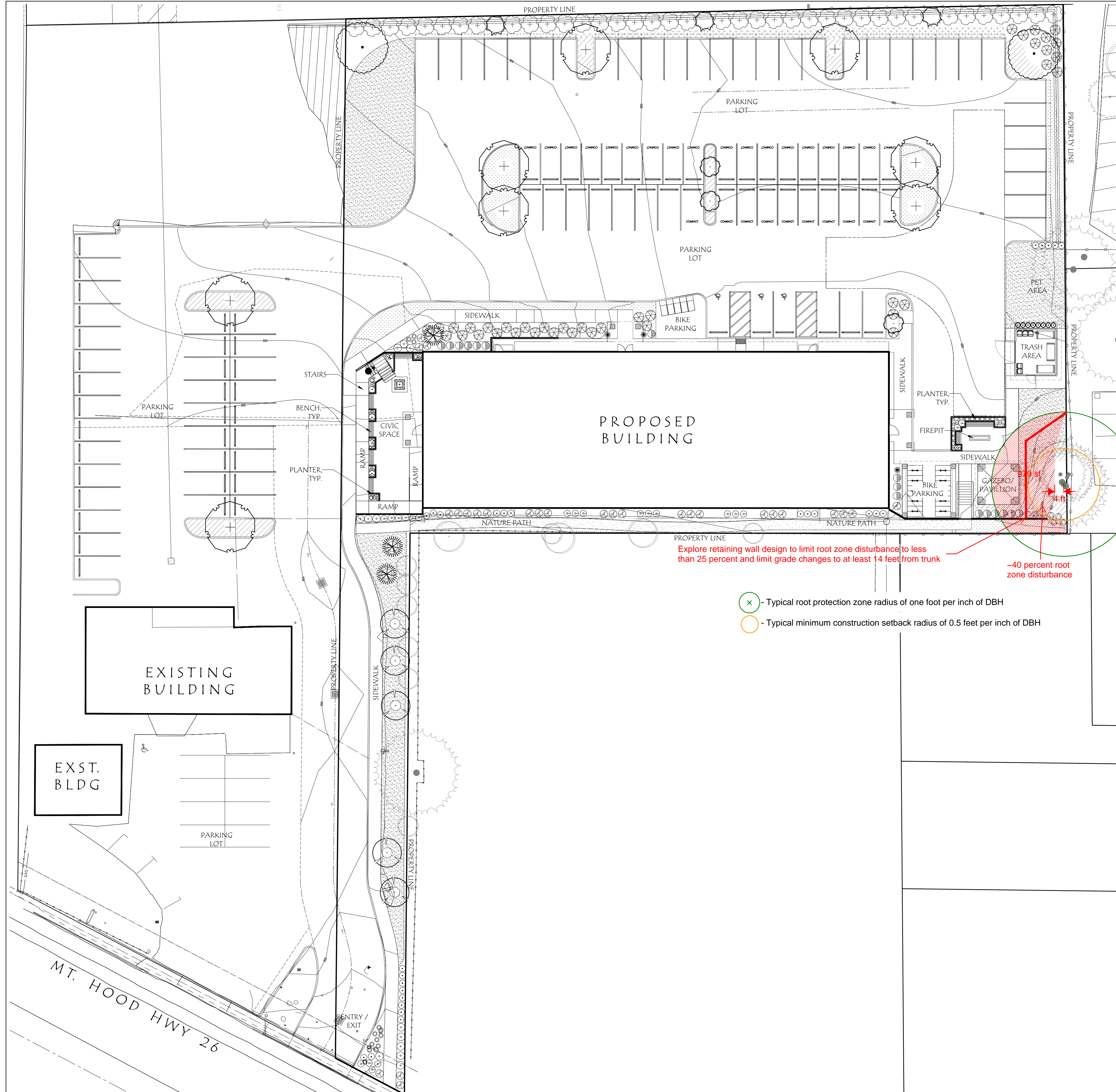
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- EXISTING PALM TREE
- EXISTING TREE TO BE REMOVED
- TREE IDENTIFICATION NUMBER

Existing Tree Inventory

TREE ID	TREE SPECIES	SIZE (DBH)	NOTES	REMAIN/REMOVE
001	Blue Spruce	12"		Remove, Development Impacts
002	Western Red Cedar	4"		Remove, Development Impacts
003	Western Red Cedar	8"		Remove, Development Impacts
004	Blue Spruce	10"		Remove, Development Impacts
005	Western Red Cedar	8"		Remove, Development Impacts
006	Windmill Palm	10"		Remove, Development Impacts
007	Windmill Palm	6"		Remove, Development Impacts
008	Conifer (Unknown)	10"	Dead	Remove
009	Holly	4"		Remove, Development Impacts
010	Sugar Maple	14"		Remove, Development Impacts
011	Cherry	14"		Remove, Development Impacts
012	Douglas Fir	24"		Remove, Development Impacts
013	Cherry	6"		Remove, Development Impacts
014	Filbert	14"		Remain
015	Douglas Fir	26"		Remain
016	Redbud	5"	Located on Property Line	Remain
017	Holly	5"	Located on Property Line	Remain
018	Thundercloud Plum	4"	Located on Property Line	Remain
019	Redbud	5"	Located on Property Line	Remain
020	Thundercloud Plum	4"	Located on Property Line	Remain
021	Red Maple	10"	Located on Adjacent Property	Remain
022	Filbert	6"		Remove, Development Impacts
023	Cherry	4"	Located on Property Line	Remain
024	Red Maple	6"	Located on Adjacent Property	Remain
025	Cherry	10"	Located on Property Line	Remain
026	Cherry	6"	Located on Property Line	Remain
027	Redbud	5"		Remove, Development Impacts
028	Douglas Fir	18", 18"	Located on Property Line	Remain
029	Douglas Fir	12", 12", 12"	Located on Property Line	Remain
030	Douglas Fir	36"	Located on Adjacent Property	Remain
031	Douglas Fir	36"	Located on Adjacent Property	Remain
032	Douglas Fir	36"	Located on Adjacent Property	Remain
033	Douglas Fir	24"		Remove, Development Impacts
034	Douglas Fir	24"		Remove, Development Impacts
035	Douglas Fir	12"		Remove, Development Impacts

- Potential retention tree (11-inch+ DBH and good condition)
- Neighboring tree to be retained
- Typical root protection zone radius of one foot per inch of DBH
- Typical minimum construction setback radius of 0.5 feet per inch of DBH





Legend:

- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING EVERGREEN TREE TO REMAIN

Attachment 2

General Notes:

- PLANTING PLAN FOR PRELIMINARY USE ONLY, NOT FOR BIDDING OR CONSTRUCTION.
- TREE INVENTORY FOR EXISTING TREES TO REMAIN AND REMOVE SEE SHEET L1.1.
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
- SEE CIVIL DRAWINGS FOR GRADING AND UTILITIES.
- PLANT SIZES MEET MINIMUM CITY OF SANDY PLANT REQUIREMENTS OR GREATER.
- IRRIGATION TO BE AN AUTOMATIC UNDERGROUND SYSTEM DESIGN BUILD BY THE LANDSCAPE CONTRACTOR.

Landscape Requirements

Total Site Area (sf): 63,711 sf (1.46 acres)
 Landscape Area: 15,894 sf
 Civic Space: 1,614 sf
 Outdoor Recreation Areas: 9,901 sf
 Parking Lot: 1 Large Tree Per 12 Spaces
 Screen/buffer: Evergreen plants to screen within 2 years

Preliminary Plant Legend

TREES	QTY	BOTANICAL / COMMON NAME	SIZE	NOTES
	3	Chamaecyparis nootkatensis 'Glauca Pendula' / Weeping Nootka False Cypress	5" Ht. Min., B&B	
	3	Chamaecyparis obtusa 'Gaialis' / Slender Hinoki False Cypress	5" Ht. Min., B&B	
	3	Lagerstroemia indica 'Whit II' TM / Dynamite Crape Myrtle	1 1/2" Cal., B&B	
	2	Nyssa sylvatica 'Wildfire' / Black Gum	1 1/2" Cal., B&B	Large Parking Lot Tree
	5	Prunus serrulata 'Amanogawa' / Japanese Flowering Cherry	1 1/2" Cal., B&B	
	8	Zelkova serata 'Green Vase' / Sawleaf Zelkova	1 1/2" Cal., B&B	Large Parking Lot Tree

SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE
	36	Abelia x grandiflora 'Kaleidoscope' / Kaleidoscope Abelia	2 Gal.
	8	Euonymus japonicus 'Greenspire' / Greenspire Upright Euonymus	5 Gal.
	7	Ilex crenata 'Sky Pencil' / Sky Pencil Japanese Holly	24"-30" Ht.
	38	Ligustrum japonicum 'Texanum' / Texas Japanese Privet	5 Gal.
	20	Nandina domestica 'Atropurpurea Nana' / Dwarf Nandina	1 Gal.
	38	Prunus laurocerasus 'Mount Vernon' / Mount Vernon Laurel	1 Gal.
	12	Rosa KnockOut 'Radrazz' / Radrazz KnockOut Rose	2 Gal.
	16	Sarcococca confusa / Fragrant Sarcococca	2 Gal.
	27	Spiraea x bumalda 'Magic Carpet' / Magic Carpet Spiraea	2 Gal.
	7	Symphoricarpos albus / Common White Snowberry	1 Gal.

GRASSES / PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE
	23	Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass	1 Gal.
	3	Hakonechloa macra 'Aureola' / Golden Variegated Forest Grass	1 Gal.
	30	Iberis sempervirens 'Absolutely Amethyst' / Absolutely Amethyst Candytuft	1 Gal.
	16	Pennisetum alopecuroides 'Burgundy Bunny' / Burgundy Bunny Dwarf Fountain Grass	1 Gal.

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	195	Arctostaphylos uva-ursi / Kinnikinnick	1 Gal.	30" o.c.
	275	Fragaria chiloensis / Beach Strawberry	4" Pot	18" o.c.
	293	Rubus pentalobus 'Emerald Carpet' / Bramble	1 Gal.	30" o.c.
	3,793 sf	ProTime 301 Water Smarter Fescue or Equal	Seed @ Rate of 10 lbs per 1000 sf	

Laurus Designs, LLC

1012 Pine Street
 Silverton, Oregon
 503.784.6494

Multi-Family Sandy

38015 Highway 26
 Sandy, Oregon

REGISTERED
 643
 PRELIMINARY
 LAURA A. ANTONSON
 OREGON
 11/16/2007
 LANDSCAPE ARCHITECT

PRELIMINARY PLANTING PLAN

SCALE: 1"=20'-0"

0' 10' 20' 40'

SCALE

September 15th, 2022

REVISIONS

#	DATE	NOTES	INITIALS

L2.1

SHEET 2 OF 2

PROJECT # 1409R
 January 19, 2023
 Page 26 of 28

SITE PLAN GENERAL NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- REFER TO CIVIL DRAWINGS FOR GRADING. SITE IS REQUIRED TO MEET THE LAWS OF FHA AND ADA. ACCESSIBLE ROUTES SHALL NOT EXCEED 5% (1 IN 20) OR CROSS SLOPES SHALL NOT EXCEED 2% (1 IN 50), ALL AT GRADE SIDEWALKS ARE ACCESSIBLE ROUTES.
- JOINTS IN CONCRETE WALKS NOTED AS E.J. ARE TO BE CONSTRUCTED AS EXPANSION JOINTS. ALL OTHER JOINTS SHOWN, TO BE TOOLED CONTROL JOINTS, SEE CIVIL.
- PROVIDE CONSTRUCTION FENCING AS REQUIRED TO SECURE SITE AND BUILDING DURING CONSTRUCTION.
- EXTREME CARE SHOULD BE TAKEN TO PRESERVE EXISTING ROOTS OF TREES TO REMAIN.
- SEE LANDSCAPE DRAWINGS FOR LANDSCAPE AND IRRIGATION ELEMENTS.
- SEE ELECTRICAL DRAWINGS FOR SITE LIGHTING.

SITE DEVELOPMENT CODE REVIEW:

SITE AREA:	63,711 sf = 1.46 ac	CIVIC SPACE RQMT:	3% BUILDING AREA = 1,995 sf PROVIDED = 1,590 sf	PARKING:	1 SPACE PER 2 EMPLOYEES 1.5 SPACES PER 1 BD 2 SPACES PER 2 BD = 71 SPACES R/O/D PROVIDED = 72 SPACES 38% COMPACT
ZONING:	C-2 General Commercial	OUTDOOR REC AREA:	200 sf PER UNIT = 8,400 sf OUTDOOR DOG PARK = 786 SF COVERED GAZEBO (256 sf x 1.25) = 320 SF OUTDOOR SEATING/FIRE PIT = 285 SF NORTHERN OPEN LAWN = 1,785 SF EASTERN OPEN LAWN = 958 SF LANDSCAPED NATURE PATH = 2,860 SF LANDSCAPED NATURE SIDEWALK = 2,087 SF PROVIDED = 9,081 SF	BIKE PARKING:	1 PER DWELLING UNIT = 42 SPACES
SETBACKS:	FRONT YARD - 10'-0" SIDE/REAR YARD - NONE	UNIT MIX:	1 BED / 1 BATH - 30 UNITS 2 BED / 2 BATH - 12 UNITS TOTAL UNITS = 42 UNITS		
BUILDING HEIGHT:	55 FT. PROPOSED: 3 LEVELS OF RES. OVER 1 LEVEL OF STORAGE				
BUILDING AREAS:					
• LEVEL 01, STORAGE/LEASING:	11,280 sf				
• LEVEL 02-04, RESIDENTIAL:	11,736 sf				
	OVERALL = 46,500 sf				

SITE PLAN KEYNOTES:

- PROPERTY LINE
- FRONT SETBACK
- ACCESSIBLE PARKING STALL
- VAN ACCESSIBLE PARKING STALL
- COMPACT PARKING SPACE, PROVIDE PAINTED LETTERING AT EACH STALL AS INDICATED
- SHORT-TERM BIKE PARKING WITH GROUND MOUNTED U-RACKS
- PROVIDE SIGNAGE AT DOOR INDICATING FIRE RISER ROOM
- PROVIDE 3'-6" HIGH GUARDRAIL ATOP RETAINING WALL/ADJACENT TO RAMP/STAIR WHEN GREATER THAN 30" IN HEIGHT

SITE CALCULATIONS AND LEGEND:

SITE ELEMENT DESCRIPTION:	LEGEND:	AREA: (sf)	PERCENTAGE: (%)
BUILDINGS:	[Symbol]	11,279.98 sf	17.70 %
BUILDINGS OVERHANG ABOVE:	[Symbol]		
LANDSCAPING:	[Symbol]	17,328.37 sf	27.21 %
ASPHALT PAVING:	[Symbol]	28,224.39 sf	44.30 %
ACCESSORY STRUCTURES:	[Symbol]	942.48 sf	1.48 %
CONCRETE SIDEWALKS:	[Symbol]	3,322.09 sf	5.21 %
CONCRETE PAVING & CURBS:	[Symbol]	2,613.72 sf	4.10 %
TOTALS:		63,711.03 sf	100.0 %

**FOR PLAN
REVIEW ONLY**

Attachment 2

IN THE EVENT CONFLICTS ARE DISCOVERED BETWEEN THE ORIGINAL SIGNED AND SEALED DOCUMENTS PREPARED BY THE ARCHITECTS AND/OR THEIR CONSULTANTS, AND ANY COPY OF THE DOCUMENTS TRANSMITTED BY MAIL, FAX, ELECTRONICALLY OR OTHERWISE, THE ORIGINAL SIGNED AND SEALED DOCUMENTS SHALL GOVERN.

PROJECT # 2021-146
DATE: 12/21/2022

REVISIONS

NEW MULTI-FAMILY DEVELOPMENT

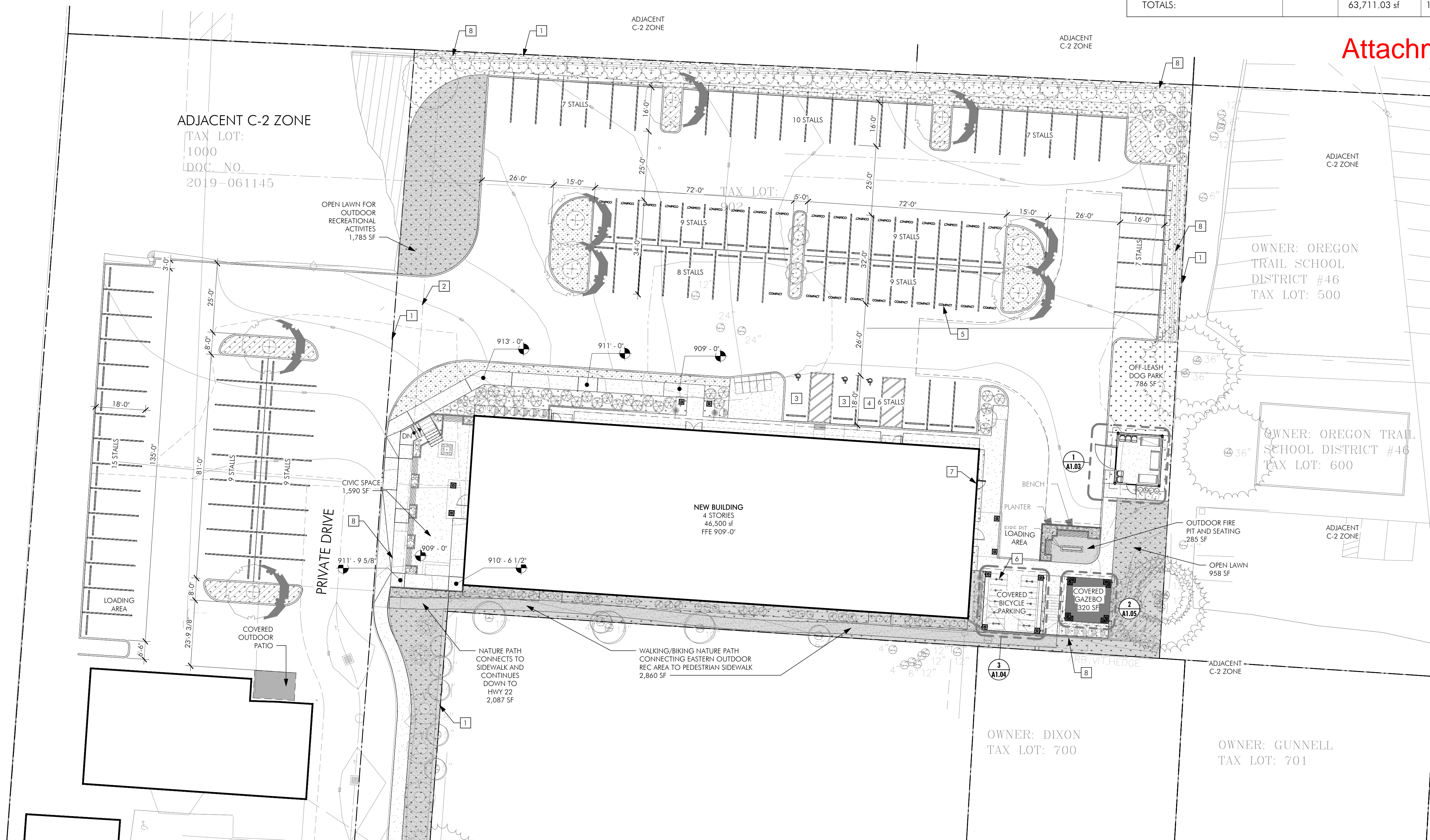
SANDY

38015 Hwy 26, Sandy, OR

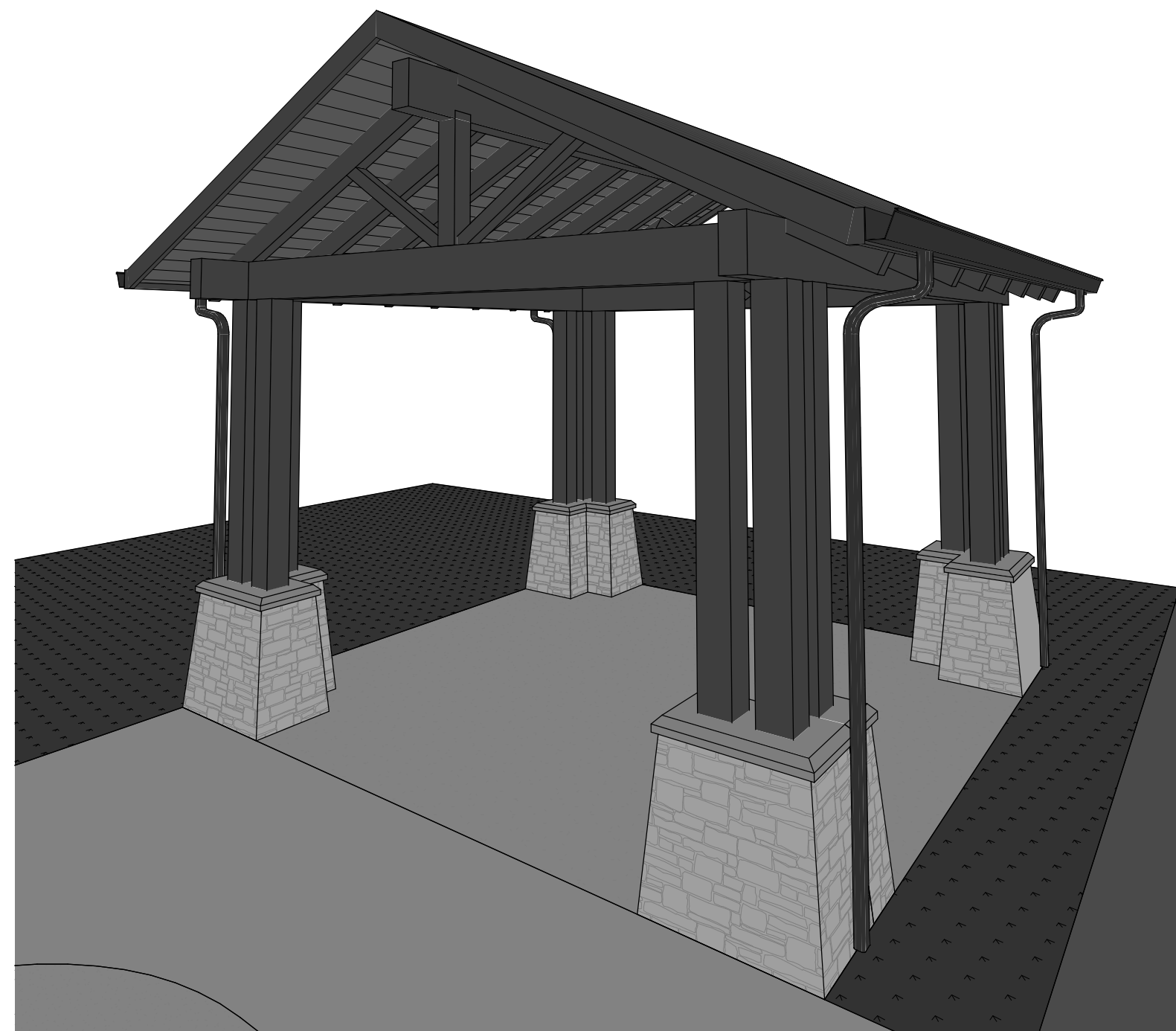
SHEET:

A1.02

ENLARGED SITE PLAN



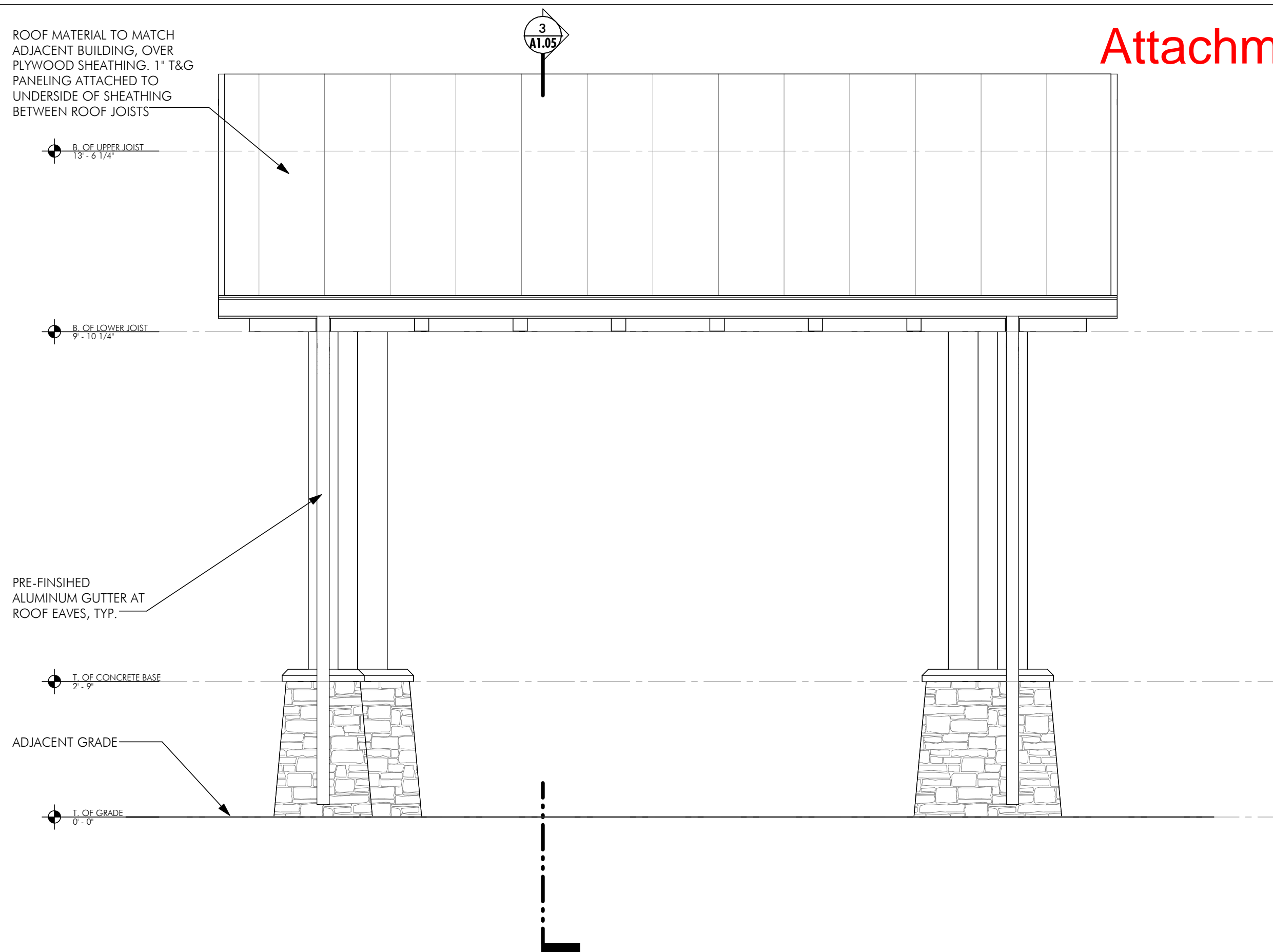
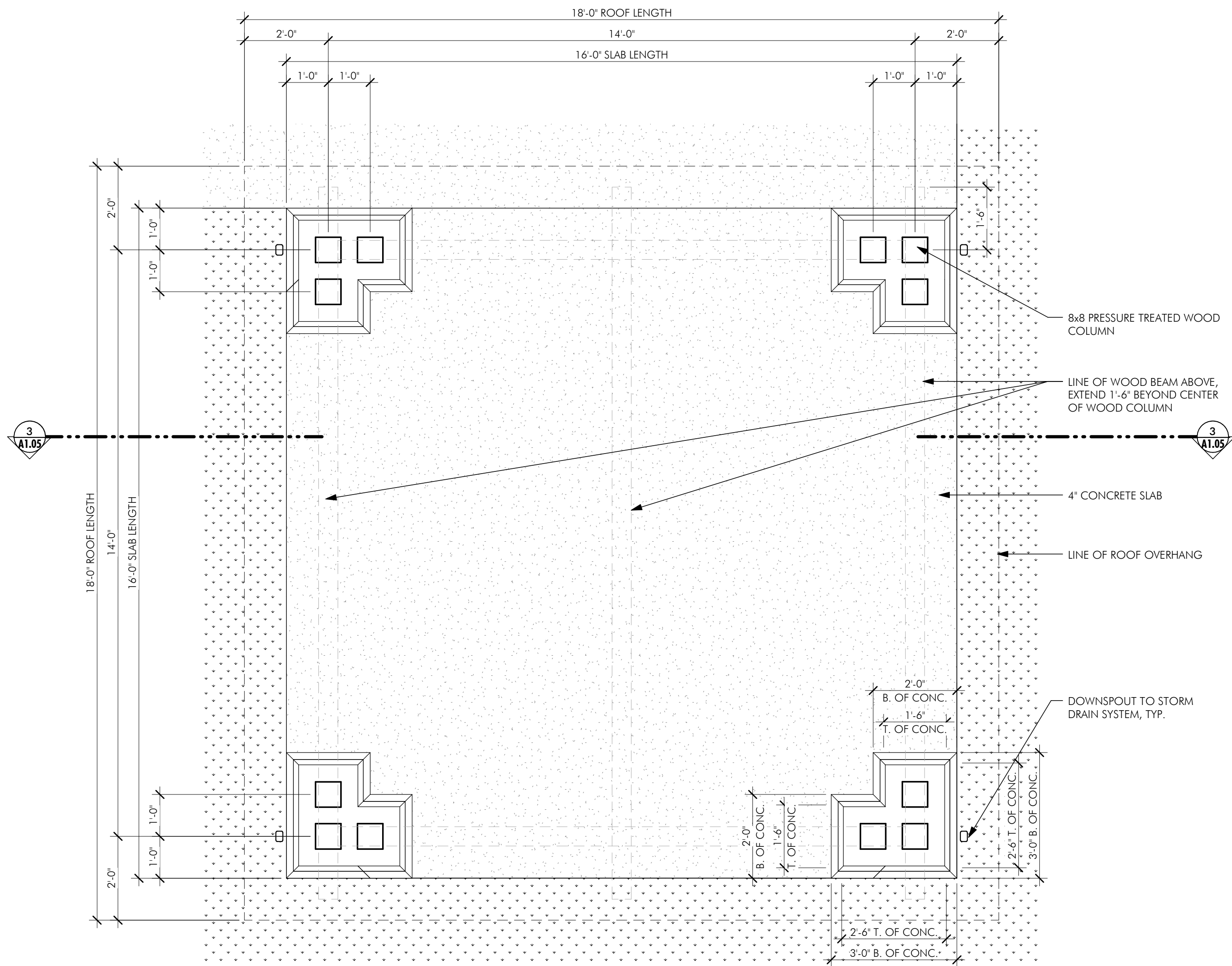
1 SITE - ENLARGED
0' 5' 10' 20' 40' 60' 1" = 20'-0"



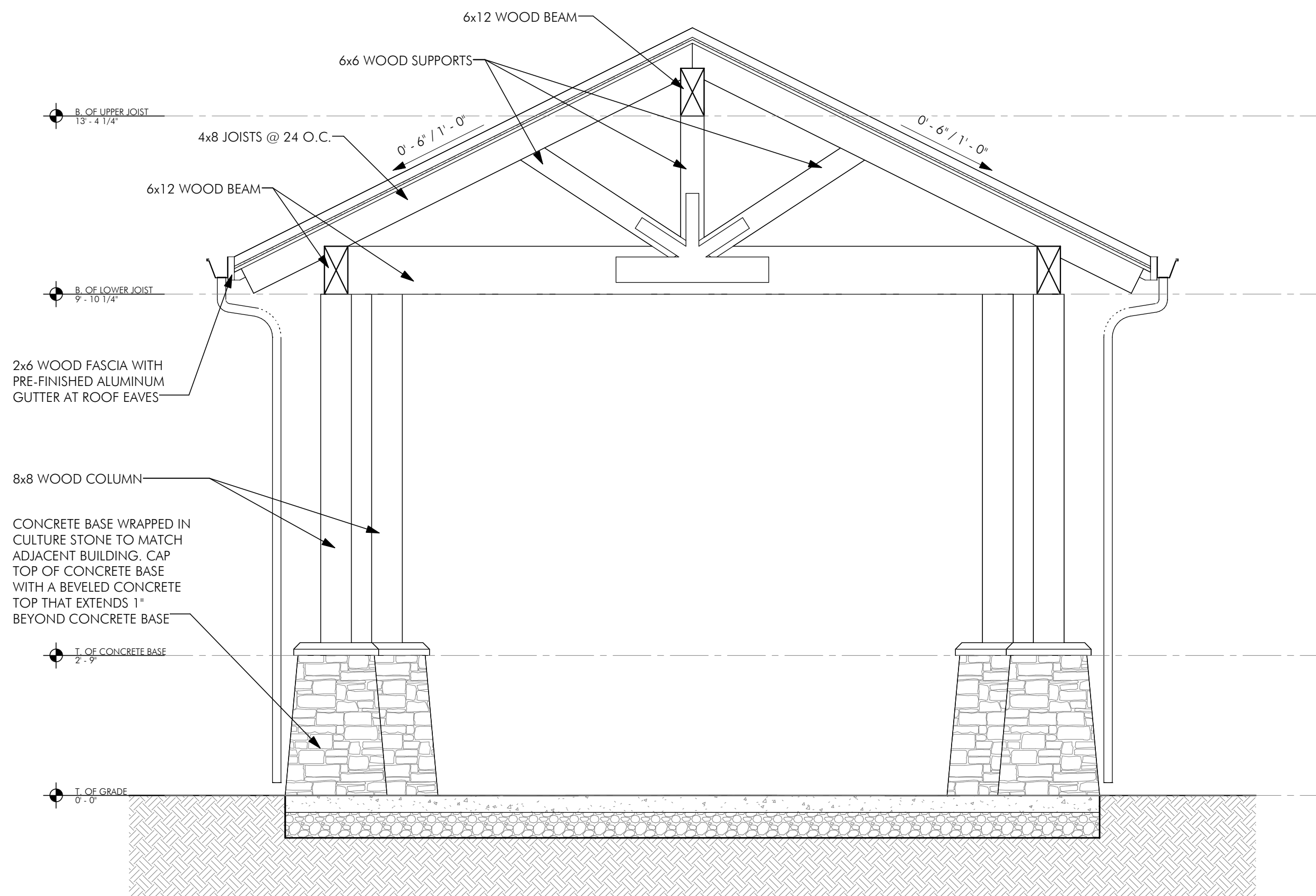
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PROJECT # 2021-146
DATE: 07/29/2022

REVISIONS



1 GAZEBO - ELEVATION, SIDE



3 GAZEBO - SECTION

2 GAZEBO



NEW MULTI-FAMILY DEVELOPMENT
SANDY
38015 Hwy 26, Sandy, OR