



TERAGAN & ASSOCIATES, INC. ARBORICULTURAL CONSULTANTS

MEMORANDUM

DATE: October 16, 2021
TO: Emily Meharg (City of Sandy)
FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist
RE: Tree Preservation and Removal Review for Sandy Woods Phase 2

This memorandum is a summary of my review of the tree preservation and removal plan for the Sandy Woods Phase 2 project.

The City of Sandy requested a third-party review of the tree preservation and removal plan for the Sandy Woods Phase 2 project to address the following items:

- Adequacy of the proposed tree protection zones; and
- General conditions of the trees to be retained.

My review is based on the excerpted plan set dated July 29, 2021 in Attachment 1 as well as the June 3 and July 13, 2021 arborist reports for the project. While I completed a site visit on October 13, 2021 to generally assess the site and trees, I did not complete a detailed assessment of individual trees at the site.

Adequacy of Proposed Tree Protection Zones

The tree protection requirements in the City of Sandy Code range from *at least* 10 feet from the trunks of retained trees (SDC 17.102.50.B.1) to five feet beyond the driplines (SDC 17.92.10.C).

The City of Sandy's administrative practice is to limit construction disturbances to no closer than a radius from a tree of .5 feet per inch of trunk diameter (DBH) if no more than 25 percent of the critical root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept. This tree protection zone is widely accepted in the Willamette Valley to provide adequate tree protection.

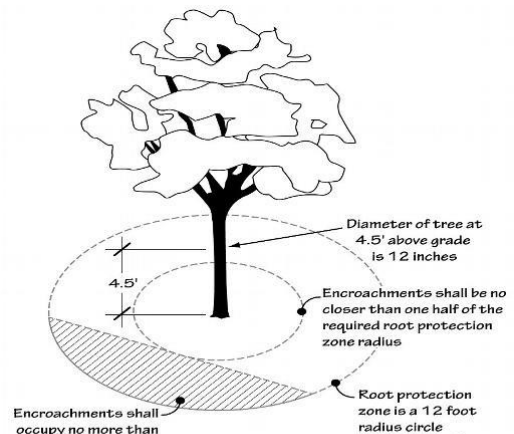


Figure 1: Typical minimum protection zone

Many of the trees to be retained do not meet the City's administrative tree protection zone shown Figure 1. However, it appears that the trees to be retained can be protected using this standard while allowing for the proposed development of the site by placing tree protection fencing in the locations shown on the plan sheets in Attachment 1.

I recommend that the applicant review the feasibility of the proposed tree protection fencing, and substantively implement the protection zones in accordance with Figure 1. The following items should be addressed if a revised tree protection plan is required:

- Will the stumps of trees to be removed that are within the tree protection zones be left in place or carefully stump ground to protect the root systems of the adjacent trees to be retained?
- Evaluate if there is adequate space for excavation of the house foundations and construction access between the proposed houses and tree protection fences on lots 47, 48, 49, 52, 53, 66, 68, 71, 82, 83, 84, and 85 as noted in Attachment 1.
- If there is not adequate space, can building envelopes be reduced to accommodate the tree protection zones? Alternatively, can the tree protection zones be modified to allow for adequate space while providing the minimum protection zones in accordance with Figure 1?
- The proposed grading appears to conflict with the protection zone of tree 2057. Can the grading be adjusted using retaining walls or other strategies to protect the tree in accordance with Figure 1?
- Evaluate if there is space for sewer line and path construction between trees 1504 and 1542 as noted in Attachment 1. If there is not space, can strategies such as boring and/or reduction of pathway width and associated grading be implemented to protect the trees in accordance with Figure 1?

Conditions of the Trees to be Retained

Section 17.102.50.A.3 of the City of Sandy Code requires:

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.

The City of Sandy's administrative practice has been to require retention trees to be in "good" or "very good" health condition on a scale of very good, good, fair, poor, or dead/dying.

The tree plan rates trees as either "viable" or not viable, and the July 13, 2021 arborist report defines viable trees as "...in fair to very good condition..." However, the City's administrative practice has been to exclude trees in fair condition from eligibility as retention trees. Based on my general review of the trees during my site visit, I observed trees in less than good health condition that would not meet the City's typical preservation tree standards. In particular, there are red alders (*Alnus*

rubra) and other species that have struggled with extreme weather events that may have occurred following the initial tree assessment for the project.

Therefore, the City may require a reassessment of the tree conditions to ensure there are at least 117 retention trees that are in good condition. If a reassessment of tree conditions is required, I recommend focusing the reassessment on the trees to be retained of the edges of the lots to be occupied by houses. In addition to a health assessment, I recommend including an assessment of the structural conditions of the trees to evaluate their stability considering adjacent tree removals and potential increased wind exposure.

Conclusion

Based on my review of the proposed tree plan for the Sandy Woods Phase 2 project, I recommend the following:

- Provide a revised tree protection plan that meet's the City's typical tree protection zone requirements in Figure 1; and
- Reassess the health and structural conditions of the trees to be retained adjacent to the proposed lots to be developed to ensure there are at least 117 retention trees in good health condition that are structurally sound.

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

Sincerely,



Todd Prager

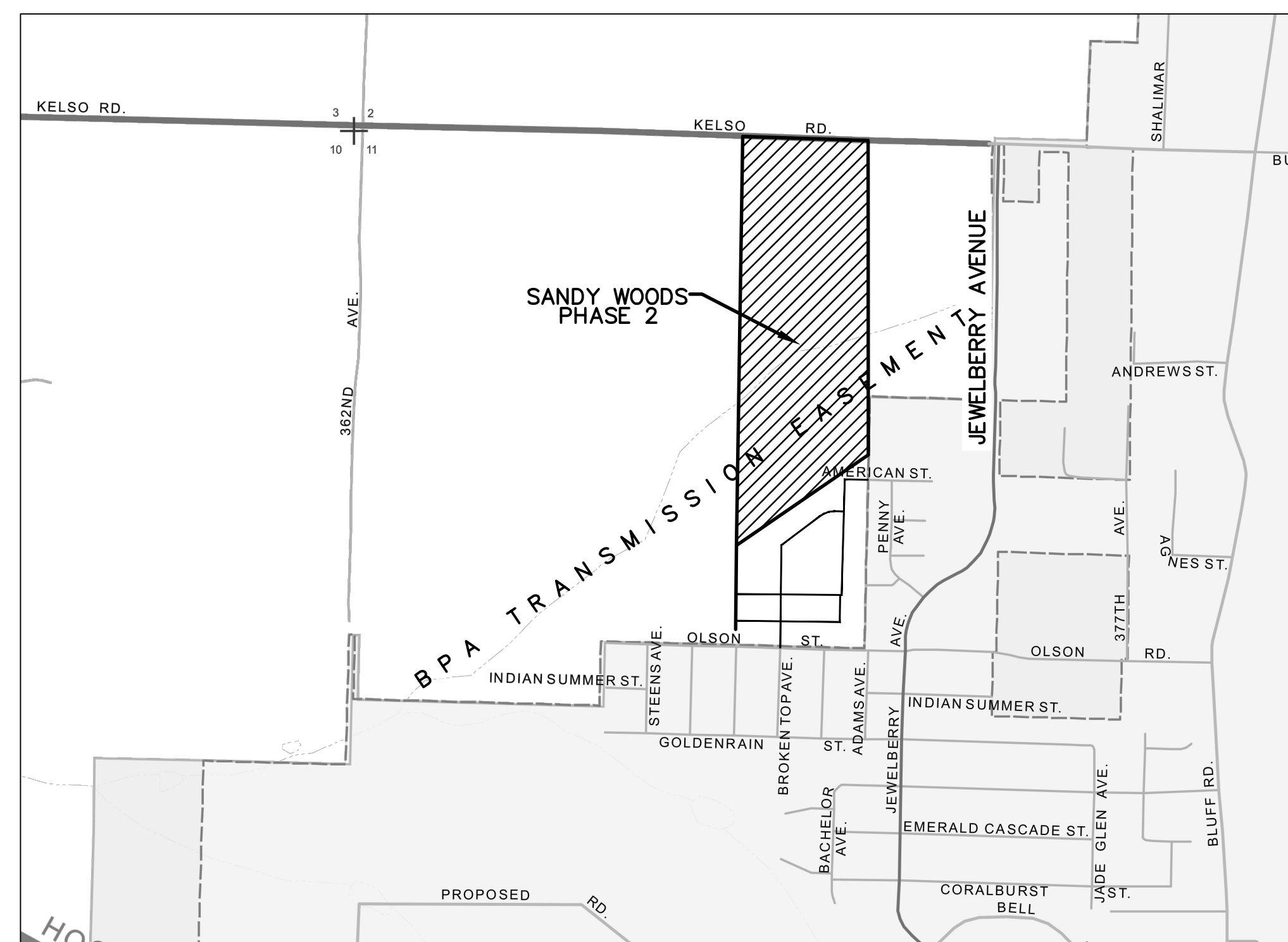
*ASCA Registered Consulting Arborist
ISA Board Certified Master Arborist, WE-6723B
ISA Qualified Tree Risk Assessor
AICP, American Planning Association*

Attachment 1 – Excerpted Site Plans with Redlines

TENTATIVE PLANS FOR SANDY WOODS 2

CITY OF SANDY, CLACKAMAS COUNTY, OREGON

JUNE, 2021



INDEX

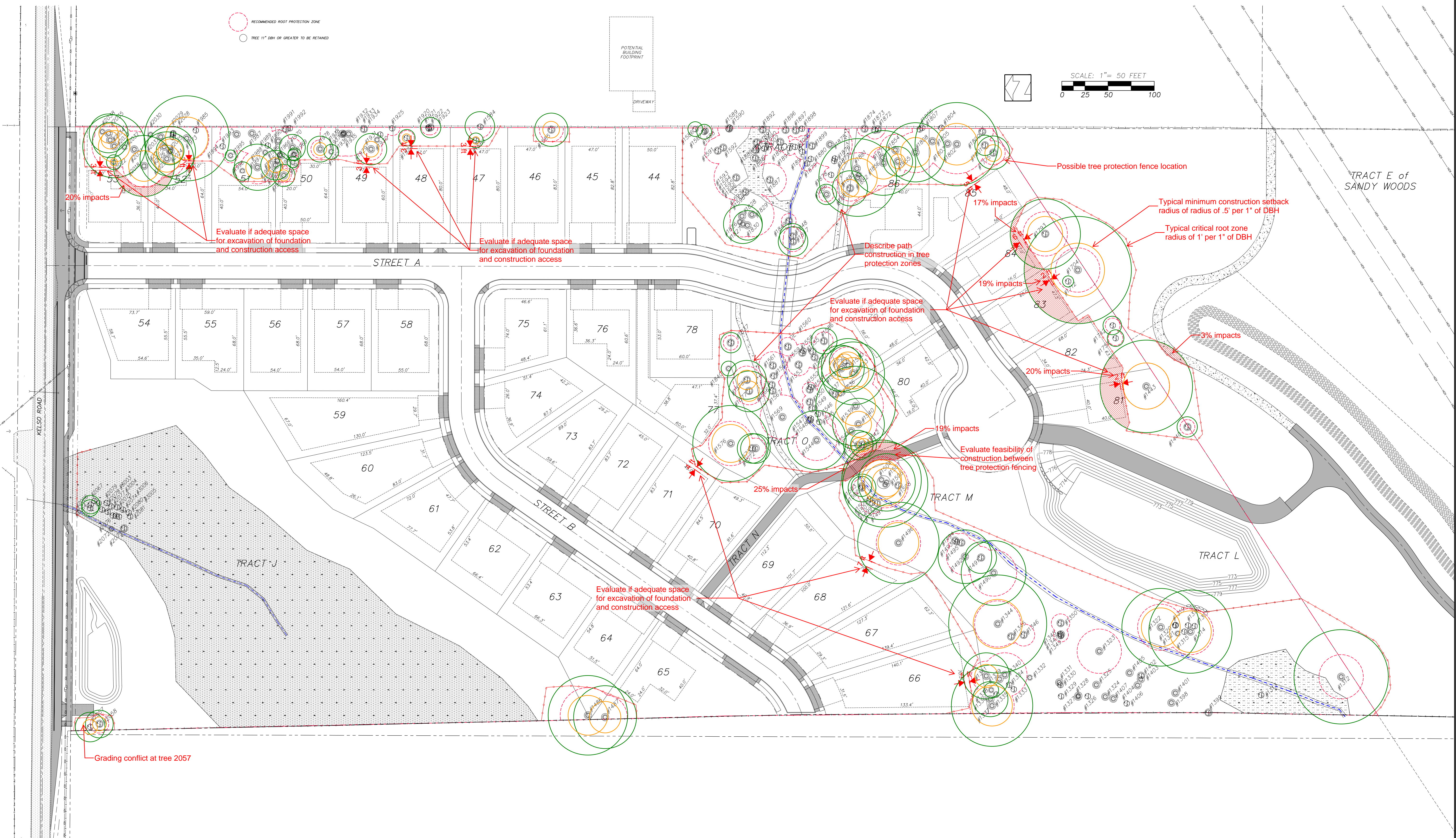
<u>SHEET</u>	<u>DESCRIPTION</u>
1	COVER
2	SITE PLAN
3	SITE PLAN WITH TREES
4	EXISTING CONDITIONS PLAN
5	TREE RETENTION / REMOVAL PLAN
6	TREE LIST
7	OFFSITE SANITARY SEWER PLAN
8	ONSITE SANITARY & WATERLINE PLAN
9	STORM DRAIN PLAN
10	DRIVEWAY & STREET LIGHTING PLAN
11	RESIDENTIAL PARKING ANALYSIS
12	FUTURE STREET PLAN
13	GRADING & ESC PLAN
14	RETAINING WALLS
15	KELSO ROAD PLAN & PROFILE
16	ONSITE STREET PROFILES

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 PHONE: 503-351-4747

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 375 PORTLAND AVENUE
 GLADSTONE, OREGON 97027
 (503) 657-0188

MOST RECENT REVISION TO
 THIS SET OF PLANS:
7/29/2021

Attachment 1



REVISIONS	BY
REVIEW FOR COMPLETENESS	PS
CHECK & COUNTY DESIGN	PS
MODIFICATION APPROVAL	12.21

Sandy Woods 2 Rosemont Development

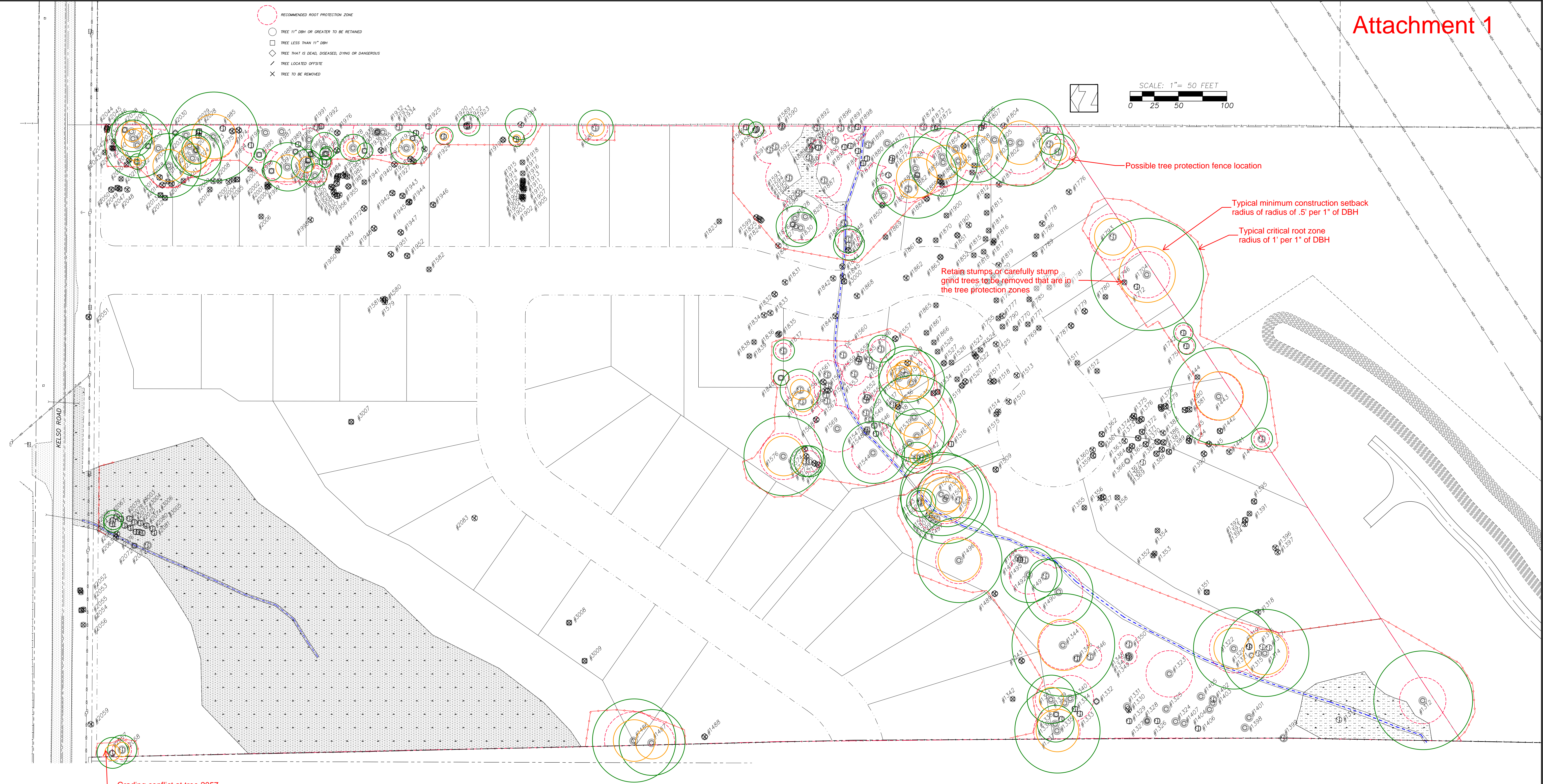
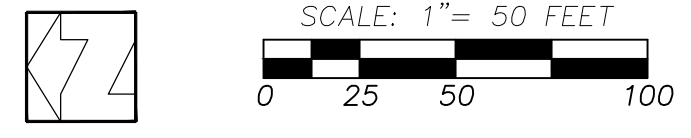
Site Plan with Retention Trees, RPZ's and Building Footprints

ISUL ENGINEERING
 375 PORTLAND AVENUE
 CLATSOP COUNTY, OREGON 97027
 (503) 657-0188
DRAWING: Sandy Woods 2 subdivision DR current.dwg

DATE	JUNE, 2021
SCALE	1" = 50'
DRAWN	PS
JOB	SGL19-042
SHEET	2
OF 15 SHEETS	

Attachment 1

- RECOMMENDED ROOT PROTECTION ZONE
- TREE 11" DBH OR GREATER TO BE RETAINED
- TREE LESS THAN 11" DBH
- ◇ TREE THAT IS DEAD, DISEASED, DYING OR DANGEROUS
- × TREE LOCATED OFFSITE
- ✕ TREE TO BE REMOVED



Possible tree protection fence location

Typical minimum construction setback
radius of radius of .5' per 1" of DBH

Typical critical root zone
radius of 1' per 1" of DBH

Retain stumps or carefully stump
grind trees to be removed that are in
the tree protection zones

Grading conflict at tree 2057

Sandy Woods 2 Rosemont Development

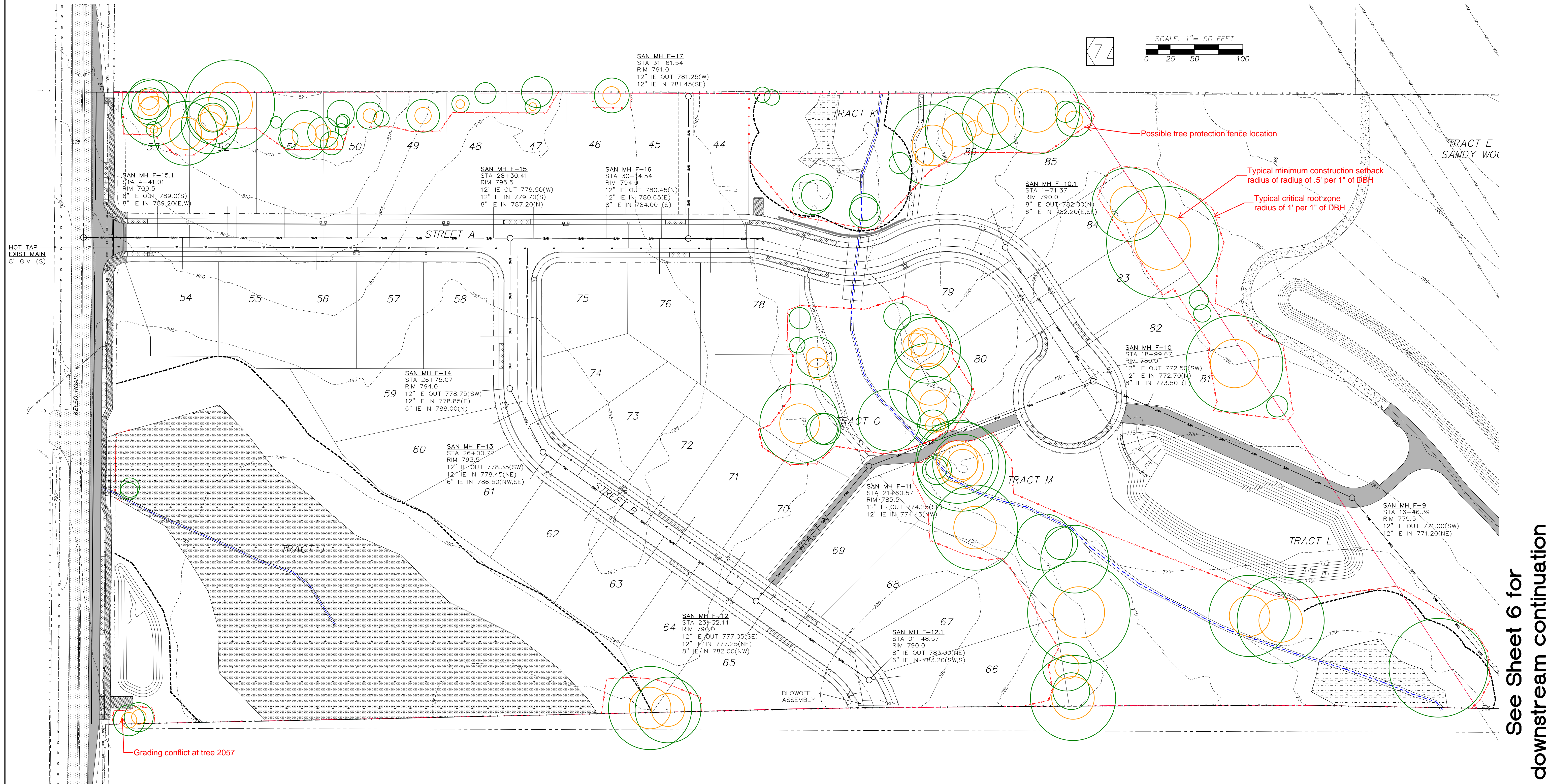
Tree Retention/Removal Plan

ISUL ENGINEERING
375 PORTLAND AVENUE
CLATSOP COUNTY, OREGON 97027
(503) 657-0188
DRAWING: Sandy Woods 2 subdivision DR current.dwg

DATE	JUNE, 2021
SCALE	1" = 50'
DRAWN	PS
JOB	SGL19-042
SHEET	4
OF 15 SHEETS	

REVISIONS	BY

Attachment 1



See Sheet 6 for
downstream continuation

REVISIONS	BY
REVISE FOR COMPLETENESS	PS
CHECK & COUNTY DESIGN	PS
MODIFICATION APPROVAL	12.21

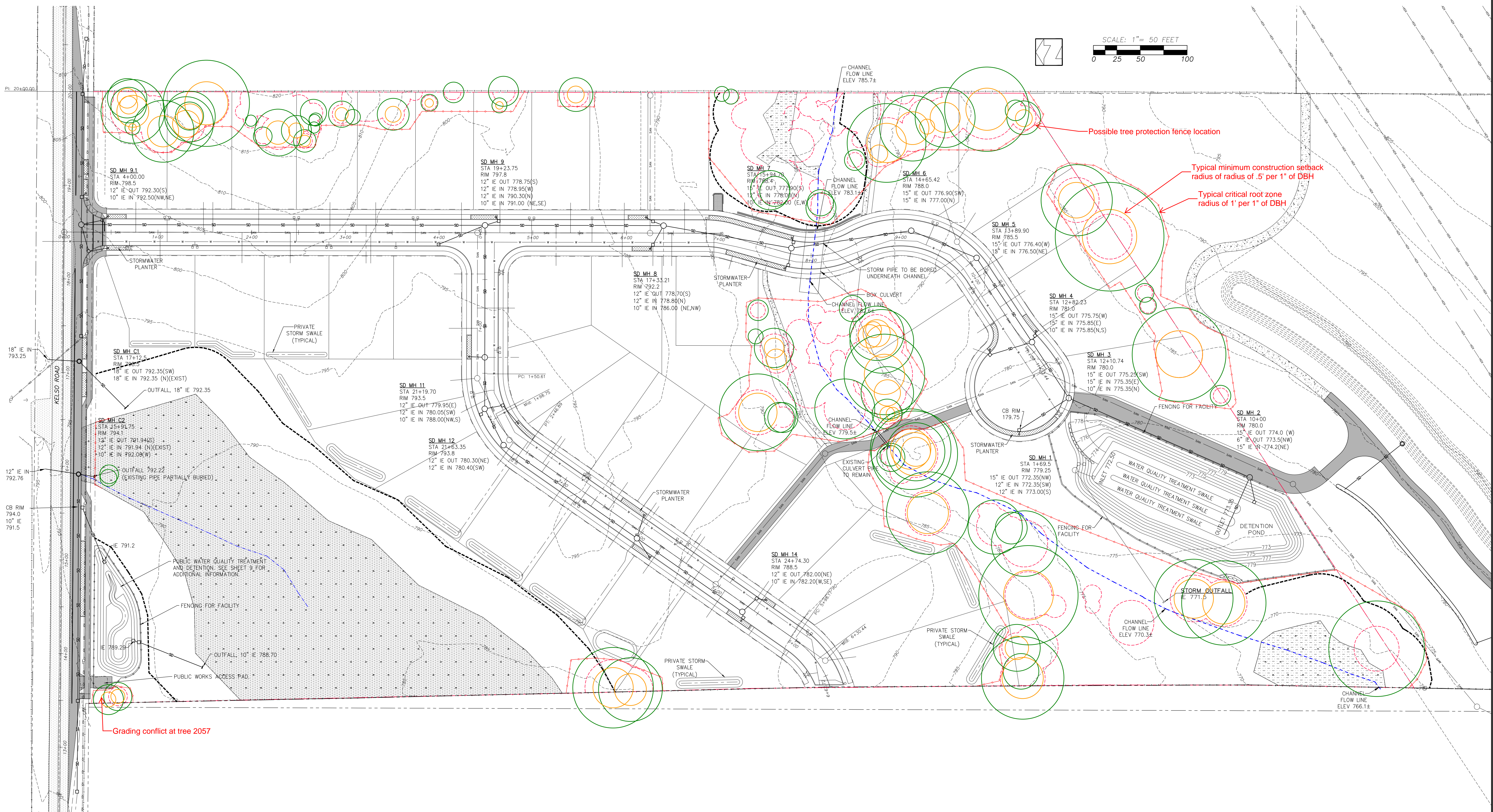
Sandy Woods 2 Rosemont Development

Onsite Sanitary and Water Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
CLATSOP COUNTY, OREGON 97027
(503) 657-0188
DRAWING: Sandy Woods 2 subdivision DR current.dwg

DATE	MAY, 2021
SCALE	1" = 50'
DRAWN	PS
JOB	SGL19-042
SHEET	7
OF 15 SHEETS	

Attachment 1



REVISIONS	BY
REVIEW FOR COMPLETENESS	PS
CHECK & COUNTY DESIGN	PS
MODIFICATION APPROVAL	12.21

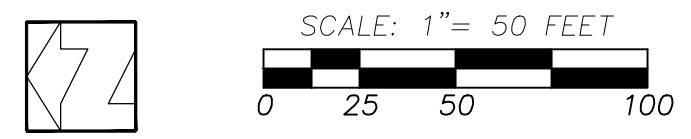
Sandy Woods 2 Rosemont Development

Storm Drain Plan

ISUL ENGINEERING
375 PORTLAND AVENUE
CLATSOP COUNTY, OREGON 97027
(503) 657-0188
DRAWING: Sandy Woods 2 subdivision DR current.dwg

DATE	JUNE, 2021
SCALE	1" = 50'
DRAWN	PS
JOB	SGL19-042
SHEET	08
OF 15 SHEETS	

Attachment 1



EROSION AND SEDIMENT CONTROL LEGEND:

A	SEDIMENT FENCE ALONG 50' BUFFER LINE
B	VEGETATED BUFFER
C	SEDIMENT FENCE
D	INLET/OUTLET PROTECTION
E	GRAVEL CONSTRUCTION ENTRANCE
F	TREE PROTECTION FENCING

REVISIONS	BY
REVIEW FOR COMPLETENESS	PS
CHECK & COUNTY DESIGN	12.21
MODIFICATION APPROVAL	

Sandy Woods 2 Rosemont Development

Grading and ESC Plan

SISUL ENGINEERING
 375 PORTLAND AVENUE
 CLATSOP COUNTY, OREGON 97027
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DRAWING: Sandy Woods 2 subdivision DR current.dwg

DATE	JUNE, 2021
SCALE	1" = 50'
DRAWN	PS
JOB	SGL19-042
SHEET	12
OF 15 SHEETS	