

CRESTVIEW SUBDIVISION DEVELOPMENT

Henry Hearley

Lane Council of Governments

April 14, 2020

Lowell Planning Commission Public Hearing



Overview of Presentation

- Issue / Items to note up-front
- Brief overview of proposal
- Applicable approval criteria
- Conditions of Approval
- Questions of City Staff



Issue / Items

- 1) Limitations on city water availability above ~880 feet;**
- 2) Traffic Impact Analysis (TIA) was completed at the requirement of Lane County;**
- 3) Some remaining “technical engineering” question remain that require clarification and a response from applicant;**
- 4) Wetland Delineation was completed by the applicant. Within subject property, three ditches were identified. Ditches are exempt per OAR; and therefore not subject to current State-Removal Fill Requirements;**
- 5) Retaining walls are anticipated to be required and will be reviewed during the construction drawing phase.**



Issue / Items (continued)

- 1) The Master Road Map shows future right-of-way extending past phase. Current shadow plat shows consistency with future extension and connections to existing rights-of-way to the south;
- 2) The subject property does contain slopes of 15 percent or greater. Hillside Development standards will apply;
- 3) Fire Dept has not indicated that the department's vehicles cannot safely navigate the proposed street grade; Proposed grade of hammerhead turnaround is maximum 8 percent grade.
- 4) Seneca Timber Company issued official comment;
- 5) Mia Nelson of Lookout Point, LLC issued official comment.

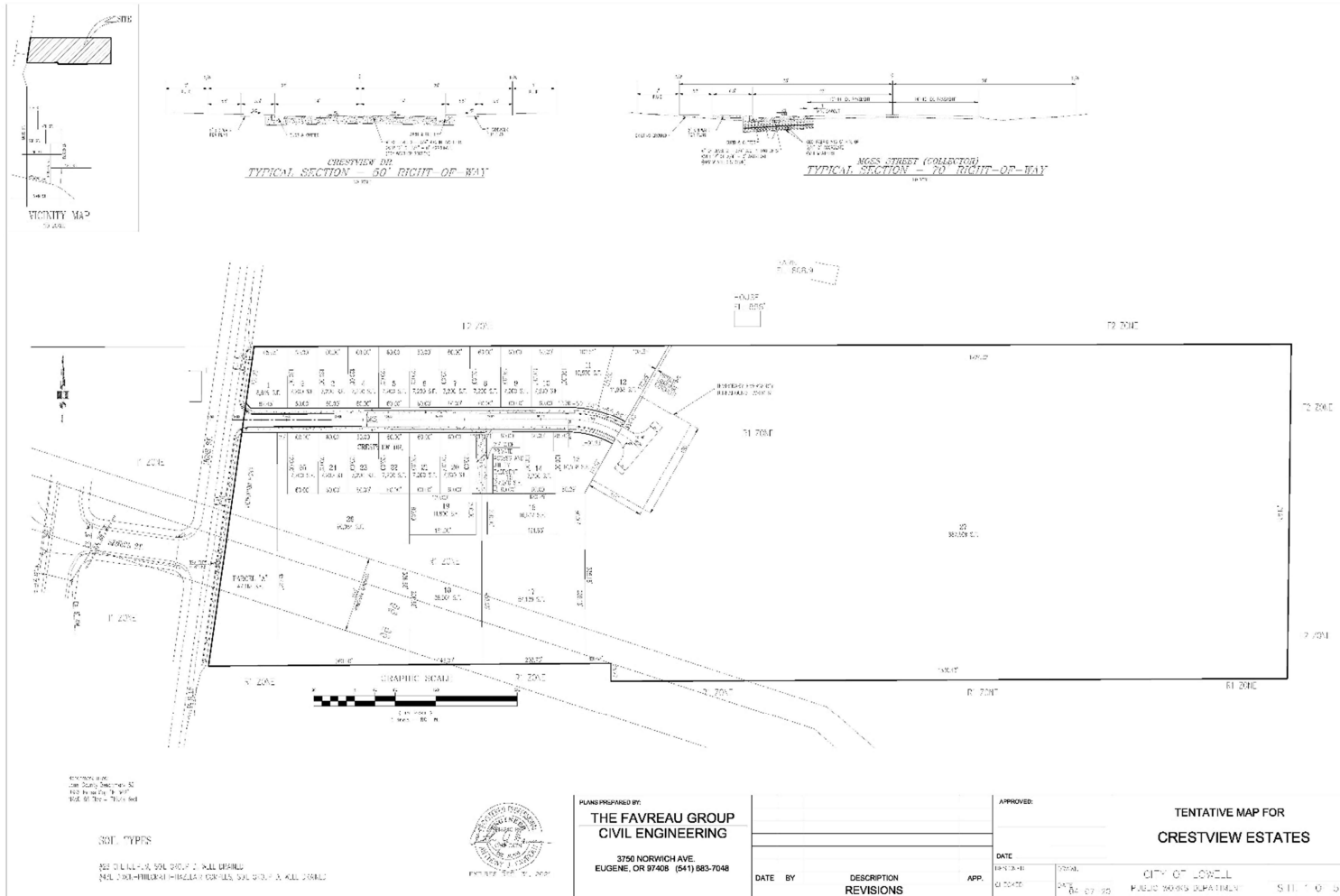


Brief Overview of Proposal

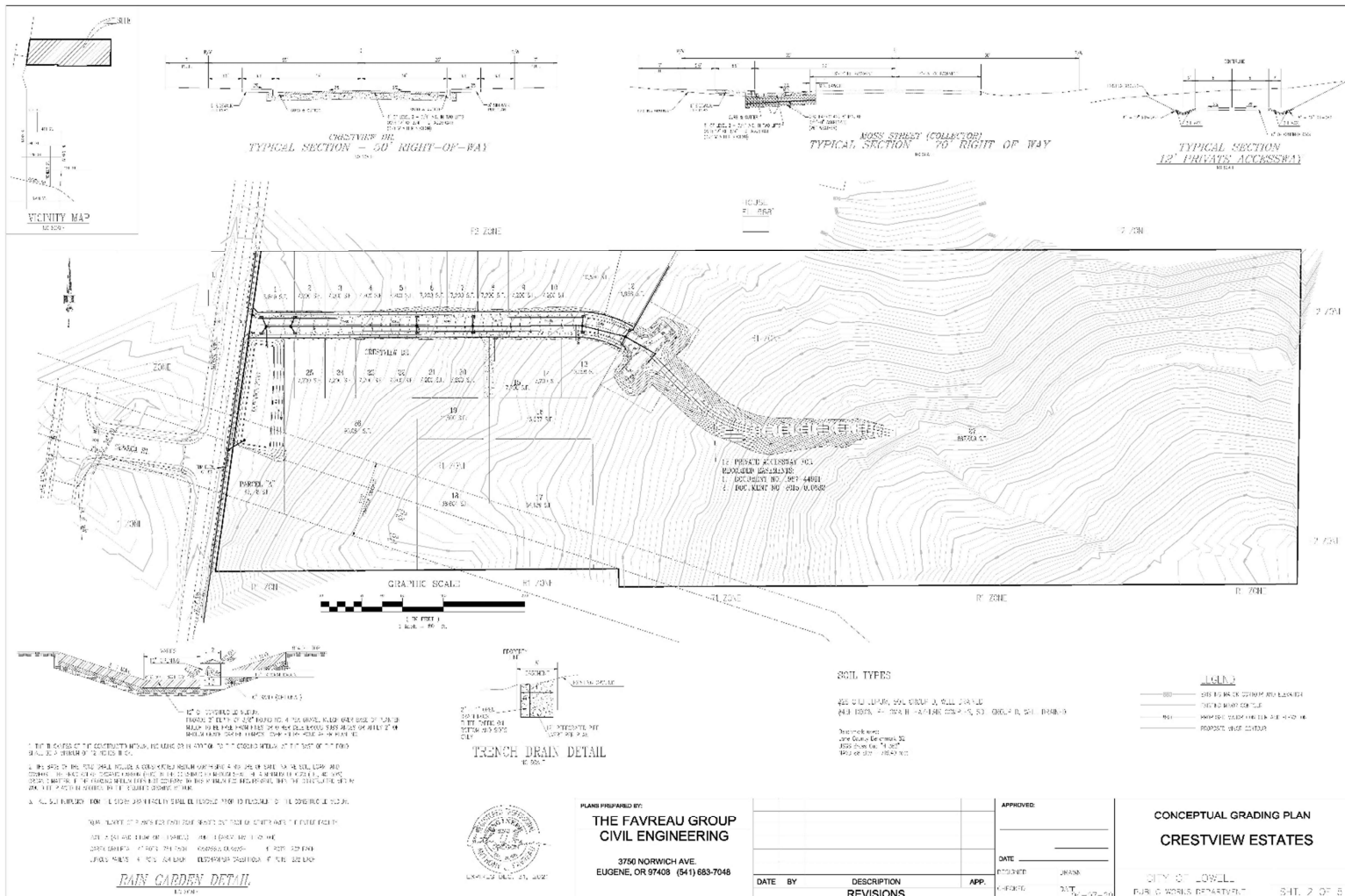
- Property owned by McDougal Bros
- 26 Lot Subdivision
- Area above will remain unsubdivided (Phase 2)
- Zoned R-1. Single-family home site development.
- Currently vacant. Consists of wooded/treed areas and grasses.
- Next – Overview of Sheets showing proposed development.



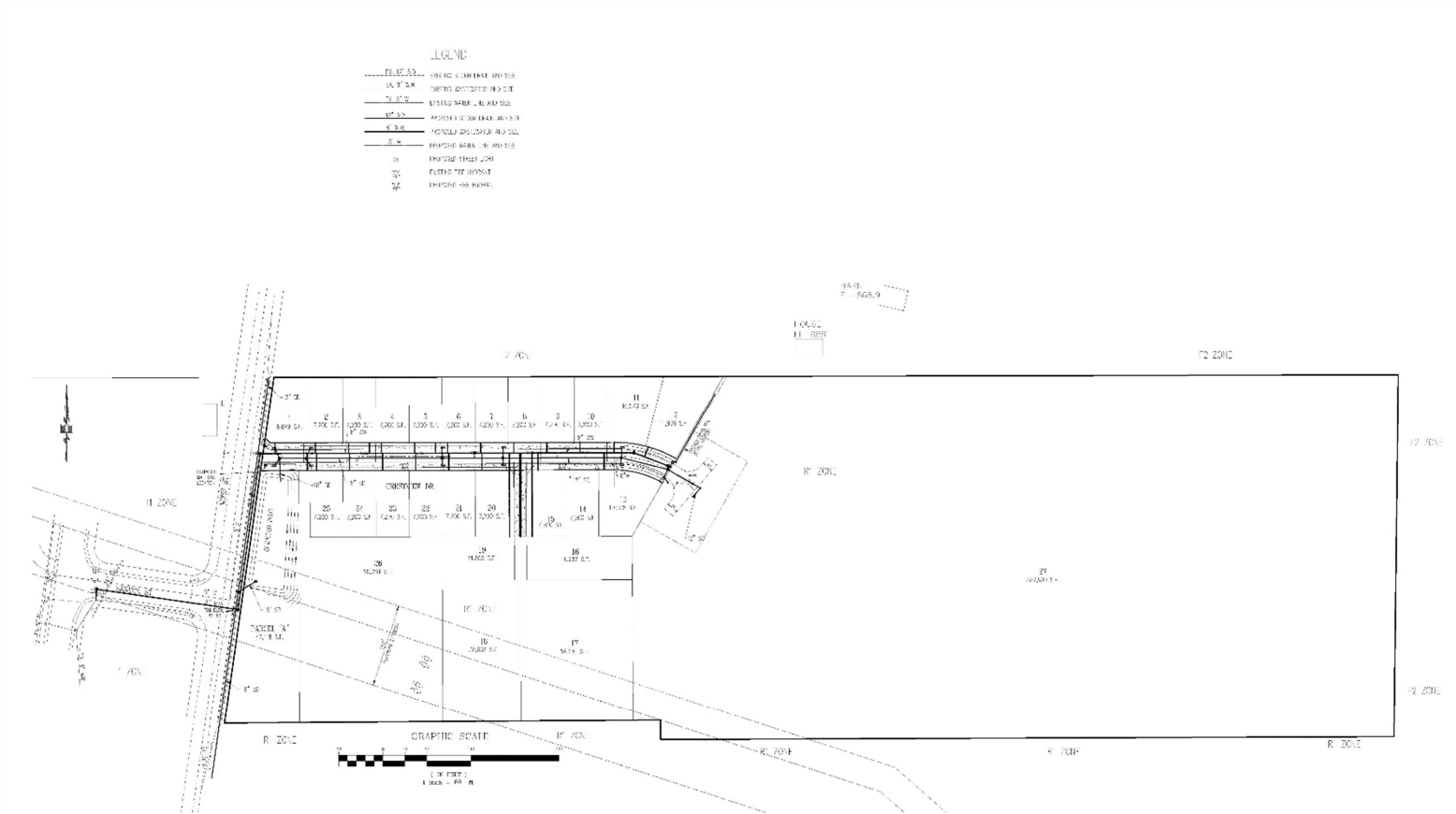
Sheet 1 - Tentative Map



Sheet 2 - Grading Plan



Sheet 3 - Utility Plan



SOIL TYPES
SEE CIVIL ENGINEER'S REPORT FOR SOIL TYPES AND
449 100% PHOTOGRAPHIC AIR PHOTOGRAPHY (DATE)

TRENCH DRAIN DETAIL
1:10



PLANS PREPARED BY:
THE FAVREAU GROUP
CIVIL ENGINEERING
3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

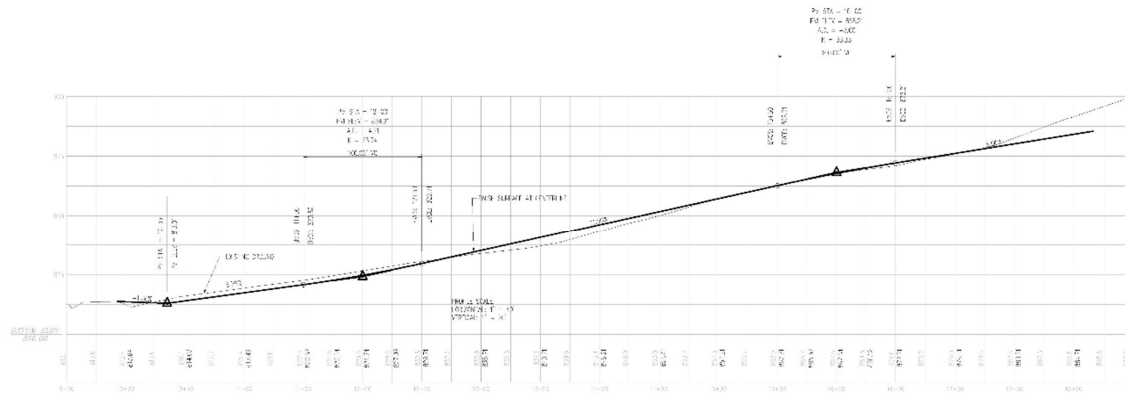
DATE	BY	DESCRIPTION	APP.
		REVISIONS	

APPROVED
DATE

UTILITY PLAN FOR
MCDUGAL PROPERTY

CITY OF LOWELL
PUBLIC WORKS DEPARTMENT
SHT. 3 OF 5

Sheet 4 - Profile Plan



SBL TYP 5

DESIGNED BY: J. J. ...
 DATE: ...



PLANS PREPARED BY:
THE FAVREAU GROUP
 CIVIL ENGINEERING
 3750 NORWICH AVE.
 EUGENE, OR 97408 (541) 683-7048

DATE	BY	DESCRIPTION

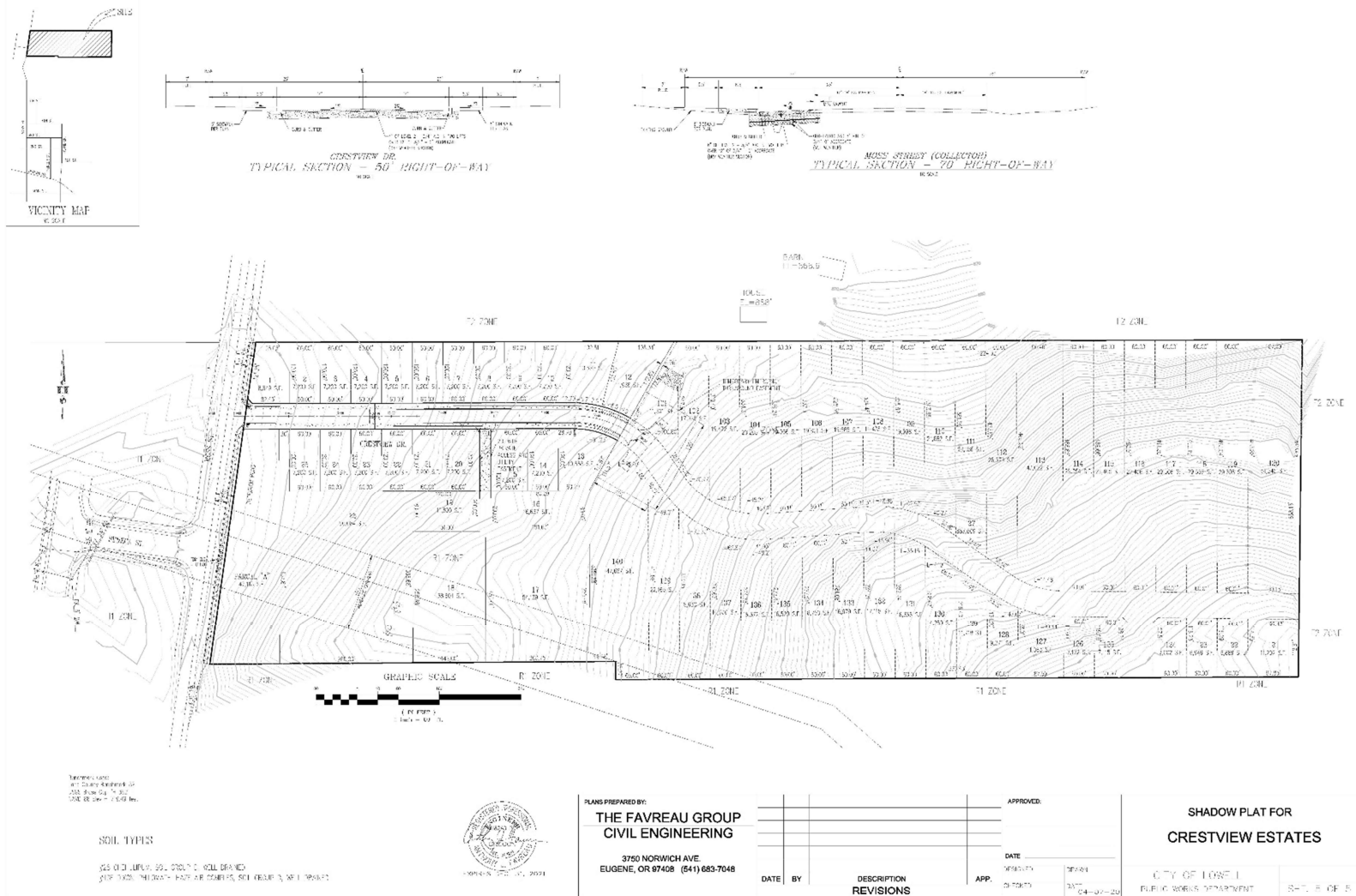
DATE	APP.

STREET PROFILE
 CRESTVIEW ESTATES

CITY OF EUGENE
 PUBLIC WORKS DEPARTMENT

SI 4 01 0

Sheet 5 - Shadow Plat



Notes:
 1. All utility lines shown on this plan are assumed to be as shown unless otherwise noted.

SOIL TYPES

SEE CITY OF EUGENE, OREGON'S SOIL SERIES MAP FOR SOIL TYPES AND SOIL CLASSIFICATION. SEE CITY OF EUGENE, OREGON'S SOIL SERIES MAP FOR SOIL CLASSIFICATION.



PLANS PREPARED BY:
THE FAVREAU GROUP
 CIVIL ENGINEERING
 3750 NORWICH AVE.
 EUGENE, OR 97408 (541) 683-7048

DATE	BY	DESCRIPTION	REVISIONS

APPROVED:
 DATE: 08/20/24
 APP. BY: [Signature]

**SHADOW PLAT FOR
 CRESTVIEW ESTATES**

CITY OF EUGENE
 PUBLIC WORKS DEPARTMENT
 SHEET 5 OF 5

Applicable Approval Criteria

- Section 9.204 Application Site Plan.
- Section 9.223 General Information.
- Section 9.220 Subdivision or Partition Tentative Plan.
- Section 9.224 Existing Conditions Information.
- Section 9.228 Decision Criteria.
- Section 9.230 Subdivision or Partition Plat.
- Section 9.516 Access.
- Section 9.517 Streets.
- Section 9.518 Sidewalks.
- Section 9.519 Bikeways.
- Section 9.520 Storm Drainage.
- Section 9.521 Water.
- Section 9.522 Sanitary Sewer.
- Section 9.523 Utilities.
- Section 9.630 Hillside Development.
- Section 9.524 Easements.
- Section 9.805 Improvements Agreement.
- Section 9.806 Security.
- Section 9.807 Noncompliance Provisions.
- Section 9.231 Submission Requirements.
- Comprehensive Plan Policies: Housing Need Policy (c) 4 & 5; Development Constraints (c) (1) & (2).

Recommendation

- Staff find the proposal can be approved with the findings and conditions contained in the staff report.
- A recommendation for approval is based on the following conditions of approval.
- Planning Commission can make a motion to recommend approval to City Council for final action.



Conditions of Approval

- **Condition of Approval #1:** Prior to final plat approval, applicant shall submit a final drainage plan, to the City Administrator for review and approval to ensure adequate drainage can still be attained after reviewing more detailed construction and drawing plans. If the final drainage plan causes changes to the tentative map as approved, the changes shall be presented to Planning Commission and City Council for consideration, prior to final plat approval.
- **Condition of Approval #2:** Prior to final plat approval, the applicant shall include on the final plat and construct a right-hand turn lane as indicated in the referral comments by Lane County Transportation. See Attachment D for Lane County Transportation referral comments. Additionally, see Attachment S for Lane County Urban Collector Standards and a Sketch of North Moss Street.



Conditions of Approval

- Conditions of Approval #3: The applicant shall record and execute a “Farm/Forest Management Easement” with Seneca Timber, as indicated in Attachment O, wherein the applicant acknowledges and accepts the activities, including but not limited to, noise, dust and general incompatibility with nearby residential homes. Evidence shall be submitted to the City showing compliance with this condition, prior to final plat approval.
- Condition of Approval #4: Given the subject site’s close proximity to active forest management operations and adjacent to the Farm/Forest Interface, future buildings shall be constructed with fire-resistant materials and for chimneys to have spark arrestors. This requirement shall be included on the final plat as a plat note. These provisions address a significant and unreasonable risk to health and safety as contemplated in subsection (h) of the decision criteria for a subdivision.



Conditions of Approval

- Condition of Approval #5: Prior to final plat approval, the applicant/developer shall construct sidewalks, including curb and gutter along both sides to Crestview Drive. Sidewalks shall be inspected for compliance with Lowell standards by the City of Lowell before acceptance.
- Condition of Approval #6: Prior to final plat approval and acceptance of urban public street improvements, the applicant shall install urban public street improvements to City standards.
- Condition of Approval #7: Prior to final plat approval, the applicant shall submit plans to the City Administrator or his or her designee, showing slope easements as required where topographical conditions necessitate cuts or fills for proper grading of streets, additional right-of-way or slope easements.



Conditions of Approval

- Condition of Approval #8: Prior to final plat approval, the applicant shall show 1-foot reserve strips on the final plat. The land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed. Additionally, a locked gate shall be placed at the beginning of the private access easement to ensure access is maintained as described in the private access easement and a “No Parking” sign placed at the hammerhead turnaround.
- Condition of Approval #9: Prior to final plat approval, the applicant shall install the half-street improvements along the frontage of the property, as recommended in Attachment D. Half-street improvements shall include sidewalks, curb and gutter. City of Lowell shall inspect improvements for compliance with City Standards and/or Lane County Standards as appropriate, prior to acceptance.
- Condition of Approval #10: Prior to final plat approval, applicant shall submit evidence to the City Administrator or his or her designee, that the proposal complies with the street name signs standards as listed in the LDC.



Conditions of Approval

- Condition of Approval #11: Prior to final plat approval, applicant shall submit evidence to the City Administrator of his or her designee, that the proposal complies with streetlights standards as listed in the LDC.
- Condition of Approval #12: Prior to final plat approval, the applicant shall provide evidence that the proposed mailbox structure has been approved by the local Post Office having jurisdiction and shall be noted on the plan as a plat note.
- Condition of Approval #13: Prior to final plat approval, plans for compliance with Clear Vision Areas shall be presented to the City Administrator or his or her designee and reviewed and verified for compliance with the Clear Vision Areas standards as listed in the LDC 9.517(r).



Conditions of Approval

- Condition of Approval #14: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator or his or her designee evidence of an approved NPDES permit.
- Condition of Approval #15: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator, or his or her designee, plans for the proposed detention pond as seen on Sheet 1 as "Parcel A" plans that include a low flow pipe at the invert that will completely drain the basin without any effort from the City. Slide slopes should be 3:1 maximum, and 4:1 if it's going to be mowed by Public Works staff. Lastly, there should be drivable access to the detention pond, so if the City needs to perform maintenance, an excavator can easily access it.



Conditions of Approval

- Condition of Approval #16: The utilities plan as seen on Sheet 3 is preliminary and for tentative map approval. A final utilities plan, consistent with LDC 9.521, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.
- Condition of Approval #17: The utilities plan as seen on Sheet 3 is preliminary and provided for tentative map approval. A final utilities plan, consistent with LDC 9.522, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.
- Condition of Approval #18: Prior to final plat approval, the applicant shall include all easements, dedications, covenants, conditions or restrictions along with any supplemental data for review by the City Administrator or his or her designee. Easements shall be consistent with Lane County recording requirements and procedures and ORS 92.



Conditions of Approval

- Condition of Approval #19: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit specific construction plans for review and approval by the City Administrator, or his or her designee. Plans submitted shall be consistent with the Hillside Development Standards listed in LDC 9.632
- Condition of Approval #20: Prior to final plat approval, the applicant shall submit for review and approval by the City Administrator, or his or her designee, a final Surveyor's Report as indicated in and consistent with subsection (a) of LDC 9.633.
- Condition of Approval #21: The Soils and Geology Report shall be reviewed and approved by Planning Commission and City Council, after tentative plat approval, but prior to final plat approval. Soils and Geology Report shall be consistent with the standards and specifications as listed in LDC 9.633 (b) (1) and (2).



Conditions of Approval

- Condition of Approval #22: Prior to any site preparation, grading or fill, the applicant shall submit for review and approval by the City Administrator or his or her designee, Engineer's Plan, 1 through 5 as indicated in LDC 9.633 (c) (1-5).
- Condition of Approval #23: Prior to final plat approval, the applicant shall submit final copies of each individual lot survey, geotechnical report, and development engineering plans for the City's record keeping purposes. Additionally, Prior to the issuance of certificate of occupancy for the proposed residential lots, evidence shall be submitted to the City Administrator that shows compliance with subsection (d) of LDC 9.633 with the purchaser of each respective lot receive a copy as described above.
- Condition of Approval #24: Prior to final plat acceptance and approval by the City, the final plat submitted by the applicant shall include the requirements listed in LDC 9.236 and include a plat note on the final plat stipulating that no platted lot may provide legal or physical access to the unsplit remainder.

Conditions of Approval

- Condition of Approval #25: Prior to final plat approval, the applicant and/or developer shall enter into an agreement, with the City of Lowell, consistent with the specification of LDC 9.805.
- Condition of Approval #26: Prior to final plat approval, the applicant shall provide the City Administrator evidence showing that the requirements as listed in LDC 9.806 are satisfied and an agreement has been reached between the applicant and the City.

Conditions of Approval

- Condition of Approval #27: In the process of completeness review and further discussion with the applicant, there are several items that remain to be reviewed and approved by the City Engineer. Between the City and applicant, it was determined the items could be discussed, reviewed and approved during the construction drawing phase, as they relate to more engineering specifics. Staff have included these items as conditions of approval that shall be satisfied after tentative map approval and addressed during the construction drawing phase and ultimately approved by the City Engineer, prior to final plat approval or the issuance of building permits. The items and comments that need addressed between the applicant's engineer and City Engineer as included in this staff report as Attachment E and incorporated as Condition of Approval # 27. Condition of Approval #28 can and will be considered satisfied by verbal or written communication from the City Engineer that all engineering related items have been sufficiently addressed by the applicant's engineer, as contained in the City Engineer's comments dated September 19, 2019 and incorporated herein as Attachment E.

Conditions of Approval

- Condition of Approval #28: Prior to final plat approval, the applicant shall submit a final plat that shows “Lot 27” removed and replaced with “un-subdivided remainder.” The land east of the proposed Crestview Drive is the un-subdivided remainder and is not a part of the subdivision proposal.
- Condition of Approval #29 From Lane County Transportation: Obtain Facility Permit approval for the proposed construction of the public street connection to and improvements to N. Moss Street. Facility Permit needed for any utility connections within the right-of-way of N. Moss Street. For more information about Facility Permits, please call 541.682.6902 or visit: https://lanecounty.org/government/county_departments/public_works/right-of-way_permits/facility_permits/

Questions of City Staff?

- Applicant will have an opportunity to speak about proposal

**Staff Report
Subdivision
Assessor's Map 19-01-11-00, Tax Lots 501
McDougal Bros Investments
LU 2019-06
Staff Report Date: April 7, 2020**

Referrals: Lane County Transportation Planning, Oregon Department of Transportation, and Civil West Engineering, Lowell Rural Fire Protection District

Mailed Notice: March 17, 2020

Staff Report Date: April 7, 2020

Planning Commission
Public Hearing: April 14, 2020

City Council
Public Hearing: April 21, 2020

BASIC DATA

Application Request: Subdivision

Agent: The Favreau Group
Attn: Anthony Favreau, P.E.
3750 Norwich Ave
Eugene, OR, 97408

Property Owner: McDougal Bros Investment
600 Dale Kuni Road
Creswell, OR, 97426

Location: East of Seneca Street. No Addresses Assigned

Assessors map: 19-01-11-00

Tax lot: 501

Area: 30.59 acres

Plan Designation: Low Density Residential

Zoning: R-1 Single-Family Residential District

1. **Proposal.** The Planning Commission is being asked to review and render a recommendation onto City Council for final action, on a 26 lot subdivision for property located at Assessor's Map 19-01-11-00, Tax Lot 501. The remaining area shown above the 26 lots will be renamed to "unsubdivided remainder." The subject property is owned by McDougal Bros Investments, and the agent listed on the application is Anthony Favreau, PE, of The Favreau Group. The subject property is zoned R-1 Single Family Residential. The subject property currently is vacant and consists of wooded/ treed areas and grasses and is 30.59 acres in size. The applicant is proposing to create 26 lots as shown on the tentative map. Lots 1-26 are intended to be platted for future single-family home development.

2. **Issues / Items of Note.** Staff have identified several issues for Planning Commission and City Council to be aware of at the outset of this staff report and accompanying staff presentation. All issues and associated applicable approval criteria are further addressed in the body of the staff report.
 - Current height limit on availability of city water service is right around 880-900 feet elevation. The lots seen on the tentative map as phase 1 are all currently serviceable by city water.

 - A Traffic Impact Analysis (TIA) was required by Lane County Transportation as part of staff's referral comment to affected agencies. Lane County Transportation required the TIA in order for the applicant to utilize county right-of-way to access the proposed subdivision via North Moss Street. Lane County Transportation traffic engineers concurred with the conclusion of the applicant's TIA that the development would not cause congestion to nearby intersection operated by Lane County. However, Lane County and the City will require a cul-de-sac, or hammerhead, or similar approved, turnaround at the end of the proposed right-of-way that extends into the subdivision. This turnaround is for fire and emergency services. Additionally, Lane County Transportation did find that high speeds on North Moss Street is a concern for accessing the proposed driveway into the subdivision. As such, Lane County Transportation recommends accommodating a 50-foot long turn lane as part of the frontage development by increasing the proposed 5-foot extension to an 8-foot wide extension on the east side of North Moss Street. This recommendation for a 50-foot long turn lane is not a condition of approval requested by Lane County. However, recently, in discussions with Lane County and the applicant, the applicant has agreed to provide the right-hand turn lane and shall be shown on a revised tentative plat. See **Attachment D** for Lane County Transportation Comments.

 - The City Engineer has reviewed the most recent tentative plat and associated maps, submitted by the applicant on February 5, 2020 and has determined changes to be minimal. As a result, much of the City Engineer's September 19, 2019 comments on the proposal remain in effect. The City Engineer approved the tentative plans, but work remains to be done following tentative approval. A list of the comments by the City Engineer can be found in **Attachment E**. Resolution of the City Engineers comments and concerns will be required prior to final plat approval.

 - A wetland delineation was completed by Schott & Associates for the subject property

(see **Attachment F**.) Within the study area, three ditches were identified. The ditches are exempt per OAR 141-085-0515(8) and -0515(10); and therefore, they are not subject to the current state Removal-Fill requirements. See **Attachment G** for DSL concurrence letter.

- While the applicant has indicated in their written narrative that retaining walls are not proposed, it is now anticipated that retaining walls are highly likely to be required in approved construction plans as well as building stem walls in order to fit homes on lots. See **Attachment H**
 - The Master Road Plan map of Lowell shows future public right-of-way extending past phase 1 of the project and through phase 2. The applicant's shadow plat accurately depicts this future right-of-way as part of phase 2. As stated earlier, phase 2 currently cannot be developed for single family homes because city water cannot reach these lots. Per LDC, Section 9.521, Water, all new development must connect to the public water system unless specifically approved otherwise as part of a development approval for parcels exceeding 5 acres in size. Additionally, the Planning Commission or City Council may limit, restrict or deny development approvals where a deficiency exists in the water system. In order for city water to be delivered to service the lots shown in shadow plat of phase 2, a booster pump station would be required (a booster pump is not proposed). See Sheet 5, **Attachment M** for the applicant's shadow plat of phase 2.
 - Hillside Development Standards may apply to certain areas on the subject property. The applicant has stated that slopes of 15 percent and greater do exist across the property. A Geotech report will be required. See **Attachment N** for supplemental written narrative.
 - To staff's knowledge, the LRFPD has not issued any official comment or given indication that the Department's vehicles cannot safely navigate the proposed grades, as seen on Sheet 4 (**Attachment L**), of Crestview Drive. This issue can be brought up and addressed during the public hearing(s), if required.
 - Comments from Seneca Timber Company addressed under decision criteria for subdivision. See **Attachment O** for Seneca Timber comment
 - Comments from Mia Nelson, Lookout Point LLC. See **Attachment P** for comment.
2. **Approval Criteria.** Section 9.204 Application Site Plan. Section 9.223 General Information. Section 9.220 Subdivision or Partition Tentative Plan. Section 9.224 Existing Conditions Information. Section 9.518 and Section 9.228 Decision Criteria. Section 9.230 Subdivision or Partition Plat. Section 9.516 Access. Section 9.517 Streets. Section 9.518 Sidewalks. Section 9.519 Bikeways. Section 9.520 Storm Drainage. Section 9.521 Water. Section 9.522 Sanitary Sewer. Section 9.523 Utilities. Section 9.630 Hillside Development. Section 9.524 Easements. Section 9.805 Improvements Agreement. Section 9.806 Security. Section 9.807 Noncompliance Provisions. Section 9.231 Submission Requirements. Comprehensive Plan Policies: Housing Need Policy (c) 4 & 5; Development Constraints (c) (1) & (2). Notice of

decision will be sent to the applicant, and parties of record.

3. Staff review of applicable criteria for subdivision.

LDC 9.204 Application Site Plan

Recommended FINDING for approval: The applicant has submitted the necessary information as required for an application site plan, and application narrative in order for Staff to make findings on the proposal. Criterion met.

LDC 9.220. Subdivision or Partition Tentative Plan

(a) The Planning Commission shall have the authority to review and approve Land Partitions and the City Council, with recommendation from the Planning Commission, shall have the authority to review and approve all Subdivisions, under the provisions of this Code.

(b) In the event that a single land use application requires more than one decision, the highest deciding authority will make all decision requested in the application.

Discussion: The requested land use actions are subdivision and variance. As such, per LDC, the proposal will go through a two-step land use process: a public hearing in front of Planning Commission for a recommendation and a public hearing in front of City Council for decision/final action. The requested variance will be included in the decision.

Recommended FINDING for approval: The City of Lowell has followed the required processes for approval of a subdivision. The proposal will receive a recommendation from Planning Commission which will be forwarded onto City Council for decision/final action. The requested variance will be decided on in the same manner as the subdivision. Criterion met.

LDC 9.223. General Information.

(b) No Tentative Plan shall be approved which bears a name using a word which is the same as, similar to or pronounced the same as a word in the name of any other subdivision in the same county, except for the words "town," "city," "place," "court," "addition," or similar words, unless the land Platted is contiguous to and Platted by the same party that Platted the subdivision bearing that name or unless the party files and records the consent of the party that Platted the subdivision bearing that name. All Plats must continue the lot and block numbers of the Plat of the same last filed.

Discussion: The tentative map, as seen on Sheet 1, submitted by the applicant on February 5, 2020, lists "Crestview Estates" as the proposed subdivision name which is not the same as, similar to or pronounced the same as any other subdivision in Lane County. Staff find this criterion met.

Recommended FINDING for approval: The tentative map submitted by the applicant on February 5, 2020, lists "Crestview Estates" as the proposed subdivision name, which is not the same as, similar to or pronounced the same as any other subdivision in Lane County. Staff find this criterion met.

LDC 9.224 Existing Conditions Information.

- (a) The location, widths and names of both opened and unopened streets within or adjacent to the land division, together with easements, other rights-of-ways and other important locational information such as section line, corners, city boundary lines and monuments.***

Discussion: As seen on Sheets 1 through 5, the applicant has identified the required information in order for staff to make an informed recommendation to Planning Commission. The proposal will involve the creation of a new street that is approximately 28-feet in width that will terminate at the end of phase 1, adjacent to Lots 12 and 13. The applicant has identified one easements involved in phase 1: 5-foot private drainage easement running the length of the eastern property boundary of Lot 12. The applicant has recently discovered two private access easements that exist on the unsubdivided remainder portion of the subject property. The two private access easements are used for logging purposes. The private access easements are not for the purposes of any building, structure or residential development. See **Attachment Q** for copies of the private access easements. The proposed tentative plan and associated sheets include the necessary information.

- (b) The location of all existing sewers, septic tanks and drain fields, water lines, storm drains, culverts, ditches and utilities, together with elevation data, on the site and on adjoining property or streets, if applicable.***

Discussion: The applicant’s engineer has displayed existing and proposed utilities, including storm drain, wastewater and water line as seen on Sheet 3 (**Attachment K**). Currently, there is little to no existing infrastructure in place. There will be a detention pond, seen as Parcel “A” on the tentative maps. The City has requested the applicant design a detention pond that is reasonably “low maintenance” as the City will be taking over long-term ownership and maintenance after acceptance. The applicant proposes to connect to all city services.

Recommended FINDING for approval: The applicant has submitted the necessary information as required in Section 9.224 for a subdivision as seen on Sheets 1 through 5 (**Attachments I through M**). Criterion met.

LCD 9.225 Proposed Plan Information.

...

- (c) The location, width, and purpose of existing and proposed easements.***

Discussion: As seen on Sheet 1, the applicant is proposing two easements associated with the proposed subdivision: a 20-foot wide emergency turnaround easement located between Lots 20 and 15 and a 5-foot wide private drainage easement along the eastern property boundary of Lot 12. The applicant is also proposing a detention pond to deal with storm water run-off as seen on Sheet 1 as Parcel “A”. All easements associated with the proposal should be included on the final plat and recorded and filed in accordance with ORS 92, and Lane County. The general requirement for the proper recording of all easements in accordance with ORS 92 and Lane County will be a condition of approval.

(d) The total acreage and the proposed land use for the land division including sites for special purposes or those allocated for public use.

Discussion: The total acreage of the subject property is 30.59 acres. Phase 1 of development consists of the creation of 26-Lots and Parcel “A” for a detention pond. The 26 Lots and Parcel “A” comprise approximately 9 acres. The lots included in phase 1 will be developed for single family homes. Other than Parcel “A” for a detention pond and the addition of sidewalks on both sides of the street, there are no other sites for special purposes or public use, per the applicant’s sheets 1 through 5. The applicant has appropriately represented this information on Sheets 1 through 5.

(e) The location and approximate location dimensions of lots or parcels and the proposed lot or parcel numbers. Where the property division results in any lots or parcels that are larger than 2 and one-half times the minimum lot size, the applicant shall provide a sketch plan showing how the parcels may be re-divided in the future to provide for at least 80% of maximum density within current minimum lot sizes, existing site constraints and requirements of this Code.

Discussion: The proposed subdivision is to create 26 single family residential lots as seen on Sheet 1. Lot 27 is included on the tentative map but is part of Phase 2 and residential development on Phase 2 is not anticipated as city water currently cannot adequately serve those parcels. The applicant’s engineer did provide a shadow plat because Lot 27 (listed under Phase 2) will be larger than 2.5 times the minimum lot size. The shadow plat, as seen on Sheet 5 (**Attachment M**), shows the addition of 39 lots as well as the extension of Crestview Drive and eventual connection south to planned and existing right of way. The extension and connection of Crestview Drive to the south is consistent with the Lowell Master Road Map.

...

(g) a general layout of all public utilities and facilities to be installed including provisions for connections and extensions beyond the proposed land division.

Discussion: A general layout of all public utilities and facilities to be installed has been shown on Sheet 3. The applicant proposes to connect to city services for lots 1-26. Included on Sheet 3 (**Attachment K**) are proposed connections to utilities along North Moss street, just outside of the proposed subdivision as well as a proposed mailbox for future residents located near the north east corner of Parcel “A”.

(h) The proposed method of connection to all drainage channels located outside of the proposed land division and the proposed method of flood control (retention ponds, swales.) and contamination protection (settling basins, separators, etc.)

Discussion: Currently, a portion of the drainage on the subject property drains to the southwest corner and another portion drains to the south. The applicant is proposing a 5-foot trench drain easement along the eastern property boundary of Lot 12 and a detention pond seen as Parcel “A” to deal with drainage on the subject property. See **Attachment R** for the applicant’s drainage study.

(i) Identification of all proposed public dedications including streets, pedestrian or bike

ways, parks or open spaces.

Discussion: As seen on Sheet 1, the proposed subdivision will create a new street, called Crestview Drive. Crestview Drive will become public dedication once accepted by the City. The applicant will also be installing public sidewalks on both sides of Crestview Drive. The detention pond at Parcel “A” will turn over to city-owned once completed because it serves multiple lots.

(j) Identification of any requirements for future streets and easements required for extension of public infrastructure beyond the development together with restrictions on building within those future streets and easements as well as future setback areas required by this Code.

Discussion: Crestview Drive will be a newly created street as part of the proposed subdivision and will be dedicated as city public right-of-way after completion and acceptance by the City. The future extension of Crestview Drive into Phase 2 is not part of this proposal but is shown on the shadow plat on Sheet 5 (**Attachment M**). The future extension of Crestview Drive into Phase 2 and to the south to connect with existing and planned city streets is consistent with the Lowell Master Road Map. Further dedication requirements, including the requirement of 1-foot buffer strips, and street requirements will be addressed later in this staff report under Section 9.517 Streets and Section 9.236 Dedication Requirements.

(k) Identification and layout of all special improvements. Special improvements may include, but are not limited to, signs, lighting, benches, mailboxes, bus stops, greenways, bike or pedestrian paths.

Discussion: Staff have identified only one special improvement seen on Sheets 1 through 5: a mailbox to serve the future residents of the proposed subdivision to be placed near the northeast corner of Parcel “A”.

Recommended FINDING for approval: The applicant has submitted the necessary information, as seen on Sheets 1 through 5, and in the application narrative, for staff to determine the necessary criteria contained in LDC 9.225 are met, or can be met conditionally, where applicable. Criterion met.

LDC 9.226 Accompanying Statements. The Tentative Plan shall be accompanied by written statements from the applicant giving essential information regarding the following matters:

- (a) Identify the adequacy and source of water supply including:*
- (1) Certification that water will be available to the lot line of each and every lot depicted on The Tentative Plan for a subdivision, or;*
 - (2) A bond, contract or other assurance by the applicant that a public water supply system will be installed by or on behalf of the applicant to each and every lot depicted on the Tentative Plan.*

Discussion: The applicant’s engineer has indicated in their written narrative, dated August 21, 2019 (**Attachment A**), that city water and sewer will be available for lots 1-26 and a bond, contract or other assurance will be required on behalf of the developer. Bonds on public infrastructure will

be further discussed later in this staff report under Section 9.805, Improvement Agreements.

(b) Identify the proposed method of sewage disposal including:

- (1) Certification that a sewage disposal system will be available to the lot line of each and every lot depicted on the Tentative Plan for a subdivision, or;***
- (2) A bond, contract or other assurance by the applicant that a public water supply system will be installed by or on behalf of the applicant to each and every lot depicted on the Tentative Plan.***

Discussion: See Staff’s discussion above in response to LDC 9.226(a).

(c) Protective covenants, conditions and deed restrictions (CC&R’s) to be recorded, if any.

Discussion: Any additional CC & Rs, will be identified and recorded at the time of final plat filing.

(d) Identify all proposed public dedications including streets, pedestrian or bike ways, parks or open space areas.

(e) Identify all public improvements proposed to be installed, the approximate time installation is anticipated and the proposed method of financing. Identify required improvements that are proposed to not be provided and the reason why they are not considered necessary for the proposed land division.

Discussion: The applicant is proposing dedication of Crestview Drive, once completed and accepted by the City. Crestview Drive will be a 50-foot wide public right-of-way that includes sidewalks on both sides. Additionally, the storm water detention pond seen as Parcel “A” on Sheet 1 will be constructed by the applicant and once completed and accepted, turned over to the City of Lowell for long-term maintenance. The applicant is also proposing to install the following: streetlights, water system, sewage disposal system, and communication lines. The applicant is proposing self-financing and construction is anticipated to begin in summer 2020. The applicant has indicated in its narrative that no bike ways (there is sufficient width on North Moss Street for a bikeway), parks or open space dedications are part of the proposal. See **Attachment A** for written narrative dated August 21, 2019.

(f) A statement that the declarations required by ORS 92.075 on the final plat can be achieved by the fee owner, vendor and/or the mortgage or trust deed holder of the property.

Discussion: The applicant has indicated that the declarations required by ORS 92.075 can be achieved by the fee owner. Prior to issuance of building permits, the property owner shall submit the final plat in accordance with ORS 92.075.

Recommended FINDING for approval (LDC 9.226 ((a)-(e)): The applicant has submitted the necessary information, as seen on Sheets 1 through 5, and in the written narrative, for staff to determine the necessary criteria contained in LDC 9.226 are met, or can be met conditionally, where applicable. Criterion met.

LDC 9.227 Supplemental Information. Any of the following may be required by the City,

in writing to the applicant, to supplement the Tentative Plan.

(d) If lot areas are to be graded, a plan showing the nature of cuts and fill and information on the character of the soil.

Discussion: The applicant's engineer has submitted a preliminary grading plan as seen on Sheet 2. As indicated in the applicant's response to completeness items, dated September 20, 2019, the applicant does not intend to perform any grading as part of this subdivision process. The applicant intends to sell the finished lots to home builders and it will be up to the home builders to develop a building site on each lot. The applicant's engineer recognizes that cuts and fills be necessary and will be done under the supervision of a geotechnical engineer, where appropriate. A Geotech report will be required due to the subject property containing slopes of 15 percent and greater. Additionally, a finalized grading plan will be required. Both of these requirements will be condition of approval and will be further addressed under Section 9.633(b) and (c) (2).

(e) Specifications and details of all proposed improvements.

Discussion: The applicant has shown all proposed improvements on Sheets 1 through 5. The proposed improvements include Crestview Drive with sidewalks on both sides, sidewalks (half-street improvements) along the frontage of Parcel "A" adjacent to North Moss Street, a fire approved turnaround at the terminus of Crestview Drive, and necessary connections for city services. The applicant has indicated a more detailed grading plan for the public infrastructure will be prepared during the construction drawing phase. After tentative map approval, the applicant intends to begin work on the construction drawings for the public infrastructure and once approved the City, start construction on the public infrastructure. A final infrastructure plan will be required as a condition of approval and will be further addressed under Section 9.633 (c)(1).

(f) Wetland delineation if identified as an existing condition in Section 9.224(f).

Discussion: A wetland delineation was completed by Schott & Associates for the subject property. Within the study are, three ditches were identified. The ditches are exempt per OAR 141-085-0515(8) and -0515(10); and therefore, they are not subject to the current state Removal-Fill requirements. See **Attachment G** for DSL concurrence letter.

Recommended FINDING for approval: The applicant has submitted the necessary information, as seen on Sheets 1 through 5, and in the application narrative, for staff to determine the necessary criteria contained in LDC 9.227 are met, or can be met conditionally, where applicable. Criterion met.

LDC 9.228 Decision Criteria. A Partition Tentative Plan may be approved by the Planning Commission and a Subdivision Tentative Plan may be approved by the City Council. Approval shall be based upon compliance with the submittal requirements specified above and the following findings.

(a) That the proposed land division complies with applicable provision of City Codes and

Ordinances, including zoning district standards.

Discussion: The applicant is proposing to create a 26 lot subdivision as being a part of Phase 1 for eventual development of single-family homes. The underlying zoning classification is Single-Family residential and is consistent with the proposal. As seen on Sheet 1, all lots are above the minimum lot size, and lot width. The proposal includes five lots (lots 26, 18,19, 16 and 17) that are panhandle (or “flag lots”). Lot 26 will have 20-feet of frontage on the newly created Crestview Drive and lots 16-19 will share access and have 11-feet of frontage on the newly crated Crestview Drive. LDC Section 9.516 Access calls for every property to abut a street for a minimum of 16-feet, of which 12-foot must be paved, unless where the City approved an access to multiple lots sharing the same access in which case the total width must be at least 16-feet. The applicant’s proposed access for Lots 16-19 can be approved with tentative plat approval. Staff finds the proposal complies with the applicable provision of City Codes and Ordinances, including zoning district standards.

Recommended FINDING for approval: As seen on Sheets 1 through 5 and the applicant’s written narrative, Staff can find the proposed subdivision complies with conditions with applicable provisions of City Codes and Ordinances, including zoning district standards, as discussed. Criterion met.

- (b) Where the property division results in any lots or parcels that are larger than 2 and one-half times the minimum lot size, the applicant shall provide a sketch plan showing how the parcels may be re-divided in the future to provide for at least 80% of maximum density within current minimum lot sizes, existing site constraints and requirements of this Code.*

Discussion: The proposed property division will result in four lots (lots 17, 18, 26, 27), that are larger than 2.5 times the minimum lot size. The applicant did provide a shadow plat, as seen on Sheet 5 (**Attachment M**), to show how Lot 27 could be further subdivided in the future. Further division on lots 17, 18 and 26 are not practicable due to a 150-foot BPA easement that runs through the lots and access is already an issue with the applicant requesting a variance to allow four lots to utilize the same access point.

Recommended FINDING for approval: As shown on Sheet 5, the applicant has provided a shadow plat showing how lot 27 could be further subdivided. As discussed above, further residential development on lots 17,18 and 26 are not expected nor practical for the reasons mentioned above. Criterion met.

- (c) The applicant has demonstrated that the proposed land division does not preclude development on properties in the vicinity to at least 80% of maximum density possible within current minimum lot sizes, existing site conditions and the requirements of this Code.*

Discussion: The proposal will not preclude developed on properties in the vicinity. Crestview Drive will be stubbed and have 1-foot reserve strips placed at the terminus of Crestview Drive. Further development on Lot 27 (now called the “unsubdivided remainder”) is not precluded, but at this time is currently not practicable due to the inability to receive city water above approximately 880 feet. The shadow plat does show the possible extension of Crestview Drive consistent with the Lowell Master Road map.

Recommended FINDING for approval: As discussed above, the proposal does not preclude development on nearby properties. Crestview Drive will be stubbed and have 1-foot reserve strips. The shadow plat, as seen on Sheet 5, shows that development is not precluded, and the possible extension of future rights-of-way is consistent with the Lowell Master Road map. Criterion met.

(d) The proposed street plan:

(1) Is in conformance with City standards and with the Master Road Plan or other transportation planning document.

Discussion: Crestview Drive will become dedicated public right-of-way, complete with sidewalks, once completed and accepted by the City. The Master Road Plan and Map shows a street eventually continuing through lot 27 and connecting with city streets located to the south. The extension of Crestview Drive as seen on Sheet 5 does conform to the Master Road Plan and Map.

(2) Provides for adequate and safe traffic and pedestrian circulation both internally and in relation to the existing City street system.

Discussion: With respect to adequate and safe traffic circulation, there are two issues that need to be addressed. The first issue is that the development shall as a condition of approval include a fire department-approved emergency turnaround for emergency vehicles. The applicant is aware of this issue and has agreed to show the emergency turnaround on the final plat. The applicant has some latitude on what the turnaround looks like but must choose from the list provided by LRFPD. This requirement is from Lane County Transportation and the LRFPD. To staff's knowledge, the LRFPD has not issued any official comment or given indication that the Department's vehicles cannot safely navigate the proposed grades, as seen on Sheet 4, of Crestview Drive. This issue can be brought up and addressed during the public hearing(s), if required. This will be a condition of approval.

The second issue is one identified by Lane County Transportation and included in their comments on the TIA. Lane County Transportation found that high speeds on North Moss Street is a concern for accessing the proposed driveway (Crestview Drive) into the subdivision. As such, Lane County Transportation recommended a provision for a 50-foot long turn lane as part of the frontage development by increasing the proposed 5-foot extension to an 8-foot wide extension on the east side of North Moss Street. As indicated in Lane County Transportation's comments, However, the recommendation for a 50-foot long turn lane is not a condition of approval required by Lane County. Lane County Traffic engineers have communicated to staff that this is something city decision makers will have to decide one. Staff reached out to the applicant regarding this concern and the applicant has indicated that the inclusion of a right-hand turn lane is agreeable and will be provided. This will be a Condition of Approval. See **Condition of Approval #2** under subject (h), on Page 13-14.

(3) Will not preclude the orderly extension of streets and utilities on undeveloped and underdeveloped portions of the subject property or on surrounding properties.

Discussion: The proposal will not preclude the orderly extension of streets. The applicant has revised the tentative map and shadow plat to show Crestview Drive is consistent with the Lowell

Master Road Map. Additionally, the applicant has submitted a revised Sheet 1 and Sheet 2, showing the inclusion of a hammerhead turnaround for emergency services. The grade of the hammerhead turnaround is maximum 8 percent.

Recommended FINDING for approval: Staff finds the above criteria met as discussed and as shown on Sheets 1 and 2 with the newly proposed hammerhead turnaround for emergency vehicles.

- (e) Adequate public facilities and services are available to the site, or if public services and facilities are not presently available, the applicant has demonstrated that the services and facilities will be available prior to need, by providing at least one of the following:*
- (1) Prior written commitment of public funds by the appropriate public agency.*
 - (2) Prior acceptance of public funds by the appropriate public agency of a written commitment by the applicant or other party to provide private services and facilities.*
 - (3) A written commitment by the applicant or other party to provide for offsetting all added public costs or early commitment of public funds made necessary by development, submitted on a form acceptable to the City.*

Discussion: No public funds are requested to install public services. The City has the ability to provide adequate public services. Adequate public facilities are proposed to be constructed in order to deliver city services to lots 1-26, at the applicant's expense. After tentative map approval, the applicant intends to begin drawing construction plans for the public infrastructure improvements, and once approved by the City, begin installing and construction of the required public infrastructure.

Recommended FINDING for approval: No public funds is requested for the required public facilities required for lots 1-26. Adequate public city services are available to lots 1-26. The applicant, at their own expense, will construct the public facilities in order to provide the city services to lots 1-26. Criterion met.

- (f) That proposed public utilities can be extended to accommodate future growth beyond the proposed land division.*

Discussion: All utilities required for the proposal will be installed at the expense of the applicant. As seen in the applicant's written narrative, there are public extensions for city services nearby that the applicant will utilize to extend to lots 1-26. With respect to public facilities beyond the proposed land division, there are deficiencies that make residential development on the unsubdivided remainder a challenge. Presently, city water service is unable to reach elevations needed to provide the unsubdivided remainder (phase 2) with city water; additional infrastructure would be required and is presently not proposed. If needed, the public facilities required for lots 1-26 can be extended and expanded upon in a manner to provide public facilities to the unsubdivided remainder, but that is not proposed.

Recommended FINDING for approval: No future land division, other than what is presented on Sheet 1, is proposed as part of the subdivision. Presently, there are public utility deficiencies in that city water cannot be provided to the unsubdivided remainder of the parent lot, without additional infrastructure and additional infrastructure to provide city water to the unsubdivided remainder, is not presently proposed. The public facilities required for development on lots 1-26 does not preclude future residential development on the unsubdivided remainder and if required could be extended to

accommodate future growth. Criterion met.

- (g) Stormwater runoff from the proposed land division will not create significant and unreasonable negative impacts on natural drainage courses either on-site or downstream, including, but not limited to, erosion, scouring, turbidity, or transport of sediment due to increased peak flows and velocity.*

Discussion: The applicant's engineer has completed and submitted a preliminary drainage study that has been reviewed and preliminary approved by the City Engineer. The proposed development will generally maintain existing flows. The proposed development has been broken up into two separate drainage basins: Basin A and Basin B. Drainage Basin A will consist of piping stormwater into the proposed detention pond on the east side of North Moss Street. Drainage Basin B will utilize an 18" storm drain culvert to direct drainage into an existing drainage basin that flows to the north. Because there are still portions of development and specific construction plans that need to be drawn, submitted and approved by the City Engineer, staff proposes the condition of approval that prior to final plat approval, the applicant shall submit and obtain approval of a final drainage plan from the City Administrator or his designee. This condition is meant to ensure the drainage plan submitted as part of the tentative map approval still meets sufficient drainage requirements once more specific construction plans are submitted. To see the applicant's proposed drainage plan please see **Attachment R**.

Recommended FINDING for approval: The applicant has submitted a drainage plan for the proposed subdivision, and it has been preliminary approved by the City Engineer. However, due to yet-to-be-submitted construction plans, as a condition of approval prior to final plat approval the applicant shall submit a final drainage plan for review and approval by the City Administrator or his or her designee to ensure the plan is still applicable and sufficient after receipt of more detailed construction plans.

Condition of Approval #1: Prior to final plat approval, applicant shall submit a final drainage plan, to the City Administrator for review and approval to ensure adequate drainage can still be attained after reviewing more detailed construction and drawing plans. If the final drainage plan causes changes to the tentative map as approved, the changes shall be presented to Planning Commission and City Council for consideration, prior to final plat approval.

- (h) The proposed land division does not pose a significant and unreasonable risk to public health and safety, including but not limited to fire, slope failure, flood hazard, impaired emergency response or other impacts identified in Section 9.204(u).*

Discussion: The proposed subdivision is not expected to pose a significant and unreasonable risk to public health and safety. However, there are inherent risks involved with the proposal due to hillside development, emergency service access and circulation. There are measures that the City and applicant are taking to address these issues. Regarding the risk to health and safety with respect to emergency vehicle access. Staff, the LRFPD and Lane County Transportation have implemented Condition of Approval #1, listed above, for the requirement of an approved emergency vehicle turnaround.

Planning Commission and Council will need to consider Lane County's recommendation for a right-hand-turn lane off North Moss and onto Crestview Drive from Lane County Transportation due to a

high rate of speed on North Moss. Lane County Transportation is not requiring that as a condition of approval, but the applicant has indicated they are agreeable to the inclusion of a right-hand turn lane on North Moss Street onto Crestview Drive. Lane County Transportation, the City, and the applicant will work together to provide specific engineering standards for the creation of a right-hand turn lane, a starting point for this discussion has been provided in **Attachment S**. The addition of a right-hand turn lane off North Moss onto Crestview Drive will be Condition of Approval #2.

Condition of Approval #2: Prior to final plat approval, the applicant shall include on the final plat and construct a right-hand turn lane as indicated in the referral comments by Lane County Transportation. See **Attachment D** for Lane County Transportation referral comments. Additionally, see **Attachment S** for Lane County Urban Collector Standards and a Sketch of North Moss Street.

In their comments, Seneca Timber brought up concerns regarding having residential development near an active timber site. As a result, Seneca Timber recommended the applicant sign a Forest Management Practices Covenant that recognizes that these operations will be in close proximity to residential homes and residential development. Covenants of this manner are not enforceable by the City. Staff recommend the applicant/developer and Seneca Timber enter into a “Farm/Forest Management Easement” the easement must address adjacent properties. **Staff provide an example of a “Farm/Forest Management Easement” as provided for in Attachment T.** Staff note to Seneca Timber and the applicant that this example is specific to Lane County and the parties shall craft their own easement for recording but are not prohibited from using elements contained in the example. The applicant understands this concern and will implement this “Farm/Forest Management Easement.

With respect to Seneca’s other concerns regarding the proposed subdivision being directly across from a main access point onto Seneca’s timber property, the effects of increased traffic on Moss Street and Seneca Street, and with respect to the suitability to meet the transportation needs of its facility, while adequately providing for human safety and fire protection. Staff point out that Crestview Drive will be barricaded by a locked gate at the start of the identified private access easement to prevent access by unauthorized residents, and a TIA has been completed and the findings contained therein, concurred with by Lane County Transportation, which has jurisdiction of North Moss Street and the recommendations for a LRFPD-approved turnaround and right-hand turn lane have been implemented. Staff find the completion of the TIA and implementation of the recommendations by Lane County Transportation adequately addresses the traffic and safety concerns included in Seneca Timber’s comment. While, the specific building sites have not been determined, once building permits are applied for, the building standards for Lowell City Limits will apply. It is noted Seneca encourages the maximum setbacks and implementation of adequate fuel breaks. Staff will add the recommended condition of approval for future building to be constructed with fire-resistant materials and for chimneys to have spark arrestors. These provisions aid in addressing a significant and unreasonable risk to health and safety as contemplated in subsection (h) of the decision criteria. The requirement for buildings to be constructed with fire-resistant materials and for chimneys to have spark arrestors shall be included on the final plat as a plat note. See **Condition of Approval #4,** below.

Lastly, regarding development on slopes of 15 percent or greater, the applicant will be required to follow the code and development guidelines with respect to hillside development. The applicant is aware that a Geotech and other reports will be required per LDC. This will be a condition of approval.

Recommended FINDING for approval: The proposed subdivision is not anticipated to pose any significant or unreasonable risk to public health and safety. However, the subject site is located near active forest operations and the farm/forest rural interface. The City and applicant are taking measures with respect to emergency vehicle access, high rate of travel on North Moss and Hillside Development to ensure the proposed development is consistent with LDC. Conditions of Approval have been added and decision maker consideration noted where appropriate, to address any potential risks to public health and safety. Staff find the criterion met with the following conditions of approval, as discussed above.

Conditions of Approval #3: The applicant shall record and execute a “Farm/Forest Management Easement” with Seneca Timber, as indicated in **Attachment O** wherein the applicant acknowledges and accepts the activities, including but not limited to, noise, dust and general incompatibility with nearby residential homes. Evidence shall be submitted to the City showing compliance with this condition, prior to final plat approval.

Condition of Approval #4: Given the subject site’s close proximity to active forest management operations and adjacent to the Farm/Forest Interface, future buildings shall be constructed with fire-resistant materials and for chimneys to have spark arrestors. **This requirement shall be included on the final plat as a plat note.** These provisions address a significant and unreasonable risk to health and safety as contemplated in subsection (h) of the decision criteria for a subdivision.

LDC 9.518 Sidewalks. Public sidewalk improvements are required for all land divisions and property development in the City of Lowell. Sidewalks may be deferred by the City where future road or utility improvements will occur and on property in the rural fringe of the City where urban construction standards have not yet occurred. The property owner is obligated to provide sidewalk when requested by the City or is obligated to pay their fair share if sidewalks are installed by the City at a later date. An irrevocable Waiver of Remonstrance shall be recorded with the property to guarantee compliance with this requirement.

Discussion: As per LDC all land divisions in Lowell require public sidewalk improvements to be made. As such, as a result of the proposed subdivision, the applicant will be required to install public sidewalks, including curb and gutter, in accordance with Section 9.518 and the Lowell Standards Documents for engineering and construction. The addition of sidewalks along both sides of Crestview Drive will be a condition of approval.

Recommended FINDING for approval: The creation of a subdivision is a land division that requires the installation of public sidewalks, including curb and gutter along both sides of Crestview Drive. Prior to the issuance of building permits, the applicant/developer shall construct sidewalks, including curb and gutter along both sides to Crestview Drive. Sidewalks shall be inspected by the City of Lowell before acceptance. Criterion met with the following Condition of Approval #5:

Condition of Approval #5: Prior to final plat approval, the applicant/developer shall construct sidewalks, including curb and gutter along both sides to Crestview Drive. Sidewalks shall be inspected for compliance with Lowell standards by the City of Lowell before acceptance.

LDC 9.516 Access.

(a) Every property shall abut a street other than an alley for a minimum width of 16 feet, of which 12 foot must be paved, except where the City has approved an access to multiple lots sharing the same access in which case the total width must be at least 16 feet. No more than two properties may utilize the same access unless more are approved with the tentative plan.

(b) The following access alternatives to Panhandle properties may be approved by the City:

(1) Approval of a single access road easement to serve proposed parcels. The City may require a provision for conversion to a dedicated public road right-of-way at some future date, in which case the easement shall have the same width as a required right-of-way.

(2) Approval of a road right-of-way without providing the road improvements until the lots are developed. This places the burden for road improvements on the City although the City can assess all of the benefiting properties when improvements are provided in the future. As a condition of approval, the City may require an irrevocable Waiver of Remonstrance to be recorded with the property.

(3) Approval of a private road. This approach should only be used for isolated short streets serving a limited number of sites and where future City street alignments will not be needed.

Discussion: The applicant is requesting a variance to the access standards listed above. As seen in Sheet 1, the applicant is proposing two access ways next to each other (each 11-feet in width as seen on Sheet 1) to allow four lots to use both access ways. The overall width is 44-feet with a 20-foot wide paved section. The proposed access for which the applicant is proposing is allowed as indicated in subsection (a) only if approved by the City, in which case the total width must be at least 16-feet. The road right-of-way will and required public improvements will be constructed before the individual lots are prepped for home site construction. The right-of-way and associated public improvements required are anticipated to begin following tentative approval, but after approval of more specific construction drawing plans are approved by the City.

Recommended FINDING for approval: The proposal meets the above access standards with the exception of lots 16-19 of which will take access from two access ways as sheen on Sheet 1 and serve more than two properties. The total width of the accessway for lots 16-19 is 44 feet, which exceeds the minimum width of 16 feet for multiple lots sharing the same access. The proposed access configuration can be approved with tentative plat approval. Criterion met.

LDC 9.517 Streets.

(a) Urban public street improvements including curbs, gutters and storm drainage are required for all land divisions and property development in the City of Lowell. Urban street improvements may be deferred by the City if there is not existing sidewalk or storm drain system to which connection can be made, conditional upon the responsible party agreeing to an irrevocable waiver of remonstrance to a future assessment at the time of construction of a sidewalk which is otherwise required to be constructed.

Discussion: The applicant intends to bear all cost and install all required urban public street improvements consistent with the standards of the City of Lowell. See **Attachment U** for applicant's written narrative to streets.

(b) The location and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and to the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. The arrangement of streets shall either:

(1) Provide for the continuation or appropriate extension of existing principal streets in the surrounding area; or

(2) Conform to a plan for the neighborhood approved or adopted by the City to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical.

Discussion: The proposed subdivision can be designed per the City of Lowell design requirements as seen on Sheet 1 through 5. The submitted shadow plat shows how the proposed street alignment will provide for future extensions to service adjacent properties. Final inspection of street improvements prior to final plat approval and acceptance of improvements will be a condition of approval.

Recommended FINDING for approval: Applicant has shown as seen on the Sheets 1 through 5 that urban public street improvements including curbs, gutters and storm drainage can be constructed to City of Lowell standards. Prior to final plat approval and acceptance by the City, the urban public street improvements shall be inspected by the City of Lowell for compliance. Criterion met with the following Condition of Approval #6:

Condition of Approval #6: Prior to final plat approval and acceptance of urban public street improvements, the applicant shall install urban public street improvements to City standards.

(c) Minimum right-of-way and roadway widths. Right-of-way widths and the paved width of streets and sidewalks shall be as prescribed in the City's most current Standards for Public Improvements. Right-of-way widths may be reduced to that needed only for construction of streets and sidewalks if a minimum of a five-foot utility easement is dedicated on both sides of the right-of-way.

Discussion: The proposed subdivision will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. This proposal meets the City of Lowell's minimum standards. A seven-foot public utility easement (PUE) is seen on Sheet 1. Further inspection of urban public street improvements will be inspected for compliance with Lowell Standards, as presented in Condition of Approval #6.

Recommended FINDING for approval: As shown on Sheets 1 through 5, the proposal meets the minimum right-of-way and roadway widths. Criterion met.

(d) Where conditions, particularly topography or the size and shape of the tract make strict adherence to the standards difficult, narrower developed streets may be approved by elimination of parking on one or both sides of the street and/or elimination of sidewalks on one side of the street.

Discussion: Narrower streets are not proposed. The proposed subdivision will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. Sidewalk is proposed for both sides of the street. This criterion is not applicable.

Recommended FINDING for approval: This criterion is not applicable because all streets proposed meet standard street requirements.

(e) Where topographical conditions necessitate cuts or fills for proper grading of streets, additional rights-of-way or slope easements may be required.

Discussion: The applicant anticipates some slope easements will be required to be used for construction of a slope on certain lots due to topographical conditions. Slope easements are generally used to adjust the elevation difference between adjoining properties. Slope easements will be determined at the time of construction drawings. This will be a condition of approval to be shown on the final plat.

Recommended FINDING for approval: As indicated by the applicant in their written narrative, slope easements will be required due to topographical conditions. Slope easements will be determined at the time of submittal of construction drawings, as such, prior to final plat approval, the applicant shall submit plans for slope easements for review by the City Administrator or his or her designee. Staff find compliance is feasible and this criterion can be met with the following Condition of Approval #7:

Condition of Approval #7: Prior to final plat approval, the applicant shall submit plans to the City Administrator or his or her designee, showing slope easements as required where topographical conditions necessitate cuts or fills for proper grading of streets, additional right-of-way or slope easements.

(f) Reserve Strips: A reserve strip is a 1-foot strip of land at the end of a right-of-way extending the full width of the right-of-way used to control access to the street. Reserve strips will not be approved unless necessary for the protection of the public welfare or of substantial property rights. The control of the land comprising such strips shall be placed within the jurisdiction of the City by deed under conditions approved by the City. In addition, a barricade shall be constructed at the end of the street by the land divider which shall not be removed until authorized by the City. The cost shall be included in the street construction costs by the land divider.

Discussion: Reserve strips will be required at the terminus of Crestview Drive and shall remain in place until Crestview is extended. The control of the land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed under conditions approved by the City. A barricade is not required as there is a 10-foot high slope and due to the fact, there are two existing private access easements located beyond the proposed hammerhead turnaround. In lieu of a barricade, the applicant has suggested a locked gate be placed where the private access easement begins. This will ensure the parties listed in the private access easements maintain access as described in the easements. At the hammerhead turnaround, a “No Parking” sign shall be installed. These will be conditions of approval.

Recommended FINDING for approval: Reserve strips are presently not indicated or shown on the tentative map and shall be required at the terminus of Crestview Drive and shall remain in place until Crestview Drive is extended. The control of the land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed. Additionally, a locked gate shall be placed at the beginning of the private access easement to ensure access is maintained as described in the private access easement. Criterion above met with the following Condition of Approval #8:

Condition of Approval #8: Prior to final plat approval, the applicant shall show 1-foot reserve strips on the final plat. The land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed. Additionally, a locked gate shall be placed at the beginning of the private access easement to ensure access is maintained as described in the private access easement and a “No Parking” sign placed at the hammerhead turnaround.

(g) Alignment: As far as is practicable, streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 260 feet between the center lines of streets having approximately the same direction.

Discussion: As indicated in the applicant’s written narrative response to streets criteria (**Attachment U**), the proposed centerline of the new street (Crestview Drive) is over 260 feet north of Seneca Street to the south.

Recommended FINDING for approval: The applicant’s Sheets 1 through 5 complies with the alignment provision as discussed above and seen on Sheets 1 through 5.

(h) Future Extensions of Streets: Where necessary to give access to or permit a satisfactory future division of adjoining land, streets shall be extended to the boundary of the subdivisions or partition and the resulting dead-end streets may be approved with a turnaround instead of a cul-de-sac. Reserve strips and street plugs may be required to preserve the objectives of street extensions.

Discussion: Crestview Drive is planned in manner to allow future extension. Reserve strips, a locked gate where the private access easement begins, and an emergency turnaround will be placed at the end of Crestview Drive as part of the phase 1 development. A “No Parking” sign will be placed at the emergency turnaround. The future extension of Crestview Drive complies with the Lowell Master Road map.

Recommended FINDING for approval: As discussed, and conditioned elsewhere in this staff report, the proposal complies with the future extension of streets.

(i) Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical except where topography require a lesser angle, but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design.

Discussion: Per the applicant’s written narrative for Streets, the proposed Crestview Drive, intersects North Moss Street at 82 degrees.

Recommended FINDING for approval: As indicated in the applicant’s written narrative and seen

on Sheets 1 through 5, the proposed Crestview Drive is at or near to a right angle to North Moss Street and the intersection angle is 82 degrees. Criterion met.

(j) Existing Streets: Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of approval of the land division or land use approval.

Discussion: Moss St. currently has a half right-of-way width of 35-feet, and 23-feet of width from center line to the proposed face of the curb. The applicant has agreed to provide a right-hand turn lane in addition to sidewalks, curb, and gutter. There remains some discussion regarding how the right-hand turn lane ties in with the half-street improvements. Lane County Transportation has indicated an additional left-hand turn lane (coming from the opposite direction) onto Crestview Drive is desirable, but optional. Staff have requested the attendance of a staff member from Lane County Transportation to be present at the hearing(s) to field any transportation related questions. anticipate Lane County Transportation. With respect to additional right-of-way, see the subsection (k) below for additional improvements.

Recommended FINDING for approval: Additional right-of-way along North Moss Street will be required to accommodate the half-street improvements and the incorporation of a right-hand turn lane. There are no existing streets inside of the proposed subdivision. As discussed herein, staff find the criterion met, or can be met conditionally.

(k) Half Street: Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision or partition when in conformity with the other requirements of these regulations and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is divided. Whenever a half street is adjacent to a tract to be divided, the other half of the street shall be provided within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.

Discussion: Relevant here is Lane County Transportation’s comment regarding the addition of “half street” improvements along the frontage of the property on North Moss Street. Lane County requires half-street improvements along the frontage of the property on N. Moss Street. Lane County interprets “half streets” to mean the addition of curb, gutter and sidewalks, in which the applicant will be required to construct along the frontage of the property on North Moss Street. The improvements are shown on Sheet 1. Crestview Drive, the newly proposed right-of-way for the proposes subdivision will not have half-streets, every lot will abut Crestview Drive, unless otherwise noted. The addition of half-street improvements along the frontage of the property on North Moss Street will be a condition of approval. The half-street standards shall conform to the City of Lowell standards for Urban Collectors, and in the event the City of Lowell does not have standards for half-street improvements for Urban Collectors, then the County standards shall apply. To see a diagram of Lane County Urban Collector standards, please refer to **Attachment S** and to see Lane County Transportation’s comments on the proposal see **Attachment D**.

Recommended FINDING for approval: As discussed above and indicated in Lane County Transportation’s review comments of the TIA, the applicant will be required to install half-street improvements, to include curb, gutter and sidewalks. Additionally, the applicant will be required to install a right-hand turn lane from North Moss Street onto the proposed Crestview Drive. Criterion

met with the following Condition of Approval #9.

Condition of Approval #9: Prior to final plat approval, the applicant shall install the half-street improvements along the frontage of the property, as recommended in **Attachment D**. Half-street improvements shall include sidewalks, curb and gutter. City of Lowell shall inspect improvements for compliance with City Standards and/or Lane County Standards as appropriate, prior to acceptance.

(l) Cul-de-sacs: A cul-de-sac should have a maximum length of 500 feet but may be longer where unusual circumstances exist. A cul-de-sac shall terminate with a circular or hammerhead turn-around.

Discussion: The proposed street will be about 750 feet long with a turnaround at the end. Because of the topography, and no other existing streets in the area, the length exceeds 500 feet. A future extension of the proposed street will connect to the property to the south and eliminate the dead end. The applicant has shown the inclusion of a hammerhead turnaround as seen on Sheet 1 (**Attachment I**)

Recommended FINDING for approval: A cul-de-sac or hammerhead turnaround for fire and emergency services at the terminus of Crestview Drive is shown on Sheet 1. Criterion met.

(m) Street Name Signs: Street name signs shall be installed at all street intersections to City standards.

Discussion: The applicant will be required to install street signs in accordance with LDC. Street name signs shall be included on the final plat. This will be a condition of approval.

Recommended FINDING for approval: The applicant shall submit evidence, prior to final plat approval, street name signs are installed in accordance with LDC. This will be a condition of approval. Criterion met with the following Condition of Approval #10.

Condition of Approval #10: Prior to final plat approval, applicant shall submit evidence to the City Administrator or his or her designee, that the proposal complies with the street name signs standards as listed in the LDC.

(n) Street Lights: Street lights shall be installed to City standards and shall be served from an underground utility.

Discussion: Street lights will be installed at the expense of the applicant and shall be served from an underground utility, consistent with LDC. This will be a condition of approval

Recommended FINDING for approval: The applicant shall submit evidence, prior to final plat approval, demonstrating the proposed streetlights are in compliance with LDC standards. Criterion met with the following Condition of Approval #11:

Condition of Approval #11: Prior to final plat approval, applicant shall submit evidence to the City Administrator or his or her designee, that the proposal complies with streetlights standards as

listed in the LDC.

(o) Traffic Signs/Signals: Where a proposed intersection will result in the need for street signals to serve the increased traffic generated by the proposed development, they shall be provided by the developer or land divider and the costs shall be borne by the developer or land divider unless an equitable means of cost distribution is approved by the City.

Discussion: A “No Parking” sign has been identified as being required at the hammerhead turnaround. See Condition of Approval #8.

Recommended FINDING for approval: A “No Parking” sign has been identified as being required at the hammerhead turnaround. See Condition of Approval #9. Criterion met.

(p) Private Streets: Private streets are permitted within Planned Developments, Manufactured Home Parks, singularly owned developments of sufficient size to warrant interior circulation on private streets or on small developments where integration into the public road system is impractical. Design standards shall be the same as those required for public streets unless approved otherwise by the City. The City shall require verification of legal requirements for the continued maintenance of private streets.

Discussion: Private streets are not part of the proposal.

Recommended FINDING for approval: Private streets are not part of the proposal. Criterion not applicable.

(q) Mail Boxes: Provisions for mail boxes shall be provided in all residential developments where mail service is provided. Mail box structures shall be placed as recommended by the Post Office having jurisdiction and shall be noted on the plan.

Discussion: A mailbox structure is proposed to receive mail for the eventual homes on lots 1-26, as seen on Sheet 3. However, there is no indication from the applicant that the mailbox structure has been placed as per the recommendation of the local Post Office having jurisdiction. This will be a condition of approval, prior to final plat approval.

Recommended FINDING for approval: A mailbox structure is proposed and shown on Sheet 3, but there is no indication that the placement was at the approval or recommendation of the local Post Office that has jurisdiction. Criterion met with the following Condition on Approval #12.

Condition of Approval #12: Prior to final plat approval, the applicant shall provide evidence that the proposed mailbox structure has been approved by the local Post Office having jurisdiction and shall be noted on the plan as a plat note.

(r) Clear Vision Areas: In all districts a clear vision area shall be maintained at the corners of all property located at the intersection of two streets or a street-alley. A clear vision area shall also be maintained at all driveways intersecting a street. See Figure 9.5-2 All properties shall maintain a clear triangular area at street intersections, alley- street intersections and driveway-street intersections for safety vision purposes. The two sides of the triangular area shall be 15 feet in length along the edge of roadway at all street

intersections and 10 feet in length at all alley-street intersections and driveway-street intersections. Where streets intersect at less than 30 degrees, the triangular sides shall be increased to 25 feet in length. The third side of the triangle shall be a line connecting the two exterior sides.

A clear vision area shall contain no plantings, fences, walls, structures, or temporary or permanent obstruction exceeding 3 feet in height, measured from the top of the curb, or, where no curb exists, from the established street center line grade. Trees exceeding this height may be located in this area, provided all branches or foliage are removed to a height of 8 feet above grade.

Discussion: North Moss Street and Crestview Drive will be at an intersection to each other, as such the Clear Vision Area standards will apply. All properties shall maintain a clear triangular area at street intersections. The two sides of the triangular area shall be 15 feet in length along the edge of the roadway at all street intersections and 10 feet in length at all alley-street and driveway-street intersections. Where streets intersect at less than 30 degrees, the triangular sides shall be increased to 25 feet in length. The third side of the triangle shall be a line connecting the two exterior sides. Additionally, a clear vision area shall contain no planting, fences, walls, structures or temporary or permanent obstruction exceeding 3 feet in height. Trees exceeding this height may be located in this area, provided all branches or foliage are removed to a height of 8 feet above grade. The applicant has not specifically addressed how the proposal will comply with Clear Vision Areas, as presented above. In the applicant's written narrative, they indicate standards for Clear Vision Areas will be presented and shown on the construction plans. As such, staff will recommend a condition of approval for Clear Vision Areas plans to be presented to the City Administrator or his or her designee for compliance, prior to final plat approval. Staff find compliance with the Clear Vision Area standards are feasible to be met by the applicant. This will be a condition of approval.

Recommended FINDING for approval: Standards for Clear Vision Areas have not been addressed at time of tentative map submittal. The applicant indicated in their written narrative; Clear Vision Standards will be included on construction drawing plans. As such, the applicant shall provide evidence that Clear Vision Standards have been addressed in accordance with LDC 9.517 (r) (r). Staff find compliance with Clear Vision Area standards as indicated in LDC 9.517 (r) feasible for the applicant to meet. As such, plans for compliance shall be presented to the City Administrator or his or her designee for review and approval, prior to final plat approval. Criterion met with the following Condition of Approval #13.

Condition of Approval #13: Prior to final plat approval, plans for compliance with Clear Vision Areas shall be presented to the City Administrator or his or her designee and reviewed and verified for compliance with the Clear Vision Areas standards as listed in the LDC 9.517(r).

LDC 9.519 Bikeways. Bikeways are required along Arterial and Major Collector streets. Currently the only Bikeway requirements are those required by the County as a part of the County owned Major Collector streets within the City. Future requirements for Bikeways may be addressed at such time that a Transportation System Plan (TTSP) is completed for the City., but until specific Bikeway requirements are adopted, travel lanes of all streets that do not require Bikeways are approved for joint use with bicycles.

Discussion: The width of the proposed widening of Moss Street was determined by Lane County

Staff, which includes a bike lane.

Recommended FINDING for approval: The proposed widening of North Moss Street is sufficient to include a bike lane.

LDC 9.520 Storm Drainage. Until completion of a Storm Drainage Master Plan for the City of Lowell, Section IV, of the Standards for Public Improvements and the following shall apply. In the event of a conflict, the following takes precedence.

(a) General Provisions. It is the obligation of the property owner to provide proper drainage and protect all runoff and drainage ways from disruption or contamination. On-site and off-site drainage improvements may be required. Property owners shall provide proper drainage and shall not direct drainage across another property except as a part of an approved drainage plan. Paving, roof drains and catch basin outflows may require detention ponds or cells and discharge permits. Maintaining proper drainage is a continuing obligation of the property owner. The City will approve a development request only where adequate provisions for storm and flood water run-off have been made as determined by the City. The storm water drainage system must be separate and independent of any sanitary sewerage system. Inlets should be provided so surface water is not carried across any intersection or allowed to flood any street. Surface water drainage patterns and proposed storm drainage must be shown on every development plan submitted for approval. All proposed drainage systems must be approved by the City as part of the review and approval process.

Discussion: A preliminary storm drainage plan and proposal have been submitted by the applicant's engineer and has been preliminary approved by the City Engineer. See Condition of Approval #1 regarding any changes or modifications to the storm drainage plan that may be required upon receipt and review of more specific construction plans and drawings. The City has requested the applicant design a detention pond that is reasonably "low maintenance" as the City will be taking over long-term ownership and maintenance after acceptance. The proposed detention pond shall be constructed in a manner that the basin should drain entirely. The detention pond should have a low flow pipe at the invert that will completely drain the basin without any effort from the City. Slide slopes should be 3:1 maximum, and 4:1 if it's going to be mowed by Public Works staff. Lastly, there should be drivable access to the detention pond, so if the City needs to perform maintenance, an excavator can easily access it. The applicant shall submit specific detention pond plans to the City Administrator, or his or her designee, for review and approval. This will be a condition of approval, prior to the commencement of any site preparation, grading, or fill.

(b) Urban level inlets, catch basins, and drainage pipe improvements are required for all land divisions and property development in the City of Lowell. Urban storm drainage systems may be deferred by the City in lieu of a rural system of culverts and open drainageways.

Discussion: Urban storm drainage improvements are being proposed by the applicant. No deferrals have been requested with respect to storm drainage.

(c) Natural Drainageways. Open natural drainageways of sufficient width and capacity to

provide for flow and maintenance are permitted and encouraged. For the purposes of this Section, an open natural drainageway is defined as a natural path which has the specific function of transmitting natural stream water or storm water run-off from a point of higher elevation to a point of lower elevation. Significant natural drainageways shall be protected as a linear open space feature wherever possible and shall be protected from pollutants and sediments. A 15 foot setback is required from the centerline of any significant drainageway.

Discussion: There are no significant natural drainageways on the site. The eastern portion of the site will maintain the natural drainage pattern to the north, setbacks, as discussed above are not anticipated.

(d) Easements. Where a land division is traversed by a water course, drainageway, channel or stream, there shall be provided a public storm water easement or drainage right-of-way conforming substantially with the lines of such water course and such further width as the City determines will be adequate for conveyance and maintenance. Improvements to existing drainageways may be required of the property owner. The property owner is also responsible for the continuing maintenance and protection of natural drainageways.

Discussion: One easement with respect to storm drainage will be required and is shown on Sheet 1 as a 5-foot private drainage easement.

(e) Accommodation of Upstream Drainage. A culvert or other drainage facility shall be large enough to accommodate potential run-off from its entire upstream drainage area, whether inside or outside of the development. The City must review and approve the necessary size of the facility, based on sound engineering principles and assuming conditions of maximum potential watershed development permitted by the Comprehensive Plan.

(f) Effect on Downstream Drainage. Where it is anticipated by the City that the additional run-off resulting from the development will overload an existing drainage facility, the City may deny approval of the development unless mitigation measures have been approved.

(g) Drainage Management Practices. Developments within the City must employ drainage management practices approved by the City. The City may limit the amount and rate of surface water run-off into receiving streams or drainage facilities by requiring the use of one or more of the following practices:

- (1) Temporary ponding or detention of water to control rapid runoff;*
- (2) Permanent storage basins;*
- (3) Minimization of impervious surfaces;*
- (4) Emphasis on natural drainageways;*
- (5) Prevention of water flowing from the development in an uncontrolled fashion;*

(6) Stabilization of natural drainageways as necessary below drainage and culvert discharge points for a distance sufficient to convey the discharge without channel erosion;

(7) Runoff from impervious surfaces must be collected and transported to a natural drainage facility with sufficient capacity to accept the discharge; and

(8) Other practices and facilities designed to transport storm water and improve water quality.

Discussion: The applicant's preliminary storm drainage plan has been submitted and adequately addresses storm drainage as part of the tentative map approval process.

(h) NPDES Permit Required. A National Pollutant Discharge Elimination System (NPDES) permit must be obtained from the Department of Environmental Quality (DEQ) for construction activities (including clearing, grading, and excavation) that disturb one or more acres of land.

Discussion: A NPDES Permit will be required before earth-moving work is performed as the subject site is largely going to be disturbed for the construction of public infrastructure and preparation of home sites. This will be a condition of approval, prior to any earth-moving work is performed. This will be Condition of Approval #15.

Discussion: The applicant's engineer has completed and submitted a preliminary drainage study that has been reviewed and preliminary approved by the City Engineer. The proposed development will generally maintain existing flows. The proposed development has been broken up into two separate drainage basins: Basin A and Basin B. Drainage Basin A will consist of piping stormwater into the proposed detention pond on the east side of North Moss Street. Drainage Basin B will utilize an 18" storm drain culvert to direct drainage into an existing drainage basin that flows to the north. Because there are still portions of development and specific construction plans that need to be drawn, submitted and approved by the City Engineer, staff proposes a condition of approval for a final drainage plan to be submitted for review and approval by the City Administrator or his or her designee, see **Condition of Approval #1**. This condition is meant to ensure the drainage plan submitted as part of the tentative map approval still meets sufficient drainage requirements once more specific construction plans are submitted. To see the applicant's proposed drainage plan, of please see **Attachment R** If the final drainage plan requires changes to the tentative map that has been approved, the changes should be presented to City Council before final plat approval. Additionally, the subject site is large in size and extensive earth-moving work is anticipated, as such a NPDES permit will be required.

The City has requested the applicant design a detention pond that is reasonably "low maintenance" as the City will be taking over long-term ownership and maintenance after acceptance. The proposed detention pond shall be constructed in a manner that the basin should drain entirely. The detention pond should have a low flow pipe at the invert that will completely drain the basin without any effort from the City. Slide slopes should be 3:1 maximum, and 4:1 if it's going to be mowed by Public Works staff. Lastly, there should be drivable access to the detention pond, so if the City needs to perform maintenance, an excavator can easily access it. The applicant shall submit specific detention pond plans to the City Administrator, or his or her designee, for review

and approval. This will be a condition of approval, prior to the commencement of any site preparation, grading, or fill.

Recommended FINDING for approval: The applicant has submitted a drainage plan for the proposed subdivision, and it has been preliminary approved by the City Engineer. However, due to yet-to-be- submitted construction plans, the applicant should submit a final drainage plan, prior to final plat approval, for review and approval by the City Administrator or his or her designee to ensure the plan is still applicable and sufficient after receipt of more detailed construction plans. The proposed detention pond shall be designed in a manner that is reasonably “low maintenance, see **Condition of Approval #15**. Criterion for adequate storm drainage is met or can be met conditionally, as noted and discussed above and in **Condition of Approval #1**. Additionally, the subject site is large in size and extensive earth-moving work is anticipated, as such a NPDES permit will be required. The requirement for a NPDES permit will be Condition of Approval #14. Criterion related to the requirement for a NPDES permit met with the following **Condition of Approval #14**

Condition of Approval #14: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator or his or her designee evidence of an approved NPDES permit.

Condition of Approval #15: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator, or his or her designee, plans for the proposed detention pond as seen on Sheet 1 as “Parcel A” plans that include a low flow pipe at the invert that will completely drain the basin without any effort from the City. Slide slopes should be 3:1 maximum, and 4:1 if it’s going to be mowed by Public Works staff. Lastly, there should be drivable access to the detention pond, so if the City needs to perform maintenance, an excavator can easily access it.

LDC 9.521 Water.

(a) All new development must connect to the public water system unless specifically approved otherwise as a part of a development approval for parcels exceeding 5 acres in size after division for which the public water system is located further than 300 feet from any property line. All water line extensions, required fire hydrants, and related appurtenances shall be installed and paid for by the developer unless the City has approved otherwise as a part of the tentative plan decision process.

(b) All public water system improvements shall comply with Section II of the City’s Standard for Public Improvements, dated September 1994. The City may modify those requirements upon a recommendation by the City Engineer in the event of special circumstances.

(c) Water Line Extensions. Water distribution lines must be extended along the full length of the property's frontage along the right-of-way or to a point identified by the City Administrator as necessary to accommodate likely system expansion. Water line extensions may be required through the interior of properties, within dedicated public utility easements, when necessary to provide for service to other properties or to provide system looping for fire flows. All public water system line extensions shall have a minimum 6 inch diameter unless a smaller size is recommended by the City Engineer and approved by the

City. The City Engineer may also require a larger size if needed to extend transmission capacity or for fire hydrant flow where looping is not available.

(d) Water Plan Approval. All proposed plans for extension and installation of the public water system must be approved by the City as part of the tentative plan review and approval process.

(e) Restriction of Development. The Planning Commission or City Council may limit or deny development approvals where a deficiency exists in the water system or portion thereof which will not be corrected as a part of the proposed development improvements.

Discussion: The applicant's engineer has provided a preliminary utilities plan as seen on Sheet 3. The plan shows that adequate connections are available or can be accessed to provide lots 1-26 with city water. However, the plans submitted on Sheet 3 are preliminary and are used to attain tentative plat approval. Final construction plans relating to water will be made a condition of approval. The applicant may choose to show all utilities (water, sewer, general utilities) on one final utilities map. The final construction plans for utilities shall be submitted for review by the City Engineer prior to any construction.

Recommended FINDING for approval: The utilities plan as seen on Sheet 3 is preliminary and provided for tentative map approval. A final utilities plan will need to be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities. Criterion met with the following Condition of Approval #16.

Condition of Approval #16: The utilities plan as seen on Sheet 3 is preliminary and for tentative map approval. A final utilities plan, consistent with LDC 9.521, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.

LDC 9.522 Sewer.

(a) All new development must extend and connect to the public sewer system unless specifically approved otherwise as a part of a development approval for parcels exceeding 5 acres in size after division for which the public sewer system is located further than 300 feet from any property line. All sewer line extensions, manholes, required lift stations and related appurtenances shall be installed and paid for by the developer unless the City has approved otherwise as a part of the tentative plan decision process.

(b) All public sewer system improvements shall comply with Section III of the City's Standards for Public Improvements, dated September 1994. The City may modify those requirements upon a recommendation by the City Engineer in the event of special circumstances.

(c) Sewer Line Extensions. Sewer collection lines must be extended along the full length of the property's frontage along the right-of-way or to a point identified by the City Administrator as necessary to accommodate likely system expansion.

(d) Sewer Plan Approval. All proposed sewer plans and systems must be approved by the City as part of the tentative plan review and approval process.

(e) restriction of Development. The City may limit or deny development approvals where a deficiency exists in the sewer system or portion thereof which will not be corrected as a part of the development improvements.

Discussion: Lots 1-26 can be and will be connected to city sewer services. Connections either exist nearby or are proposed to adequately provide city sewer service to lots 1-26. As discussed above, the utilities plan has been preliminary approved by the City Engineer for tentative map approval purposes. A final utilities plan will need to be submitted to the City Engineer for final approval before any construction activities with respect to public utilities take place. Condition of Approval #15 is relevant and will apply to LDC 9.522.

Recommended FINDING for approval: The utilities plan as seen on Sheet 3 is preliminary and provided for tentative map approval. A final utilities plan will need to be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities. Criterion met with the following Condition of Approval #17.

Condition of Approval #17: The utilities plan as seen on Sheet 3 is preliminary and provided for tentative map approval. A final utilities plan, consistent with LDC 9.522, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.

LDC 9.523 Utilities.

(a) It is the policy of the City to place all utilities underground except as otherwise exempted below. Developers shall make all necessary arrangements with serving utility companies for installation of such utilities.

Discussion: All utilities will be placed underground. Staff is not aware of any exceptions that would preclude the placement of utilities underground. The applicant has indicated in their written narrative that all utilities will be placed underground and installed within the public right of way or a public utility easement.

(b) Exceptions. The City may permit overhead utilities as a condition of approval where the Applicant can demonstrate one of the following conditions:

- (1) Underground utility locations are not feasible.*
- (2) Temporary installations.*
- (3) Major transmission facilities located within rights-of-way or easement*
- (4) Surface mounted structures, substations or facilities requiring above ground locations by the serving utility.*

Recommended FINDING for approval: Per the applicant's written narrative, staff find the applicant has sufficiently indicated their proposal can meet the requirement that all utilities be placed underground and placed within public right-of-way or in a public utility easement. Criterion met.

LDC 9.524 Easements.

(a) Easements granting limited use of property for any defined purpose may be approved for any lot or parcel.

(b) Access easements may be approved by the City as provided in Section 9.516. The Planning Commission or City Council may require wider access easements if special circumstances exist.

(c) Utility easements shall be provided for sewers, water mains and public or private utilities necessary to provide full service to all developments. Land dividers shall show on the Tentative Plan and on the final Plat all easements and shall provide all dedications, covenants, conditions or restrictions with the Supplemental Data submitted for review. Minimum interior utility easements shall be 10 feet wide centered on lot or parcel lines where feasible. A wider easement may be required if multiple utilities will be utilizing the same easement or if topography dictates otherwise. An exterior utility easement adjacent to the public right-of-way will be required if at least five feet of unimproved public right-of-way is not available.

(d) Water Courses. If a tract is traversed by a water course such as a drainage way, channel or stream, there shall be provided a storm water easement or drainage right-of-way containing the top of bank, vegetative fringe, and such further width as will be adequate for protection and maintenance purposes. Culverts or other drainage facilities shall be sized to accommodate storm and flood run-off from the entire upstream drainage area at full build out and shall be verified and approved by the City.

Discussion: As seen on Sheet 1, two easements are shown in addition to the 7-foot PUE on both sides of Crestview Drive. The applicant has discovered two private access easements that exist on the unsubdivided remainder portion of the subject property. The two private access easements are used for logging purposes. The applicant will the private access easement accessible, as per the recorded easements. The private access easements are not for the purposes of any building, structure or residential development. See **Attachment Q** for copies of the private access easements. As required by LDC, the applicant shall include on the final plat all easements and shall provide all dedications, covenants, conditions, or restrictions with provide any supplemental data for review. The easements shall be consistent with Lane County recording requirements and procedures and ORS 92. There are no significant water courses on the subject property. This will be a condition of approval.

Recommended FINDING for approval: As seen on Sheet 1, the applicant proposes a 20-foot wide access easement between lots 16-19 and a 5-foot private drainage easement along the eastern property boundary of lot 12. These easements shall be shown and recorded on the final plat as with all dedications, covenants, conditions, or restrictions. The easements shall be consistent with Lane County recording requirements and procedures and ORS 92. Criterion met with the following Condition of Approval #18.

Condition of Approval #18: Prior to final plat approval, the applicant shall include all easements, dedications, covenants, conditions or restrictions along with any supplemental data for review by the City Administrator or his or her designee. Easements shall be consistent with Lane County recording requirements and procedures and ORS 92.

LDC 9.630 Hillside Development. The purpose of this Section is to provide standards governing development of hillside land within the City to alleviate harmful and damaging effects of on-site erosion, sedimentation, runoff, access issues and to regulate the effects of excavation and grading on hillsides.

LDC 9.631 Scope. This Section shall apply to all areas of the City where the slope of the land is 15 percent or greater. In all areas of the City, concurrent with application for a building permit, excavation or fill permit or land division, the applicant shall provide elevation data adequate to determine slope characteristics of the property or portions thereof being developed. If the City determines that the property does have areas of 15 percent slope or greater, then the proposed development shall, in addition to other applicable City ordinances, rules and regulations, also be reviewed for compliance with the requirements of Sections 9.630 through 9.635.

LDC 9.632 Hillside Development Standards.

(a) General grading. Any grading performed within the boundaries of a hillside development shall be kept to a minimum and shall take into account the environmental characteristics of that property, including but not limited to prominent geological features, existing streambeds, drainage ways, and vegetative cover.

Discussion: The subject site does contain slopes of 15 percent or greater. The applicant has submitted a preliminary conceptual grading plan as seen on Sheet 2. The applicant will be required to submit final grading plans during the construction phase of the development for review and approval by the City Engineer. The standards listed in the Hillside Development section of LDC will largely be addressed post tentative map approval during the construction plan drawing phase of the project. The applicant will be required to submit plans to shown conformance with hillside development standards. As listed in the LDC, specific engineered plans may be required. This will be a condition of approval.

(b) Slope stability. Potential slope instability problems such as slip planes, clay layers and dome-shaped bedrock shall be identified. Mitigation measures sufficient to render these areas safe for structures and infrastructure development shall be applied.

(c) Building sites. Building sites shall be designed to minimize the need to alter the natural grade during construction of individual buildings. Mass pad grading or continuous terracing of building sites is not allowed. Lot development plans must demonstrate that the lot is large enough to safely accommodate both the planned structure(s) and the needed cuts and/or fills.

(d) Retaining walls. Especially on cutbanks, retaining structures are preferred in lieu of larger excavations to minimize the amount of disturbed area. Retaining walls over 4 feet high shall be engineered. Smaller walls shall be constructed in conformance with the soils and geology report recommendations and the engineer's plans. Designs for retaining structures shall give consideration to aesthetics and shall use mitigations such as terracing and/or landscaping plants to reduce the structures' apparent height and mass.

(e) Cut and Fill Standards.

(1) All cut and fill slopes generally must not exceed a two (horizontal) to one (vertical) ratio. Slopes which are steeper (i.e. 1:1/2 or 1:1) may be conditionally approved by the City upon certification, by a qualified engineer that the slope will remain stable under foreseeable conditions. The certification must delineate any specific stabilization measures deemed necessary by the engineer.

(2) Cuts and fills shall be designed to avoid movement or episodic erosion during heavy rains or earthquakes, mechanical overloading of underlying soils and undercutting of adjacent areas. Fills shall be benched as required to provide a proper bond with the existing terrain.

(3) Unless proven otherwise by specific soils information to the contrary, cuts shall be presumed to be incapable of revegetation without special treatments, such as importation and retention of topsoil. Plans must be submitted for all cuts in excess of 2 feet deep, showing either a covering for the cut, such as stonework, or a revegetation plan that does not rely on the ability of the exposed subsoil to support plant growth.

(f) Revegetation. Earthwork shall be designed so that all disturbed areas will be restored to have at least 6" of topsoil. Revegetation of projects exposing soil shall be aggressively pursued so that bare ground will not be unnecessarily exposed to the weather between November 1 and May30. Construction schedules shall be drawn up to limit the period of time that soil is exposed and unprotected. The existing vegetative ground cover should not be destroyed, removed, or disturbed more than 15 days prior to grading or construction of required improvements. Soil exposed during the removal or significant disturbance of ground cover vegetation shall be built upon (i.e. covered with gravel, a slab, foundation or other construction), landscaped (i.e. seeded or planted with ground cover) or otherwise protected within 15 days of grading or other pre- development activity. Provided, however, that these restrictions do not apply during the months of June, July, August and September.

(g) Modification of Public Street Standards. Street width, grade and alignment, right-of-way width, and sidewalks in hillside areas shall be designed to minimize changes to existing topography and provide adequate access to adjacent properties. Cuts and fills in excess of four feet deep shall be considered significant and should be avoided where feasible. Modifications to established standards, if necessary to meet these requirements, shall be made as provided below.

(1) Street grades may exceed the maximum grade standards of the Lowell Standards for Public Improvements where topographical conditions make it impractical to meet those standards, subject to the following conditions:

(A) Driveways and intersections shall not be permitted where street grades exceed 15 percent.

(B) Street grades of over 15 percent shall not be permitted for a distance of more than 200

feet in any 600 foot long section of street.

(C) Street grades shall not exceed 20 percent for any distance.

(2) Requirements specified in the Lowell Standards for Public Improvements for public right-of-way width, pavement width, and/or installation of sidewalk may be modified where topographical conditions make it impractical to meet those standards, subject to the following conditions:

(A) Reduction in public right-of-way width may be made if the proposed right-of-way is large enough to accommodate the street and sidewalk(s), and 5-foot public utility easement is provided on each side of the right-of-way and slope easement is provided where required.

(B) Reduction in pavement width to 21 feet may be made for access lanes with less than 250 vehicle trips per day, that are not dead-end, and that will be no parking on one side. For not more than one 200 foot section of street per block, any road may be reduced to 20 feet if the road is not dead-end, will be no parking on both sides along the narrowed portion, and if at least one parking space is provided for each lot taking driveway access from the narrowed portion; said parking shall be within 200 feet of the driveway access. On all other roadways, the City Council may allow the above described pavement width reductions only after consultation with the City Engineer and the local fire official, and upon a finding that the proposed width will provide adequate parking and emergency vehicle access. All no parking areas shall be signed and curbs shall be painted yellow.

(C) All sidewalks shall be a minimum of 5 feet wide. All streets shall have vertical curbs adjacent to sidewalks. For short distances, street-side sidewalks may be relocated to an off-street location that will provide equivalent service, conditional upon right-of-way being available or public access easements being provided. Sidewalks may be approved for only one side of the street for access lanes with less than 250 vehicle trips per day. On all other roadways, the City Council may allow sidewalks on only one side upon a finding that a single sidewalk will provide adequate pedestrian safety.

(3) The City may require modification of street improvement construction standards for any portion of proposed street improvements being constructed in areas of special concern identified in the Soils and Geology Report.

(h) Storm Drainage. In addition to City-wide storm drainage system development standards contained in Section 9.520, hillside storm drainage systems shall be designed to:

(1) Protect cuts, fills, roadways, retaining walls and structures from saturation, slope failure and settling.

(2) To anticipate and mitigate the rapid movement of debris into catch basins, and storm water flows bypassing catch basins.

(3) Insure that concentrated storm water is disposed of in a controlled manner does not create significant erosion or adverse effects on downhill properties.

(i) Preservation of Trees and Existing Vegetation. Construction shall be done in a manner that avoids unnecessary disruption to vegetation and trees. Temporary protective fencing

shall be established around all trees designated for protection prior to the commencement of grading or other soil disturbance. Grade changes and trenching shall not be made within 5 feet of the dripline of such trees without written concurrence from an arborist that such changes will not cause permanent damage to the tree.

Recommended FINDING for approval: The subject site does contain slopes of 15 percent or greater, therefore the Hillside Development Standards listed in LDC 9.632 apply to the proposal. Prior to the issuance of building permits, the applicant shall submit specific construction plans to the City Administrator, or his or her designee, for review and approval. Plans submitted shall be consistent with the Hillside Development Standards listed in LDC 9.632. Criterion listed on LDC 9.632 met with the following Condition of Approval #19.

Condition of Approval #19: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit specific construction plans for review and approval by the City Administrator, or his or her designee. Plans submitted shall be consistent with the Hillside Development Standards listed in LDC 9.632.

LDC. 9.633 Submission Requirements for Land Divisions. When land division application is submitted in which all or a portion of the development contain slopes which are 15% or greater, the following additional reports and plans shall be submitted:

(a) Surveyor's Report. A scale drawing of the property prepared by a licensed surveyor, showing existing topography at two-foot contour intervals, watercourses both permanent and intermittent, and natural physical features such as rock outcroppings, springs and wetlands. Also show the location and dimensions of any existing buildings or structures on the property where the work is to be performed, the location of existing buildings or structures on land of adjacent owners that are within 100 feet of the property.

Discussion: The applicant submitted a preliminary Surveyor's Report as seen on Sheets 1 through 5. However, the applicant shall submit for review and approval by the City Administrator or his or her designee, a final Surveyor's Report prior to final plat approval. This will be a condition of approval.

Recommended FINDING for approval: As discussed above, prior to final plat approval, the applicant shall submit for review and approval by the City Administrator, or his or her designee, a final Surveyor's Report as indicated in and consistent with subsection (a) of LDC 9.633. Criterion met with the following Condition of Approval #20.

Condition of Approval #20: Prior to final plat approval, the applicant shall submit for review and approval by the City Administrator, or his or her designee, a final Surveyor's Report as indicated in and consistent with subsection (a) of LDC 9.633.

(b) Soils and Geology Report. This report shall be prepared by a suitably experienced and qualified licensed engineering geologist or geotechnical engineer, and shall include the following for each proposed lot and for public right-of-way areas proposed for development which have slopes greater than 15%:

(1) Data regarding the subsurface condition of the whole site such as the nature, depth

and strength of existing soils, depth to bedrock, location of soft soils, hard stratum, potential slip planes, geological weak zones, clay seams or layers, unconsolidated deposits, and previous grading activities. The report shall also address existing water tables, springs, watercourses and drainage patterns, seismic considerations, and any offsite geologic features or conditions that could impact or be impacted by onsite development. Locations of exploratory boreholes shall take into consideration the terrain and geology of the site instead of following a general grid pattern.

(2) Conclusions and recommendations regarding the stability of underlying slopes and of proposed cuts and fills, any remedial or preventative actions that are required, any limitations upon the use of the site, grading procedures, requirements for vegetation preservation and revegetation, special coverings or treatments for areas that cannot be readily revegetated, erosion control methods, drainage systems, setbacks from slopes or other geologic features, foundation and building design, and backfills.

Discussion: The subject property does contain slopes of 15 percent or greater and as such a Soils and Geology Report will be required prior to the final plat approval and shall be reviewed and approved Planning Commission and City Council. The results of the Soils and Geology Report have the potential to change the subdivision and as such, the Soils and Geology Report should come through the same planning approval process as required for approval of a subdivision (Planning Commission and City Council). The City can still issue tentative plat approval of the subdivision as proposed, unless the Soils and Geology Report results require a change. A preliminary approval would give the applicant/developer some assurances that the design of the subdivision is final, unless the Soils and Geology Report requires modification. The approval process of the Soils and Geology Report could require changes in the tentative plan. This will be a condition of approval. The Soils and Geology Report completed by the applicant and submitted to the City shall be in conformance with the standards and specifications as cited in LDC 9.633(b) (1) and (2).

Recommended FINDING for approval: The subject property does contain slopes of 15 percent or greater and as such will require a Soils and Geology Report to be completed by the applicant. The approval process of the Soils and Geology Report could require changes in the tentative plan. The Soils and Geology Report shall be reviewed and approved by Planning Commission and City Council, after tentative plat approval, but prior to final plat approval. Tentative plat approval gives the applicant/developer assurances that the subdivision design is final, unless the Soils and Geology Report require modification. The City would not be able to make any changes to the tentative plan that were not related to the result of the Soils and Geology Report. Staff find the above criterion for a Soils and Geology Report can be met conditionally.

Condition of Approval #21: The Soils and Geology Report shall be reviewed and approved by Planning Commission and City Council, after tentative plat approval, but prior to final plat approval. Soils and Geology Report shall be consistent with the standards and specifications as listed in LDC 9.633 (b) (1) and (2).

(c) Engineer's Plans. Detailed plans shall be prepared for all proposed public improvements by a suitably qualified licensed civil engineer. Detailed plans for private development on each parcel may also be provided and if provided, will be accepted as

required building permit submittals. These plans shall be based upon the findings of the required soils and geology report, and shall include the following information:

(1) Infrastructure Plan. A scale drawing plan showing the location and approximate grade of all proposed streets, walkways and alleys, and the location of proposed easements, lots, common areas, parks, open space and other land proposed for dedication to the City. Also indicate the locations of utilities such as sewer and water lines.

(2) Grading Plan. A scale drawing grading plan of the property, showing existing and proposed finished grades at two-foot contour intervals, retaining walls or other slope stabilization measures, cuts and fills, and all other proposed changes to the natural grade. Include cross-sectional diagrams of typical cuts and fills, drawn to scale and indicating depth, extent and approximate volume, and indicating whether and to what extent there will be a net increase or loss of soil.

(3) Drainage Plan. Detailed plans and locations of all proposed surface and subsurface drainage devices, catch basins, area drains, dewatering provisions, drainage channels, dams, sediment basins, storage reservoirs, and other protective devices together with a map showing drainage areas, the complete drainage network, including outfall lines and natural drainageways which may be affected by the proposed development, and the estimated run-off of the area(s) served by the drains.

(4) Erosion Control Plan. Descriptions and/or drawings of proposed changes to soils and/or existing vegetation on the site; specific methods proposed to restore disturbed topsoil, minimize the identified potential erosion problems, and revegetate areas which will be stripped of existing vegetation; and a schedule showing when each stage of the project will be started and completed, including the total area of soil surface which is to be disturbed during each stage and the length of time soils will be left exposed.

(5) Affidavit. The authoring engineer shall include a statement that the plans are consistent with the soils and geology report required by this Section, and with the standards of Section 9.632.

Discussion: Engineer's Plans (1 through 5) will be required following tentative plat approval and shall be submitted for review and approval by the City Administrator or his or her designee, as part of the construction plan drawing process and before issue of building permits. Engineer's Plan submitted by the applicant to the City shall be in conformance with the standards and specifications as cited in LDC 9.633 (c) (1-5).

Recommended FINDING for approval: Staff find it feasible that the applicant can submit Engineer's Plan for review and approval by the City Administrator or his or her designee, prior to the issuance of building permits. Criterion met with the following Condition of Approval #22.

Condition of Approval #22: Prior to any site preparation, grading or fill, the applicant shall submit for review and approval by the City Administrator or his or her designee, Engineer's Plan, 1 through 5 as indicated in LDC 9.633 (c) (1-5).

(d) One copy of each individual lot survey, geotechnical report and development

engineering plans submitted and approved with the tentative plan shall be filed with the City at the time of submission of the final plat and one copy shall be provided to the purchaser of the individual lot.

Recommended FINDING for approval: Consistent with subsection (d) of LDC 9.632, above, upon final plat submittal to the City, the applicant shall include one copy of each individual lot survey, geotechnical report and development engineering plans. One copy shall be provided to the purchaser of the individual lot. Criterion met with the following Condition of Approval #23:

Condition of Approval #23: Prior to final plat approval, the applicant shall submit final copies of each individual lot survey, geotechnical report, and development engineering plans for the City's record keeping purposes. Additionally, Prior to the issuance of certificate of occupancy for the proposed residential lots, evidence shall be submitted to the City Administrator that shows compliance with subsection (d) of LDC 9.633 with the purchaser of each respective lot receive a copy as described above.

LDC 9.236 Dedication Requirements

(a) All lots or parcels of land shown on the final Plat intended for public use shall be offered for dedication to the City at the time the Plat is filed. Exception: Those lots or parcels, or common linear open spaces which are intended for the exclusive use of the owners, their licensees, visitors, tenants or employees; and also excepted are those parcels of land reserved for public acquisition.

(b) All streets, pedestrian ways, drainage channels, open spaces, easements and other rights-of-way shown on the final Plat intended for public use shall be offered for dedication for public use at the time the final Plat is filed.

(c) All rights of access to and from streets, lots and parcels of land shown on the final Plat intended to be surrendered shall be offered for dedication at the time the final Plat is filed.

(d) The land divider shall provide and designate one-foot reserve strips across the ends of stubbed streets adjoining undivided land or along half streets adjoining undivided land. The reserve strip shall be included in the dedication granting to the City the right to control access over the reserve strip to assure the continuation or completion of the street. This reserve strip shall overlay the dedicated street right-of-way.

Discussion: The applicant will be required to submit a final plat in consistent with the dedication requirements as indicated in LDC 9.236. Additionally, the City shall have the right to control access over to assure the continuation or completion of the street. Additionally, a plat note shall be included on the final plat stipulating that no platted lot may provide legal or physical access to the subdivided remainder. This provision is also contemplated in LDC 9.233 (j). The inclusion of this plat note will be a condition of approval.

Recommended FINDING for approval: The final plat submitted by the applicant shall be consistent with the requirements of LDC 9.236 (a-d), prior to final plat approval and acceptance by the City. The final plat shall include a plat note stipulating that no platted lot may provide legal or

physical access to the subdivided remainder. This provision is also contemplated in LDC 9.233 (j). Criterion met with the following Condition of Approval #24.

Condition of Approval #24: Prior to final plat acceptance and approval by the City, the final plat submitted by the applicant shall include the requirements listed in LDC 9.236 and **include a plat note on the final plat stipulating that no platted lot may provide legal or physical access to the unsubdivided remainder.**

LDC 9.805 Improvement Agreement.

Before City final approval of a development, site plan or land division, the developer or land divider shall file with the City an agreement between developer or land divider and the City, specifying the period within which required improvements and repairs shall be completed and providing that, if the work is not completed within the period specified, the City may complete the work and recover the full cost and expense, together with court costs and attorney fees necessary to collect said amounts from the developer or land divider. The agreement shall also provide for reimbursement of the City's cost of inspection in accordance with Section 9.801 (f).

Discussion: The requirement, as specified in LDC 9.805, for an agreement between the developer or land divided and the City specifying the period within which required improvements and repairs will be completed will be a condition of approval, prior to final plat approval. The agreement shall include language consistent with the City completing the work and recovering of full cost and expenses, together with court costs and attorney's fees, if necessary.

Recommended FINDING for approval: Prior to final plat approval, the applicant and or developer shall enter into an agreement, with the City of Lowell, consistent with the specification of LDC 9.805. Criterion me with the following Condition of Approval #25.

Condition of Approval #25: Prior to final plat approval, the applicant and/or developer shall enter into an agreement, with the City of Lowell, consistent with the specification of LDC 9.805.

LDC 9.806 Security.

(a) The developer or land divider shall file with the agreement, to assure full and faithful performance thereof, one of the following:

(1) A surety or performance bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the City Attorney; or

(2) A personal bond co-signed by at least one additional person together with evidence of financial responsibility and resources of those signing the bond sufficient to provide reasonable assurance of ability to proceed in accordance with the agreement to the satisfaction of the City Council: or

(3) A cash or negotiable security deposit.

(b) Such assurance of full and faithful performance shall be for a sum approved by the City as sufficient to cover the cost of the improvements and repairs, including related

engineering and incidental expenses, and to cover the cost of City inspections and other costs.

(c) Prior to acceptance of required public improvements, the developer or land divider shall file one of the above listed assurances with the City, in an amount equal to 20% of actual construction costs, as a warranty towards defects in materials and workmanship identified for a period of no less than one year after City acceptance of the public improvements. The City may agree to a longer warranty period in lieu of the above required assurances.

Discussion: Securities in the form of a surety or performance bond, or a personal bond co-signed by at least one additional person together with evidence of financial responsibility or a cash or negotiable security deposit shall be required of the applicant / developer to ensure public improvements are performing adequately for a period of not less than one year after city acceptance. This will be a condition of approval.

Recommended FINDING for approval: Securities in the form(s) listed above in LDC 9.806 shall be required to assure performance of public improvements installed by the applicant. Prior to final plat approval, the applicant shall provide the City Administrator evidence showing that the requirements as listed in LDC 9.806 are satisfied and an agreement has been reached between the applicant and the City. Criterion met with the following Condition of Approval #26.

Condition of Approval #26: Prior to final plat approval, the applicant shall provide the City Administrator evidence showing that the requirements as listed in LDC 9.806 are satisfied and an agreement has been reached between the applicant and the City.

LDC 9.807 Noncompliance Provisions.

(a) If the developer or land divider fails to carry out provisions of the agreement, the City shall provide written notice to the developer or land divider and the surety specifying the details of noncompliance. Unless the City allows more time for compliance because of circumstances beyond the developer or land divider's control, within 30 days after receiving the notice, the developer or land divider or the surety shall commence compliance and proceed diligently to comply with the agreement.

(b) If the developer or land divider or the surety does not begin compliance within the 30 days or the additional time allowed by the City, or compliance is not completed within the time specified in granting the land division approval, the City may take the following action:

(1) Notify the developer or land divider and the surety of the developer or land divider's failure to perform as required by this Code and the agreement.

(2) Demand payment from the developer or land divider or the developer or land divider's surety for the unfulfilled obligation.

(3) Enter upon the site and carry out the obligation in accordance with the provisions of the approval and agreement.

(4) If the security for the obligation is a performance bond, notify the surety that reimbursement for City expenses for fulfillment of the obligation is due and payable to the City. If the security is a deposit of cash or other assets, appropriate as much of the deposit as is necessary to recoup City expenses.

(5) Void all approvals granted in reliance on the agreement.

(c) If the bond or other required security is not sufficient to compensate the City for expenses incurred to fulfill the obligation, the amount due to the City for the obligation is a lien in favor of the City upon the entire contiguous real property of the owner of the land subject to the obligation.

(d) The lien attaches upon the filing with the City Recorder of notice of the claim for the amount due for the fulfillment of the obligation. The notice shall demand the amount due, allege the insufficiency of the bond or other security to compensate the City fully for the expense of the fulfillment of the obligation, and allege the developer or land divider's failure to fulfill the required obligation.

(e) The lien may be foreclosed in the manner prescribed by law for foreclosing other liens on real property.

(f) The remedies set forth for non-compliance are cumulative. In addition to the remedies set forth above, non-compliance by the developer or his surety with any term of a performance guarantee shall entitle the City to pursue any civil remedy permitted by law.

Recommended FINDING for Approval: In the event the developer or land divider cannot fulfill its obligation, as provided for in LDC 9.807, the City has the authority to commence the securities provision of LDC 9.806, or enter upon the site and carry out the obligation in accordance with provision of the approval and agreement. In such events, the City will work closely with the City Attorney to initiate proceedings, if necessary. Criterion met as discussed.

LDC 9.231 Submission Requirements. Within 18 months after approval of the Tentative Plan, the land divider shall cause the land division to be surveyed and a Plat prepared and submitted to the City for approval. This time period may be extended for up to one year upon the approval of the Deciding Authority. The Plat shall be in conformance with the approved tentative Plan. All public improvements required by the tentative plan approval must be completed and accepted prior to the City's approval of the Plat, unless the applicant provides security to assure public improvements will be completed. If the land divider fails to submit the Plat for approval within 18 months or as extended, he must reapply for approval and resubmit the Tentative Plan with any revision necessary to comply with changed conditions.

Recommended FINDING for Approval: Within 18 months after approval of the Tentative Plan, the land divider shall cause the land division to be surveyed and a plat prepared and submitted to the City for approval. This time period may be extended for up to one (1) year upon the approval of the Deciding Authority, in the case of a subdivision, the Deciding Authority shall be City Council.

All public improvements required by the tentative plan approval must be completed and accepted prior to the City's approval of the final plat. If the land divider fails to submit the final plat for approval within 18 months or as extended, they must reapply for approval and resubmit the tentative plan with any revision necessary to comply with and changed conditions. The tentative plat approval will expire 18 months after final City tentative approval or as extended, by the Deciding Authority. Criterion met as discussed.

5. Consistency with applicable Comprehensive Plan policies.

Housing Need Policy (c) 4. The City shall insure that residential development is supported by the timely and efficient extension of public facilities and services.

Recommended FINDING for approval: Currently, little to no public infrastructure exists on the subject property. Installing the public infrastructure required for the 26 lot subdivision has the ability open up further residential opportunities in the future and an extension of Lowell's public street system as called for in the Lowell Master Road Plan and Map.

Housing Need Policy (c) 5. The City shall continue to support increased residential development while also encouraging businesses and commercial activities that support residential community needs.

Recommended FINDING for approval: The City is continuing to support residential growth. The addition of a 26-lot single family residential home development has the ability to attract more people that wish to live and work in Lowell, thereby, spurring the chance for increased business and commercial activity.

Development Constraints (c) (1) Topography and Slope.

Recommended FINDING for approval: The Lowell Comprehensive Plan lists topography and slope as a development constraint. As such, Lowell adopted specific Hillside Development Standards that developers shall adhere to in the event development occurs on slopes of 15 percent or greater. As contained in this staff report and associated findings and conditions of approval. Hillside Development standards apply and will be enforced by the City.

Development Constraints (c) (2) Soils & Geology/Landslide Hazards.

Recommended FINDING for approval: The City has no comprehensive geological study related to the potential for landslide hazards as a result of additional development. As such the City is unable to quantify the extended of landslide hazard development constraints. However, as included in the Hillside Development Standards of the LDC and the reports required for development in areas that quantify as hillside development, the City does require a Soils and Geology Report, which has been discussed and conditioned as contained in this staff report.

6. Recommendation

As discussed, and conditioned in this staff report, staff recommend the Planning Commission issue a recommendation for **APPROVAL** onto City Council for final action for a tentative plat for a 26 lot

single family home subdivision and variance to LDC 9.516, as discussed.

7. Conditions of Approval

Discussion: In the process of completeness review and further discussion with the applicant, there are several items that remain to be reviewed and approved by the City Engineer. Between the City and applicant, it was determined the items could be discussed, reviewed and approved during the construction drawing phase, as they relate to more engineering specifics. Staff have included these items as conditions of approval that shall be satisfied after tentative map approval and addressed during the construction drawing phase and ultimately approved by the City Engineer, prior to final plat approval or the issuance of building permits. The items and comments that need addressed between the applicant's engineer and City Engineer as included in this staff report as **Attachment E** and incorporated as **Condition of Approval # 27**. Condition of Approval #28 can and will be considered satisfied by verbal or written communication from the City Engineer that all engineering related items have been sufficiently addressed by the applicant's engineer, as contained in the City Engineer's comments dated September 19, 2019 and incorporated herein as **Attachment E**.

Staff have included a running list of all condition approval applicable to this proposal:

Condition of Approval #1: Prior to final plat approval, applicant shall submit a final drainage plan, to the City Administrator for review and approval to ensure adequate drainage can still be attained after reviewing more detailed construction and drawing plans. If the final drainage plan causes changes to the tentative map as approved, the changes shall be presented to Planning Commission and City Council for consideration, prior to final plat approval.

Condition of Approval #2: Prior to final plat approval, the applicant shall include on the final plat and construct a right-hand turn lane as indicated in the referral comments by Lane County Transportation. See **Attachment D** for Lane County Transportation referral comments. Additionally, see **Attachment S** for Lane County Urban Collector Standards and a Sketch of North Moss Street.

Conditions of Approval #3: The applicant shall record and execute a "Farm/Forest Management Easement" with Seneca Timber, as indicated in **Attachment O**, wherein the applicant acknowledges and accepts the activities, including but not limited to, noise, dust and general incompatibility with nearby residential homes. Evidence shall be submitted to the City showing compliance with this condition, prior to final plat approval.

Condition of Approval #4: Given the subject site's close proximity to active forest management operations and adjacent to the Farm/Forest Interface, future buildings shall be constructed with fire-resistant materials and for chimneys to have spark arrestors. **This requirement shall be included on the final plat as a plat note.** These provisions address a significant and unreasonable risk to health and safety as contemplated in subsection (h) of the decision criteria for a subdivision.

Condition of Approval #5: Prior to final plat approval, the applicant/developer shall construct sidewalks, including curb and gutter along both sides to Crestview Drive. Sidewalks shall be inspected for compliance with Lowell standards by the City of Lowell before acceptance.

Condition of Approval #6: Prior to final plat approval and acceptance of urban public street improvements, the applicant shall install urban public street improvements to City standards.

Condition of Approval #7: Prior to final plat approval, the applicant shall submit plans to the City Administrator or his or her designee, showing slope easements as required where topographical conditions necessitate cuts or fills for proper grading of streets, additional right-of-way or slope easements.

Condition of Approval #8: Prior to final plat approval, the applicant shall show 1-foot reserve strips on the final plat. The land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed. Additionally, a locked gate shall be placed at the beginning of the private access easement to ensure access is maintained as described in the private access easement and a “No Parking” sign placed at the hammerhead turnaround.

Condition of Approval #9: Prior to final plat approval, the applicant shall install the half-street improvements along the frontage of the property, as recommended in **Attachment D**. Half-street improvements shall include sidewalks, curb and gutter. City of Lowell shall inspect improvements for compliance with City Standards and/or Lane County Standards as appropriate, prior to acceptance.

Condition of Approval #10: Prior to final plat approval, applicant shall submit evidence to the City Administrator or his or her designee, that the proposal complies with the street name signs standards as listed in the LDC.

Condition of Approval #11: Prior to final plat approval, applicant shall submit evidence to the City Administrator of his or her designee, that the proposal complies with streetlights standards as listed in the LDC.

Condition of Approval #12: Prior to final plat approval, the applicant shall provide evidence that the proposed mailbox structure has been approved by the local Post Office having jurisdiction and shall be noted on the plan as a plat note.

Condition of Approval #13: Prior to final plat approval, plans for compliance with Clear Vision Areas shall be presented to the City Administrator or his or her designee and reviewed and verified for compliance with the Clear Vision Areas standards as listed in the LDC 9.517(r).

Condition of Approval #14: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator or his or her designee evidence of an approved NPDES permit.

Condition of Approval #15: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit to the City Administrator, or his or her designee, plans for the proposed detention pond as seen on Sheet 1 as “Parcel A” plans that include a low flow pipe at the invert that will completely drain the basin without any effort from the City. Slide slopes should be 3:1 maximum, and 4:1 if it’s going to be mowed by Public Works staff. Lastly, there should be

drivable access to the detention pond, so if the City needs to perform maintenance, an excavator can easily access it.

Condition of Approval #16: The utilities plan as seen on Sheet 3 is preliminary and for tentative map approval. A final utilities plan, consistent with LDC 9.521, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.

Condition of Approval #17: The utilities plan as seen on Sheet 3 is preliminary and provided for tentative map approval. A final utilities plan, consistent with LDC 9.522, shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities.

Condition of Approval #18: Prior to final plat approval, the applicant shall include all easements, dedications, covenants, conditions or restrictions along with any supplemental data for review by the City Administrator or his or her designee. Easements shall be consistent with Lane County recording requirements and procedures and ORS 92.

Condition of Approval #19: Prior to the commencement of any site preparation, grading, or fill, the applicant shall submit specific construction plans for review and approval by the City Administrator, or his or her designee. Plans submitted shall be consistent with the Hillside Development Standards listed in LDC 9.632

Condition of Approval #20: Prior to final plat approval, the applicant shall submit for review and approval by the City Administrator, or his or her designee, a final Surveyor's Report as indicated in and consistent with subsection (a) of LDC 9.633.

Condition of Approval #21: The Soils and Geology Report shall be reviewed and approved by Planning Commission and City Council, after tentative plat approval, but prior to final plat approval. Soils and Geology Report shall be consistent with the standards and specifications as listed in LDC 9.633 (b) (1) and (2).

Condition of Approval #22: Prior to any site preparation, grading or fill, the applicant shall submit for review and approval by the City Administrator or his or her designee, Engineer's Plan, 1 through 5 as indicated in LDC 9.633 (c) (1-5).

Condition of Approval #23: Prior to final plat approval, the applicant shall submit final copies of each individual lot survey, geotechnical report, and development engineering plans for the City's record keeping purposes. Additionally, Prior to the issuance of certificate of occupancy for the proposed residential lots, evidence shall be submitted to the City Administrator that shows compliance with subsection (d) of LDC 9.633 with the purchaser of each respective lot receive a copy as described above.

Condition of Approval #24: Prior to final plat acceptance and approval by the City, the final plat submitted by the applicant shall include the requirements listed in LDC 9.236 and **include a plat note on the final plat stipulating that no platted lot may provide legal or physical access to the unsubdivided remainder.**

Condition of Approval #25: Prior to final plat approval, the applicant and/or developer shall enter into an agreement, with the City of Lowell, consistent with the specification of LDC 9.805.

Condition of Approval #26: Prior to final plat approval, the applicant shall provide the City Administrator evidence showing that the requirements as listed in LDC 9.806 are satisfied and an agreement has been reached between the applicant and the City.

Condition of Approval #27: In the process of completeness review and further discussion with the applicant, there are several items that remain to be reviewed and approved by the City Engineer. Between the City and applicant, it was determined the items could be discussed, reviewed and approved during the construction drawing phase, as they relate to more engineering specifics. Staff have included these items as conditions of approval that shall be satisfied after tentative map approval and addressed during the construction drawing phase and ultimately approved by the City Engineer, prior to final plat approval or the issuance of building permits. The items and comments that need addressed between the applicant's engineer and City Engineer as included in this staff report as **Attachment E** and incorporated as **Condition of Approval # 27.** Condition of Approval #28 can and will be considered satisfied by verbal or written communication from the City Engineer that all engineering related items have been sufficiently addressed by the applicant's engineer, as contained in the City Engineer's comments dated September 19, 2019 and incorporated herein as **Attachment E**.

Condition of Approval #28: Prior to final plat approval, the applicant shall submit a final plat that shows "Lot 27" removed and replaced with "un-subdivided remainder." The land east of the proposed Crestview Drive is the un-subdivided remainder and is not a part of the subdivision proposal.

Condition of Approval #29 From Lane County Transportation: Obtain Facility Permit approval for the proposed construction of the public street connection to and improvements to N. Moss Street. Facility Permit needed for any utility connections within the right-of-way of N. Moss Street. For more information about Facility Permits, please call 541.682.6902 or visit: https://lanecounty.org/government/county_departments/public_works/right-of-way_permits/facility_permits/

8. Informational items

- Appropriate permits to perform work within City of Lowell rights-of-way will have to be obtained by the property owner/applicant/contractor before any work in public rights-of-way can be undertaken. For questions related to performing work within City rights of way, please contact the Lowell Public Works department at 541-937-2776.
- In accordance with Lane Manual Chapter 15.515, stormwater runoff generated by new development must not be directed to the Lane County road right-of-way or into any Lane County drainage facility, including roadside ditches.

9. Attachments

Attachment A: Applicant's initial application submitted on August 22, 2019
Attachment B: Addresses & Notice
Attachment C: Oregon Department of Transportation Referral Comment
Attachment D: Lane County Transportation Referral Comments
Attachment E: City Engineer Comments from September 19, 2019
Attachment F: Wetland Delineation Report
Attachment G: DSL Concurrence Letter
Attachment H: Retaining Walls
Attachment I: Sheet 1 – Tentative Map, Revised, Submitted April 7, 2020
Attachment J: Sheet 2 – Grading Plan, Revised, Submitted April 7, 2020
Attachment K: Sheet 3 – Utilities Plan, Revised, Submitted April 7, 2020
Attachment L: Sheet 4 – Profile Plan, Revised, Submitted April 7, 2020
Attachment M: Sheet 5 – Shadow Plat, Revised, Submitted April 7, 2020
Attachment N: Geotech Report and Slopes
Attachment O: Comments from Seneca Timber Company
Attachment P: Comments from Mia Nelson, Lookout Point, LLC
Attachment Q: Copies of Existing Private Access Easements
Attachment R: Applicant's Drainage Plan/Study
Attachment S: Urban Collector Standards and Sketch of North Moss Street
Attachment T: Example of A Farm/Forest Management Easement
Attachment U: Applicant's Written Narrative for Streets
Attachment V: Applicant's Written Narrative for Decision Criteria
Attachment W: Completed TIA by Applicant
Attachment X: Applicant's Extension Request to 120-day Rule

Attachment A

Land Use Permit Application

Site Plan Review Lot Line Adjustment Partition Subdivision
 Conditional Use Variance Map Amendment Text Amendment
 Annexation Vacation Other, specify _____

Please complete the following application. If any pertinent required information or material is missing or incomplete, the application will not be considered complete for further processing. If you have any questions about filling out this application, please contact staff at Lowell City Hall, phone (541) 937-2157, 107 East Third, Lowell.

List all Assessor's Map and Tax Lot numbers of the property included in the request.

Map# 19-01-11-00 Lot # 501

Map# _____ Lot # _____

Map# _____ Lot # _____

Street Address (if applicable): _____

Area of Request (square feet/acres): 30 Acres

Existing Zoning: Low Density Residential

Existing Use of the Property: Vacant

Proposed Use of the Property Proposed Residential Subdivision

Pre-application Conference Held: No _____ Yes _____ If so, Date _____

Submittal Requirements:

_____ 1. Copy of deed showing ownership or purchase contract with property legal description.

_____ 2. Site Plan/Tentative Plan with, as a minimum, all required information. Submit one copy of all plans 11x17 or smaller; 12 copies of all plans larger than 11x17. (See attached checklist for required information)

_____ 3. Applicant's Statement: Explain the request in as much detail as possible. Provide all information that will help the decision makers evaluate the application, including addressing each of the decision criteria for the requested land use action.

_____ 4. Other submittals required by the City or provided by the applicant. Please List.

a. _____ b. _____

c. _____ d. _____

e. _____ f. _____

_____ 5. Filing Fee: Amount Due: _____.

By signing, the undersigned certifies that he/she has read and understood the submittal requirements outlined, and that he/she understands that incomplete applications may cause delay in processing the application. I (We), the undersigned, acknowledge that the information supplied in this application is complete and accurate to the best of my (our) knowledge. I (We) also acknowledge that if the total cost to the City to process this application exceeds 125% of the application fee, we will be required to reimburse the City for those additional costs in accordance with Ordinance 228.

PROPERTY OWNER

Name (print): McDougal Bros Investments Phone: 541-895-8790

Address: 600 Dale Kuni Rd.

City/State/Zip: Creswell, OR 97426

Signature: *Philip L. Vellie*

APPLICANT, If Different

Name (print): Same Phone: _____

Company/Organization: _____

Address: _____

City/State/Zip: _____

Signature: _____

E-mail (if applicable): _____

APPLICANTS REPRESENTATIVE, if applicable

Name (print): Anthony Favreau Phone: _____

Company/Organization: The Favreau Group

Address: 3750 Norwich Ave.

City/State/Zip: Eugene, OR 97408

E-mail (if applicable): favreaugroup@msn.com

For City Use. _____ Application Number _____

Date Submitted: _____ Received by: _____ Fee Receipt # _____

Date Application Complete: _____ Reviewed by: _____

Date of Hearing: _____ Date of Decision _____ Date of Notice of Decision _____

APPLICATION SITE PLAN REQUIREMENTS CHECKLIST
Lowell Land Development Code, Section 2.140

Applications for land divisions or land use requests that require a site plan shall submit the site plan on 8 1/2 x 11 inch or 11 x 17 inch black/white reproducible sheets for copying and distribution. Larger drawings may be required for presentation and City review. Drawings shall be drawn to scale. The scale to be used shall be in any multiple of 1 inch equals 10 feet (1" = 20', 1" = 30", 1" = 100', etc.) and may be increased or decreased as necessary to fit the sheet size. The Application and site plan shall show clearly and with full dimensioning the following information, as applicable, for all existing and proposed development. It is understood that some of the requested information may not apply to every application.

- _____ The names of the owner(s) and applicant, if different.
- _____ The property address or geographic location and the Assessor Map number and Tax Lot number.
- _____ The date, scale and northpoint.
- _____ A vicinity map showing properties within the notification area and roads. An Assessor Map, with all adjacent properties, is adequate.
- _____ Lot dimensions.
- _____ The location, size, height and uses for all existing and proposed buildings.
- _____ Yards, open space and landscaping.
- _____ Walls and fences: location, height and materials.
- _____ Off-street parking: location, number of spaces, dimensions of parking area and internal circulation patterns.
- _____ Access: pedestrian, vehicular, service, points of ingress and egress.
- _____ Signs: location, size, height and means of illumination.
- _____ Loading: location, dimension, number of spaces, internal circulation.
- _____ Lighting: location and general nature, hooding devices.
- _____ Street dedication and improvements.
- _____ Special site features including existing and proposed grades and trees, and plantings to be preserved and removed.

- _____ Water systems, drainage systems, sewage disposal systems and utilities.
 - _____ Drainage ways, water courses, flood plain and wetlands.
 - _____ The number of people that will occupy the site including family members, employees or customers.
 - _____ The number of generated trips per day from each mode of travel by type: employees, customers, shipping, receiving, etc.
 - _____ Time of operation, where appropriate. Including hours of operation, days of the week and number of work shifts.
 - _____ Specifications of the type and extent of emissions, potential hazards or nuisance characteristics generated by the proposed use. The applicant shall accurately specify the extent of emissions and nuisance characteristics relative to the proposed use. Misrepresentation or omission of required data shall be grounds for denial or termination of a Certificate of Occupancy.
- Uses which possess nuisance characteristics or those potentially detrimental to the public health, safety and general welfare of the community including, but not limited to; noise, water quality, vibration, smoke, odor, fumes, dust, heat, glare or electromagnetic interference, may require additional safeguards or conditions of use as required by the Planning Commission or City Council.
- All uses shall meet all applicable standards and regulations of the Oregon State Board of Health, the Oregon Department of Environmental Quality, and any other public agency having appropriate regulatory jurisdiction. City approval of a land use application shall be conditional upon evidence being submitted to the City indicating that the proposed activity has been approved by all appropriate regulatory agencies.
- _____ Such other data as may be necessary to permit the deciding authority to make the required findings.

NOTE: Additional information may be required after further review in order to adequately address the required criteria of approval.

TENTATIVE PLAN NARRATIVE

CONTACT INFORMATION

Applicant: McDougal Bros.

Site Address: Moss Street

Civil Engineer: The Favreau Group

Phone: (541) 683-7048

Date: 08/21/19

Map: 19-01-11-00-501

REQUEST

The request is for approval of a 29-Lot Residential Subdivision to be constructed on TL 19-01-11-00-501.

Sec. 9.226. - Accompanying statements.

The tentative plan shall be accompanied by written statements from the applicant giving essential information regarding the following matters:

(a) Identify the adequacy and source of water supply including:

(1) Certification that water will be available to the lot line of each and every lot depicted on the Tentative Plan for a subdivision, or

(2) A bond, contract or other assurance by the applicant that a public water supply system will be installed by or on behalf of the applicant to each and every lot depicted on the Tentative Plan. The amount of such bond, contract or other assurance shall be determined by the City Council.

RESPONSE: There is an existing 12” water line on the west side of Industrial Way that the proposed subdivision will connect. This water line can serve up to elevation 880 which includes lots 1 – 26. Lots 27 – 29 will be served by private wells. A bond, contract or other assurance by the applicant that a public water supply system to lots 1 – 26 will be installed by or on behalf of the applicant as depicted on the Tentative Plan.

(b) Identify the proposed method of sewage disposal including:

(1) Certification that a sewage disposal system will be available to the lot line of each and every lot depicted on the Tentative Plan for a subdivision, or

(2) A bond, contract or other assurance by the applicant that a sewage disposal system will be installed by or on behalf of the applicant to each and every lot depicted on the Tentative Plan. The amount of such bond, contract or other assurance shall be determined by the City.

RESPONSE: There is an existing 8” sewage line on the east side of Industrial Way that the proposed subdivision will connect. This sewage line can serve all of the proposed lots. A bond, contract or other assurance by the applicant that a public sewage disposal system will be installed by or on behalf of the applicant as depicted on the Tentative Plan.

(c) Protective covenants, conditions and deed restrictions (CC&R'S) to be recorded, if any.

RESPONSE: CC&Rs may be recorded at the time of Final Plat.

(d) Identify all proposed public dedications including streets, pedestrian or bike ways, parks or open space areas.

RESPONSE: The Tentative Plan shows a 50-foot dedication of street right-of-way. The applicant is also proposing to dedicate Lot "A" for storm detention purposes. There are no bike ways, parks or open space areas that will be dedicated.

(e) Identify all public improvements proposed to be installed, the approximate time installation is anticipated and the proposed method of financing. Identify required improvements that are proposed to not be provided and the reason why they are not considered necessary for the proposed land division.

RESPONSE: The applicant is proposing to install public streets, street lights, water system, storm drain system, sewage disposal system and communication lines. The applicant is proposing to self-finance and begin installation the summer of 2019. There are no required improvements not being provided.

(f) A statement that the declarations required by ORS 92.075 on the final Plat can be achieved by the fee owner, vendor and/or the mortgage or trust deed holder of the property.

RESPONSE: The declarations required by ORS 92.075 on the Final Plat can be achieved by the fee owner.

(g) Proposed staged subdivisions or serial partitions shall be clearly identified on the application. A time schedule for future Platting shall also be submitted. The deciding authority may require a specific time schedule for approval.

RESPONSE: The proposed residential subdivision will be constructed under one phase.

SECTION 9.516 ACCESS

(a) Every property shall abut a street other than an alley for a minimum width of 16 feet, of which 12 foot must be paved, except where the City has approved an access to multiple lots sharing the same access in which case the total width must be at least 16 feet. No more than two properties may utilize the same access unless more are approved with the tentative plan.

RESPONSE: The applicant is requesting the Planning Commission approve four properties (lots 16-19) to utilize the same access. The access will be 44 feet wide of which 20 feet will be paved. The proposed oversized access point to the proposed public street will provide safer egress and ingress than two separate access points for lots 16 – 19. In addition, the proposed common access will provide for an emergency vehicle turnaround.

Attachment B

Primary Property Owner Name	Primary Property Owner Address (Line 1)	Primary Property Owner City	Primary Property Owner Province/State	Primary Property Owner ZIP Code
WIKOFF JOHN & ROBIN HUNTER CHARLES & RACHELL	PO BOX 349	LOWELL	OREGON	97452
GOSS INVESTMENT PROPERTIES LLC	40629 JASPER-LOWELL RD	LOWELL	OREGON	97452
	40535 JASPER LOWELL RD	LOWELL	OREGON	97452
SENECA TIMBER COMPANY	PO BOX 10265	EUGENE	OREGON	97440
LOWELL INDUSTRIAL DEVELOPMENT	PO BOX 1021	FALL CREEK	OREGON	97438
LID-2 LLC	38940 JASPER LOWELL RD	FALL CREEK	OREGON	97438
GENTRACO INC	6860 SW WINDING WAY	CORVALLIS	OREGON	97333
MCDUGAL BROS INVESTMENTS	600 DALE KUNI RD	CRESWELL	OREGON	97426
MCKAY ROBERT F & BARBARA K	PO BOX 5	LOWELL	OREGON	97452
MCMAHON MARTIN CRAIG & RHONDA LEE	PO BOX 28	LOWELL	OREGON	97452
LOOKOUT POINT LLC	40160 E FIRST ST	LOWELL	OREGON	97452
NELSON-JOHNSON LIVING TRUST	40160 E FIRST ST	LOWELL	OREGON	97452
FITZHENRY SHILO R & DUNLAP NANCY R	760 N MOSS ST	LOWELL	OREGON	97452

CITY OF LOWELL
NOTICE OF PUBLIC HEARING
Mailing Date MARCH 17, 2020

Notice is hereby given for a Public Hearing by the Lowell Planning Commission for a **27-lot subdivision** of a property located at 19-01-11-00 Tax Lot 0501. Per Lowell Development Code, a subdivision requires a recommendation by Planning Commission forwarded onto City Council for final action. The dates for the Planning Commission and City Council hearings are listed below.

The Planning Commission Hearing will occur on April 14, 2020 at 7:00 pm in the Maggie Osgood Library at 70 North Pioneer Street in Lowell, Oregon.

The City Council Hearing will occur on April 21, 2020 at 7:00 pm in the Maggie Osgood Library at 70 North Pioneer Street in Lowell, Oregon

Requested Action: Creation of a 27- lot Subdivision for single family dwellings.

Owner/Applicant: McDougal Bros Investments

Applicant's Representative: Anthony Favreau, The Favreau Group

Property Location: No Address

Assessor Map: 19-01-11-00

Tax Lot: 501

Existing Area: 30.59 acres

Existing Zone: R-1, Single Family Residential

The Lowell Land Use Development Code specifies the applicable procedures and criteria for evaluation of the requested action. Applicable Code Sections include: **Section 9.204 Application Site Plan, Section 9.220 Subdivision or Partition Tentative Plan, Section 9.223 General Information, Section 9.520 Storm Drainage, Section 9.516 Access, Section 9.517 Streets, Section 9.518 Sidewalks, Section 9.236 Dedication Requirements, and Section 9.630 Hillside Development.** Additional criteria may be identified and incorporated into the Staff Report. The specific criteria will be addressed in the Staff Report. See map on reverse.

A copy of the Application, all documents and evidence relied upon by the Applicant and the Staff Report containing the applicable criteria will be available for inspection at the Lowell City Hall at least seven days prior to the public hearing meeting. The application and all applicant maps are available for anyone to inspect at City Hall or by calling or emailing Henry Hearley. See below for contact information. Copies provided at cost of printing.

Failure of an issue to be raised in the Hearing or by letter, or failure to provide sufficient detail to afford the decision makers an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals (LUBA) on that issue.

A Subdivision requires a Public Hearing (dates noted above). Oral testimony may be presented at the Hearing or written testimony may be delivered or mailed to the Lowell City Hall located at 107 East Third Street, Lowell, Oregon 97452 or emailed to Jared Cobb, City Administrator, at jcobb@ci.lowell.or.us. Or to Henry Hearley, Lane Council of Governments, 859 Willamette Street, Suite 500, Eugene, OR, 97401, hhearley@lcog.org 541-682-3089.

Written Testimony shall be received by the City no later than 4:00 pm on April 14, 2020.

For additional information please write to City Hall at the above address or call City Hall at (541) 937-2157 or fax to 541-937-2066, or to Henry Hearley at the address listed in this notice.

Subject Property



Attachment C

HEARLEY Henry O

From: BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>
Sent: October 15, 2019 1:57 PM
To: HEARLEY Henry O
Subject: RE: McDougal Bros Subdivision Notice

Good morning Henry,

ODOT does not have any comments for this proposed subdivision. Please send future development notices to our Region 2 Development Review inbox at ODOTR2PLANMGR@odot.state.or.us.

Thanks,

Doug

Douglas Baumgartner, P.E.
Region 2 Development Review Coordinator
Oregon Department of Transportation
455 Airport Rd SE, Bldg. B | Salem, OR 97301
Office: 503.986.5806 | Cell: 503.798.5793

From: HEARLEY Henry O <HHEARLEY@Lcog.org>
Sent: Monday, October 14, 2019 10:34 AM
To: BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>; ANTHONY J FAVREAU <favreaugroup@msn.com>; STANKA Danielle E <Danielle.STANKA@co.lane.or.us>
Cc: COBB Jared <jcobb@ci.lowell.or.us>; WALTERS Denise <DWALTERS@lcog.org>; Matt Wadlington <mwadlington@civilwest.net>
Subject: McDougal Bros Subdivision Notice

All,
Please see attached notice for McDougal Bros Subdivision in Lowell, Oregon.

ODOT and Lane County representatives, I've sent you both a copy of the application. Please let me know if you have any comments on the proposal.

Thank you,
Henry

Attachment D



PUBLIC WORKS DEPARTMENT | TRANSPORTATION PLANNING
3040 N DELTA HIGHWAY | EUGENE, OR 97408
PHONE: 541.682.6996

APPLICANT: McDougal Bros Investments
OWNER: McDougal Bros Investments
AGENT: Anthony Favreau, The Favreau Group
MAP & TAX LOT: 19-01-11-00-00501
BASE ZONE: Single Family Residential (R-1)
PROPOSAL: CREATE A 29-LOT SUBDIVISION FOR SINGLE FAMILY DWELLINGS.

Supplemental Comments

February 21, 2020

Thank you for submitting the TIA dated February 5, 2020 for Crestview Development in Lowell, Oregon. Lane County Transportation Planning has completed a review of the TIA submitted, and recommends the following conditions of approval:

- Provide a cul-de-sac or hammerhead turnaround at the end of the proposed private roadway per LC 15.708.

Staff concurs with the TIA that the development would not cause congestion to nearby intersection operated by Lane County. However, the review finds internal site circulation inadequate; backing out on to County Road is not permitted. High speed on N. Moss Street is also a concern for accessing to the proposed driveway. A right turn lane would address the safety concern. Staff recommends accommodating a 50 feet long turn lane as part of the frontage development by increasing the proposed 5-foot extension to an 8-foot wide extension on the east side of N. Moss Street.

November 7, 2019

Thank you for the opportunity to review and comment on this proposal. Please accept the following comments from Lane County Transportation Planning.

COMMENTS FROM LANE COUNTY TRANSPORTATION PLANNING

CONDITIONS

Lane County Transportation Planning recommends the following conditions of approval:

- Provide a Traffic Impact Analysis confirming that the proposed development does not create any safety impacts to N. Moss Street. Provide information on left-hand turning movements onto N. Moss Street from the new development.
- Obtain Facility Permit approval for the proposed construction of the public street connection to and improvements to N. Moss Street. Facility Permit needed for any utility connections within the right-of-way of N. Moss Street. For more information about Facility Permits, please call 541.682.6902 or

visit: https://lanecounty.org/government/county_departments/public_works/right-of-way_permits/facility_permits/

For informational purposes as applicable to potential development:

- In accordance with Lane Manual Chapter 15.515, stormwater runoff generated by new development must not be directed to the Lane County road right-of-way or into any Lane County drainage facility, including roadside ditches.

FINDINGS

The subject property ("property") is proposed to take access from a private access easement off of N. Moss Street. N. Moss Street, also known as Jasper-Lowell Road is a Lane County road functionally classified as an Urban Major Collector. For the purpose of establishing development setbacks, Urban Major Collectors have a minimum right-of-way width of 70 feet [LC 15.070(1)(c)(i)(cc)]. Jasper-Lowell Road (N. Moss Street) has an additional setback of 10 feet. The proposed configuration of the proposed subdivision is such that future development can reasonably conform to setback standards.

Lane Code 15.105: Dedication and Improvement Requirements

- (1) When a land division or other development is proposed, the County may require dedications of right-of-way or easements and improvements necessary to meet applicable road design standards of LC 15.700 through LC 15.708 and other requirements of this chapter. Road dedication or improvements shall be adequate to serve traffic generated by the new development.
- (2) When a traffic impact analysis is required pursuant to LC 15.697, the County may require Public Road or County Road dedications and improvements consistent with the County-approved traffic impact analysis.

Lane County requires half-street improvements along the frontage of the property on N. Moss Street.

Lane Code 15.120: Frontage requirements

- (3) Any lots or parcels abutting the right-of-way of a Public Road, County Road or a Private Access Easement (Private Road) as defined in LC 15.010(35) shall have continuous and usable abutment along said road of not less than 30 feet, except that a lawfully created lot or parcel with a minimum of 20 feet usable abutment and that existed as of April 28, 2004 is allowable.

The proposed configuration meets these requirements.

Lane Code 15.205: Facility Permits

- (3) New Development Requiring a Facility Permit. A facility permit is required for access serving new development specified in LC 15.205(3)(a) through (c) when requiring intersection with a County Road as defined in LC 15.010(35), to ensure road and driveway approaches, culverts, and other facilities and development as specified in LC 15.205(1) [above] within the right-of-way of a County Road are constructed in a manner consistent with the purpose of this chapter

Facilities and development includes, but is not limited to, road improvements, sidewalks, new or reconstructed driveway or road approach intersections, utility placements, excavation,

clearing, grading, culvert placement or replacement, storm water facilities, or any other facility, thing, or appurtenance [LC 15.205(1)].

A separate Facility Permit will be needed for the following:

- The construction of the proposed public street connection onto N. Moss Street.
- Any half-street improvements on N. Moss Street.
- Any utility connections within the right-of-way.

Lane Code 15.697: Traffic Impact Analysis Requirements

(1) A traffic impact analysis may be required as part of a complete land use application if the proposal is expected to involve one or more of the following:

- g. Project development would increase intersection or driveway volumes by 25 peak hour vehicle trips or greater on roadways classified as minor collector, major collector, minor arterial or principal arterial;**

N. Moss Street (Jasper-Lowell Road) is classified as an Urban Major Collector. Due to the fact that the proposed development will increase access volume by greater than 25 peak hour vehicle trips on a major collector road, Lane County requires the applicant to provide a Traffic Impact Analysis. Pursuant to LC 15.696(3)(c), the Traffic Impact Analysis must "evaluate all road facilities where direct access is proposed, including proposed access points, nearby intersections, and the nearest major intersection with a traffic signal.

Lane Manual 15.515: Drainage

In accordance with Lane Manual 15.515, stormwater runoff from private property must not be directed to the Lane County road right-of-way or into any Lane County drainage facility, including roadside ditches. Ditches adjacent to County roads are designed solely to accommodate stormwater runoff generated by roadways themselves.

Attachment E

HEARLEY Henry O

From: Matt Wadlington <Mwadlington@civilwest.net>
Sent: September 19, 2019 2:49 PM
To: HEARLEY Henry O; COBB Jared
Subject: RE: Letter of Incompleteness for McDougal Bros Subdivision

Henry and Jared,

I have reviewed the revised preliminary plans for the McDougal Property and some concerns which I would like to see addressed. Some of these are engineering, and some are planning, which I'm sure you'll probably have similar questions.

If you don't have any concern regarding these comments, feel free to forward them to the developer.

Drainage Report

1. I'd like to see the documentation showing how the CN numbers were derived. That is the critical number to define the difference between existing and post-development runoff, so I'd like more information on that.

Hydrology Map:

2. Basin B is 2.3 acres and drains under the private driveway. Once on the north side of the driveway that water flows to the northeast corner of lot 12. The area bounded by the driveway on the south, the Basin B drainage pattern to the northeast, and lot 12 on the west looks to be another couple acres. It is unclear where this water is proposed to be routed. There are structures on the property to the north, so isolating all this water and directing it to that corner without any further dissipation is concerning. Because of the lack of topo north of the property line, I'm unable to determine where this water would actually flow. More analysis will be required in this area, and a plan which does not address this, or concentrates flow in this manner will not be approvable.

Tentative Map (Sheet 1 of 4):

3. I'm not convinced that they have addressed the four flag lot arrangement (lots 16-19) and why the City should allow a variance from the code.

Conceptual Grading Plan (Sheet 2 of 4):

4. No lot grading is shown. With up to 8' (regularly 4' - 6') of grade differential between lots, the developer should be clear about the intention of those slopes. Per the report, all slopes are 2:1 with no retaining walls, but with lots that are only 60' wide, when a 6' vertical (12' horizontal) slope is added, there's only 48' left over. Given development code standard setbacks (assuming 2 stories = 7.5') on each side, the building will only be able to be 33' wide. Is this realistic?
5. Show grading on medium sized lots (16 & 19).

Utility Plan (Sheet 3 of 4):

6. Engineer should provide calculations proving that an 8" waterline will be sufficient to provide required pressure to upper lots during a fire-flow event.
7. Calculations will be required during final design showing that catch basins are sized to adequately capture water on continuous steep slope.
8. I recommend moving the mailbox to the east side of the detention basin property so that cars are not stopped right after intersection return.

Street Profile (Sheet 4 of 4)

9. Because the plan is to slope down to match existing pavement elevation, without a low point, we will want to see how drainage is handled to ensure runoff from development does not get onto the cross street (Moss).

--
Matt Wadlington, PE, Principal
Willamette Valley Regional Manager
d 541.982.4373 | c 520.444.4220



Civil West Engineering Services, Inc.
213 Water Ave. NW, Suite 100, Albany, OR 97322
p 541.223.5130
www.civilwest.com

From: ANTHONY J FAVREAU <favreaugroup@msn.com>
Sent: Wednesday, September 18, 2019 2:35 PM
To: HEARLEY Henry O <HHEARLEY@Lcog.org>
Cc: CALLISTER Jacob (LCOG) <jcallister@lcog.org>; COBB Jared <jcobb@ci.lowell.or.us>; WALTERS Denise <DWALTERS@lcog.org>; Matt Wadlington <mwadlington@civilwest.net>; philvelie@aol.com
Subject: RE: Letter of Incompleteness for McDougal Bros Subdivision

Henry,

Attached is the revised Hydrology Study.

Thanks,

Tony Favreau
541-683-7048

From: HEARLEY Henry O <HHEARLEY@Lcog.org>
Sent: Tuesday, September 17, 2019 10:22:24 AM
To: ANTHONY J FAVREAU <favreaugroup@msn.com>
Cc: CALLISTER Jacob (LCOG) <jcallister@lcog.org>; COBB Jared <jcobb@ci.lowell.or.us>; WALTERS Denise <DWALTERS@lcog.org>; Matt Wadlington <mwadlington@civilwest.net>
Subject: Letter of Incompleteness for McDougal Bros Subdivision

Hi Tony,

Please see the attached letter of incompleteness.

Respectfully,
Henry

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Attachment F

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: Oregon Department of State Lands, 776 Summer Street NE, Suite 100, Salem, OR 97301-1279. A single PDF of the completed cover form and report may be e-mailed to: Wetland_Delineation@dsl.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information	
<input type="checkbox"/> Applicant <input checked="" type="checkbox"/> Owner Name, Firm and Address: McDougal Bros. Attn: Philip Velie P.O.Box 518 Creswell, OR 97426	Business phone # (541) 915-8483 Mobile phone # (optional) E-mail: philvelie@aol.com
<input type="checkbox"/> Authorized Legal Agent, Name and Address (if different):	Business phone # Mobile phone # (optional) E-mail:
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.	
Typed/Printed Name: <u>Philip Velie</u> Signature: <u>Philip Velie</u> Date: _____ Special instructions regarding site access: _____	
Project and Site Information	
Project Name: Plum Creek	Latitude: 43.93418 Longitude: -122.780059 decimal degree - centroid of site or start & end points of linear project
Proposed Use: 30-Lot Subdivision	Tax Map # 19011100 Tax Lot(s) 501
Project Street Address (or other descriptive location): East of N Moss Street and Seneca Street	Tax Map # Tax Lot(s)
City: Lowell County: Lane	Township 19S Range 1W Section 11 QQ Use separate sheet for additional tax and location information
Waterway:	River Mile:
Wetland Delineation Information	
Wetland Consultant Name, Firm and Address: Schott & Associates, Inc. Attn: Jodi Reed PO Box 589 Aurora, Oregon 97002	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: Jodi@schottandassocaites.com
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.	
Consultant Signature: <u>Jodi Reed</u>	Date: 10/10/2019
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Study Area size: 30.86ac Total Wetland Acreage: 0.0000	
Check Applicable Boxes Below	
<input type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> Industrial Land Certification Program Site <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____	<input type="checkbox"/> Fee payment submitted \$ _____ <input type="checkbox"/> Fee (\$100) for resubmittal of rejected report <input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee) DSL # _____ Expiration date _____ <input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____
For Office Use Only	
DSL Reviewer: _____	Fee Paid Date: ____/____/____
Date Delineation Received: ____/____/____	Scanned: <input type="checkbox"/> Electronic: <input type="checkbox"/> DSL App.# _____



SCHOTT & ASSOCIATES
Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

**JURISDICTIONAL WETLAND
DELINEATION REPORT
FOR**

Plum Creek

T19S, R1W, Section 11
Tax Lot 501
Lane County, Oregon

Prepared for

McDougal Brothers
Attn: Philip Velie
P.O. Box 518
Creswell, Oregon 97426

Prepared by

Jodi Reed
of
Schott & Associates, Inc.

Date:

October 2019

Project #: 2722

TABLE OF CONTENTS

(B) SITE ALTERATIONS	1
(C) PRECIPITATION DATA AND ANALYSIS	2
(D) SITE SPECIFIC METHODS	3
(E) DESCRIPTION OF ALL WETLANDS AND OTHER NON-WETLAND WATERS	4
(F) DEVIATION FROM LWI OR NWI	5
(G) MAPPING METHOD	5
(H) ADDITIONAL INFORMATION	6
(I) SUMMARY AND CONCLUSIONS	6
(J) DISCLAIMER	6

LIST OF TABLES

TABLE 1. PRECIPITATION SUMMARY FOR THE DATE OF FIELDWORK AND PRECEDING WATER YEAR (OCTOBER 1, 2018 – JULY1, 2019).....	2
TABLE 2. PRECIPITATION SUMMARY FOR THREE MONTHS PRECEDING FIELDWORK AND COMPARISON TO WETS AVERAGE AND NORMAL RANGE	2

APPENDICES

APPENDIX A: FIGURES	7
FIGURE 1: LOCATION MAP	8
FIGURE 2: TAX MAP	9
FIGURE 3: WETLAND INVENTORY MAP	10
FIGURE 4: USDA/NRCS SOIL SURVEY MAP	11
FIGURE 5A: RECENT AERIAL IMAGE – JULY 28, 2019	12
FIGURE 5B: HISTORICAL AERIAL IMAGE – JUNE 29, 1995	13
FIGURE 6A: WETLAND DELINEATION MAP	14
FIGURE 6B: WETLAND DELINEATION MAP-DETAIL	15
APPENDIX B: DATA FORMS	16
APPENDIX C: GROUND LEVEL PHOTOGRAPHS	17
APPENDIX D: LITERATURE CITATIONS	18

(A) Landscape Setting and Land Use

Schott & Associates (S&A) was contracted to conduct wetland delineation on a 30.86-acre study site located east of North Moss Street and Seneca Street outside Lowell, Lane County, Oregon (T19S, R1W, Section 11, tax lot 501) to document existing wetlands and other waters that may be regulated under the Clean Water Act (CWA) by the U.S. Army Corps of Engineers (Corps) and under the Removal-Fill Law by the Oregon Department of State Lands (DSL). This report complies with all standards and requirements set forth in Oregon Administrative Rules (OAR) 141-090-0035 (1-17) for wetland delineation reports and jurisdictional determinations for the purpose of regulating fill and removal within waters of the state. This report will be used to fulfill federal and state regulatory requirements for project permitting.

The study site was rectangular in shape and situated on a hillslope. Slopes were moderate to steep, sloped generally downward to the northwest. The slope became gentler in the northwestern corner of the site. A gravel access road was present from the northwestern corner extending east along the northern boundary, then south where it forked in several directions providing access east, southeast and south through the site. An existing powerline easement extended northwest/southeast across the southeastern corner of the site. There was a small quarry in the middle of the site.

The northeastern portion of the site was predominantly forested by Douglas fir (*Pseudotsuga menziesii*) with an understory dominated by blackberry (*Rubus armeniacus*), vine maple (*Acer circinatum*) and poison oak (*Toxicodendron diversilobum*). The southeastern portion consisted of open hillside with scattered slash piles from logging. The vegetation was dominated by velvet grass (*Holcus lanatus*) and colonial bentrass (*Agrostis capillaris*) with few scattered Oregon oak (*Quercus garryana*) and blackberry. The western half of the site featured a mixed canopy of Ponderosa pine (*Pinus ponderosa*), English hawthorn (*Crataegus monogyna*) and Douglas fir. The powerline easement along the southwestern corner of the site was cleared of forest canopy and was a grassy hillslope with scattered blackberry thickets.

(B) Site Alterations

Aerial photographs for the time period between 1995 and 2018, available from Google Earth, were reviewed to assess site history. The earliest available aerial photograph (1995; Figure 5b) depicted the study site as undeveloped with a forested landscape in the eastern portion. An unimproved road transected the site along the north boundary, ran south and southeast through the middle of the site and exited the site in the southeastern corner. The eastern edge and to the east of the site appeared to have been logged. The power line easement appears to have been placed between 1995 and 2000.

During the remaining history, the site is largely undisturbed outside of a few logging events in the eastern portion between 2000 and 2003 and again in 2016, when the unimproved road was extended to the northeastern corner of the site. The 2016 images depict a portion of the hillside being excavated near the middle of the site. The use of this

area is unknown but speculated as being used for a small quarry. The area is portrayed in Photo Point 6 (Appendix C).

(C) Precipitation Data and Analysis

Precipitation data for the date of fieldwork and the time period preceding it were reviewed to evaluate observed wetland hydrology conditions relative to actual and statistically normal precipitation. Precipitation that deviates from normal ranges can affect site conditions and impact observed wetland hydrology indicators. Precipitation data was acquired from the Natural Resources Conservation Service (NRCS) Agricultural Applied Climate Information System (AgACIS) for the Lookout Point Dam Station to provide context for observed hydrological conditions of the study area at the time of the site visit (AgACIS 2018-2019). Table 1 provides the precipitation data for the date of field work, the two weeks preceding, and the water year with comparison to the normal water year. Table 2 provides a precipitation summary for the three months preceding fieldwork and comparison to average and normal monthly ranges of precipitation representing 70% probability as reported for the Lookout Point Dam NRCS WETS station (NRCS 1981-2010).

Table 1. Precipitation Summary for the Date of Fieldwork and Preceding Water Year (October 1, 2018 – August 13, 2019)

Date of Field Visit	Observed Precipitation*				
	Date of Visit (in.)	2 weeks to-Date (in.)	Water Year to-Date (in.)	Normal Water Year to-Date (in.)	% of Normal Water Year-to-Date
August 13, 2019	0.0	0.30	25.86	44.09	58%

*Data provided by NRCS AgACIS data from the Lookout Point Dam Station, OR, 2018-2019

Table 2. Precipitation Summary for Three Months Preceding Fieldwork and Comparison to WETS Average and Normal Range

Month	Total Precipitation (inches)*	WETS Average (inches)**	WETS Normal Range (inches)**	% of Normal
July	0.22	0.67	0.21-0.79	32%
June	0.79	2.06	1.25-2.49	38%
May	2	3.4	2.21-4.09	58%

*Data provided by NRCS AgACIS data from the Lookout Dam Station, OR, 2018-2019

**Data provided by NRCS WETS station for the Lookout Dam Station, OR, 1981-2010

Fieldwork took place on August 13, 2019 when no precipitation was observed. In the two weeks preceding fieldwork, 0.30 inches of precipitation was observed. Precipitation observed in July was below the WETS average and just within the WETS normal range; in June and May, precipitation was observed below the WETS average and normal range. Precipitation for the water year (October 1, 2018-August 13, 2019) was observed at 58%

of normal (25.86 inches). Based on these measures, with a very dry July and June in conjunction with a drier-than-normal water year, it is assumed that surface and groundwater levels observed during fieldwork were somewhat lower-than-normal for the seasonally dry period of northwestern Oregon.

(D) Site Specific Methods

Prior to visiting the site, the following existing data and information was reviewed:

- Lane County tax maps (Figure 2)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Local Wetland Inventory (LWI) and Oregon Department of Forestry (ODF) mapping (Figure 3)
- U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS) gridded Soil Survey Geographic (gSSURGO) database for Lane County (Figure 4)
- Recent and historical aerial photographs provided by Google Earth (Figures 5a-5b)
- USGS National Elevation Data (NED), 1/9 arc-second, 2013 (Figure 6)
- Available documents and reports obtained from DSL

Four soil series were mapped within the study site boundary according to the USDA NRCS soil survey for Lane County. Only Hazelair silty clay loam has 3% hydric inclusions. A small triangle of Hazelair silty clay loam was mapped in the northwestern corner of the site.

Table 2. Soil Summary Table

Map Unit Name	Slopes (%)	Hydric Rating (% Inclusions)
Ritner cobbly silty clay loam	12-13	Nonhydric
Witzel very cobbly loam	3-30	Nonhydric
Chehulpum silt loam	3-12	Nonhydric
Dixonville-Philomath-Hazelair compley	12-35	Nonhydric
Hazelair silty clay loam	7-20	3%

Department of State Lands completed a Wetland Determination in July 2019 (WD2019-0400). The determination was reviewed prior to the site visit. DSL observed some camas lily (*Camassia* sp.) in the northwest corner of the site and identified a potential wetland where it was observed.

Schott & Associates visited the site on August 13, 2019 to assess for the presence or absence of onsite wetlands and waters. Formal delineation data were collected according to methods described in the *1987 Manual* and the *Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0)* to determine boundaries of wetlands subject to state and federal jurisdiction. Onsite streams or ditches, if present, were delineated via the ordinary high-water mark (OHWM) as indicated by top of bank, wrack or scour lines, change in vegetation communities or gage elevation where applicable.

Fourteen formal sample plots were established within the study site to locate wetland boundaries. For each sample plot, data on vegetation, hydrology, and soils was collected, recorded in the field and later transferred to data forms (Appendix B). Plant indicator status was determined using the 2016 National Wetland Plant List (Lichvar et al. 2016). All identified wetlands are classified according to the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) and the *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites* (DSL 2001).

Representative ground level photographs were taken to document site conditions (Appendix C; Figure 6).

(E) Description of All Wetlands and Other Non-Wetland Waters

Based on vegetation, soils and hydrology three ditches were identified totaling 1,669 ft² within the study site and no wetlands were observed. Ditch, data plot and photo point locations are shown on Figure 6.

Ditch 1: *Ditch 1* was a 940 ft² roadside ditch located along the eastern boundary of the site, adjacent to North Moss Street. The ditch extended at a gentle gradient from north to south. The ditch was less than 10 feet wide, occupying the bottom of a broad swale associated with the elevated North Moss Street to the west and subject property to the east. Portions of the ditch were very channelized and ranged from 1 to 3 feet in width with a shallow depth of 1-foot. The ditch appears to be historically man-made, associated with North Moss Street. Surface water likely flows through the feature during seasonal rains. No fish are anticipated to utilize the feature.

Ditch 2: *Ditch 2* was located in the northwestern corner of the site. The 63 ft² channelized feature appears to be manmade and associated with the access road to the north. *Ditch 2* was approximately 3 feet wide and 2-3 feet in depth with nearly vertical embankments. The feature did not extend uphill to the east and became heavily vegetated with blackberry to the west. There was no indication *Ditch 2* extended to the west to merge with *Ditch 1*. Sample plot 14 was placed within the bottom of the ditch to document conditions. Vegetation in the bottom of the ditch consisted of Fuller's teasel (*Dipsacus fullonum*, FAC) with blackberry rooted both within and outside the ditch. The soils did not meet hydric soil criteria. Wetland hydrology indicator documented included Drainage Pattern (B10), as the feature appeared to be a ditch. However, no additional indicators were observed.

Ditch 3: Ditch 3 was a 630 ft² ditch located near the north-central site boundary. This feature appeared to be man-made, associated with the unimproved road that extended south and east. A culvert was identified near the curve of the road that would route any surface flow offsite to the northwest. It is unclear where the culvert re-emerges since it appears to extend off-site. It appears surface water would flow downhill to the west into the culvert. Additionally, the southern portion of the ditch was placed on the uphill side of the unimproved road and would carry surface water north to the culvert. There was no indication the feature had recently carried surface water. It is assumed seasonal flow may occur.

Additional sample plots were placed throughout the site to document site conditions. The site was steeply sloped with few flatter and low-lying areas. Sample Plot 10 documented the area downslope of a culvert placed under the unimproved road. Vegetation was dominated by tall fescue (*Schedonorus arundinaceus*, FAC) and bentgrass with a tree canopy of ponderosa pine. Soils were dark brown (10YR 2/2) clay loam with no hydric features. No hydrology indicators were identified.

Sample Plots 1, 11, 12, and 13 document the northwestern corner of the site where topography was generally gently sloped. The DSL wetland determination indicated this area was viewed from near the access road and vegetation included camas. The August site visit found some dried vegetation, which may have been camas, but generally vegetation documented included a mix of bentgrass, Queen Ann's Lace (*Daucus carota*, FACU), tall fescue and Fuller's teasel with a shrub canopy consisting of some Oregon ash (*Fraxinus latifolia*, FACW), vine maple (*Acer circinatum*, FAC), English hawthorn and poison oak. The forested canopy was dominated by Ponderosa pine. Soils were dark brown (10YR 3/2) with no redoximorphic features. Outside of the presence of a few raised ant mounds (D6), there were no wetland hydrology indicators observed.

(F) Deviation from LWI or NWI

The Lowell LWI was completed by ESA in 2011. The LWI indicates a possible wetland (PW) in the northwestern corner of the site. This corresponds with the area of concern identified by DSL in the WD2019-0400 wetland determination. Additionally, the National Wetland Inventory indicates a palustrine emergent persistent temporary flooded (PEM1A) wetland in the northwestern corner of the site. This investigation did not document the presence of wetlands within the vicinity. A series of sample plots were placed to document site conditions.

(G) Mapping Method

No wetlands were identified within the site. Drainage boundaries were based on field indicators of OHWM. The ditch boundaries and sample plots were recorded with a handheld Trimble GPS unit capable of sub-meter accuracy following differential correction with Pathfinder Office desktop software. These data were converted to ESRI shapefile and mapped using ArcMap 10.6 desktop software.

(H) Additional Information

None.

(I) Summary and Conclusions

Based on vegetation, soils, and hydrology data, three ditches were mapped within the study site boundaries. All three features appeared to be manmade ditches associated with North Moss Street or the unimproved road that transects the site. Portions of the ditches were vegetated. No hydrology indicators were observed during the August visit; however, it is assumed that any ditch hydrology is derived from seasonal precipitation and runoff from upslope areas. The ditches dry up in the summer months. Ditch features do not support relatively permanent flows or fish habitat.

(J) Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State lands in accordance with OAR 141-090-0005 through 141-090-0055.

APPENDIX A: FIGURES

FIGURE 1: LOCATION MAP



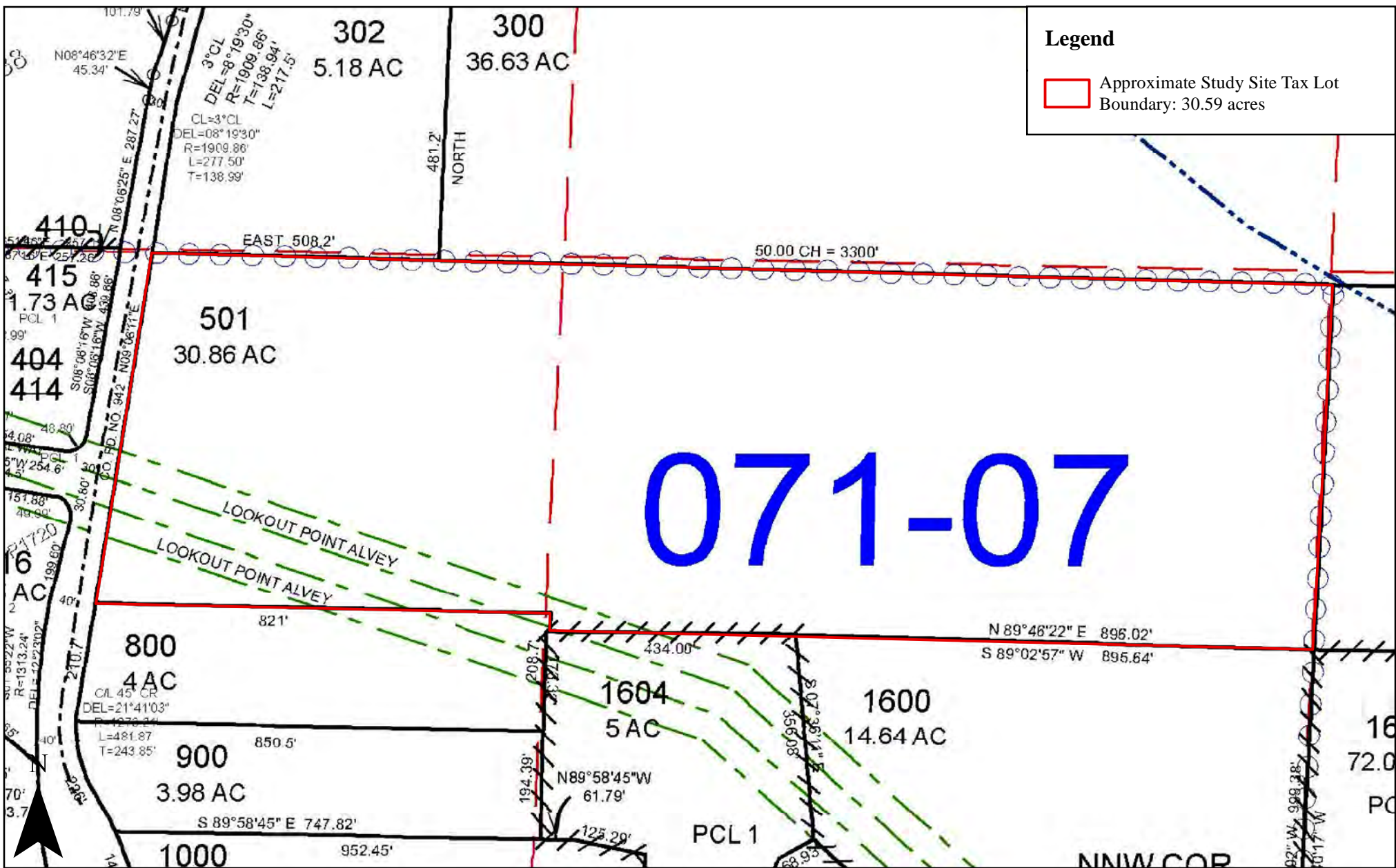
Date: 9/30/2019

Data Source: ESRI, 2019

Figure 1. Location Map

Plum Creek Project Site: S&A #2722

FIGURE 2: TAX MAP



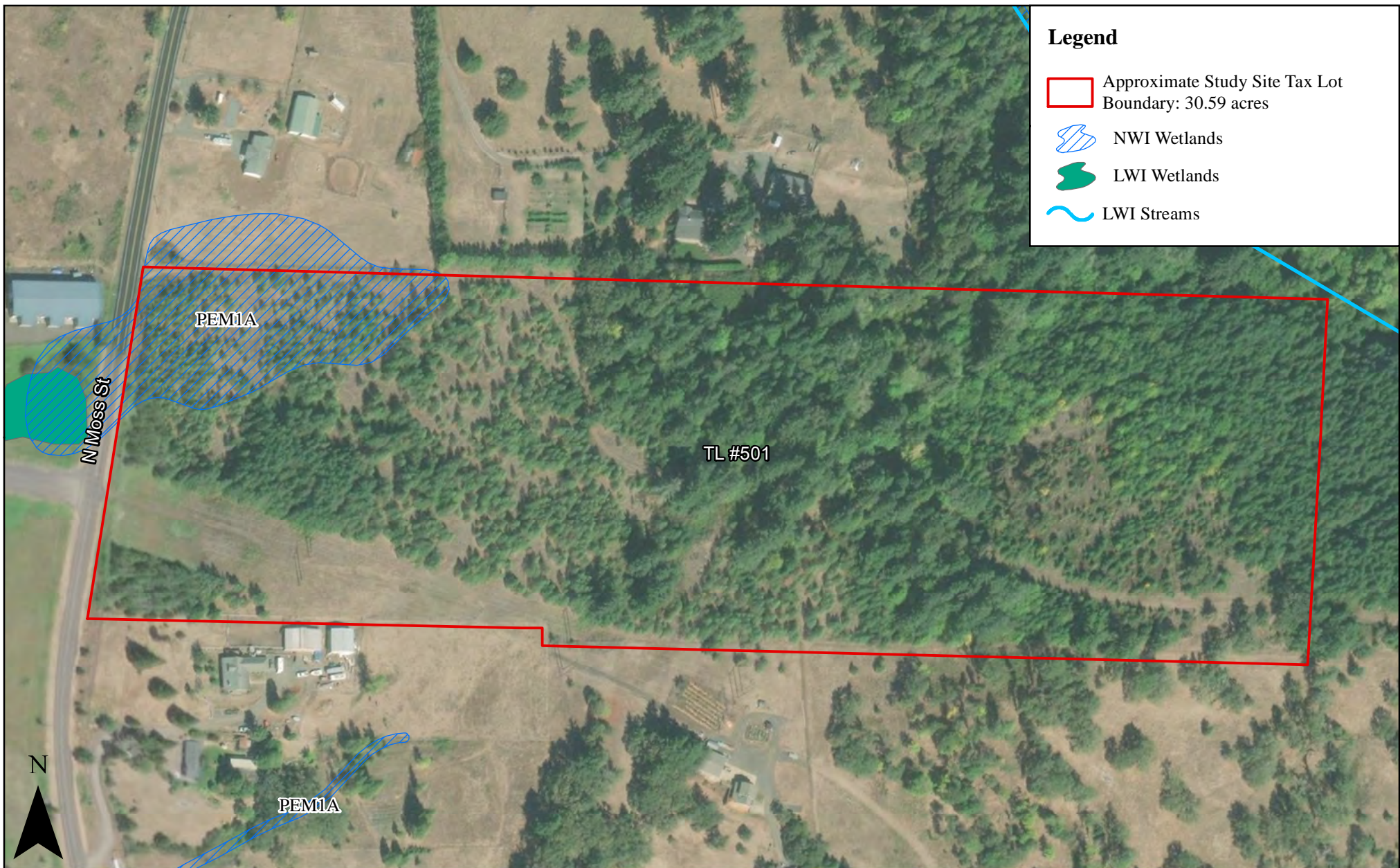
Date: 9/30/2019

Data Source: Lane County
 Zone & Plan Maps, 2019

Figure 2. Lane County Tax Map:
 19011100

Plum Creek Project Site: S&A #2722

FIGURE 3: WETLAND INVENTORY MAP



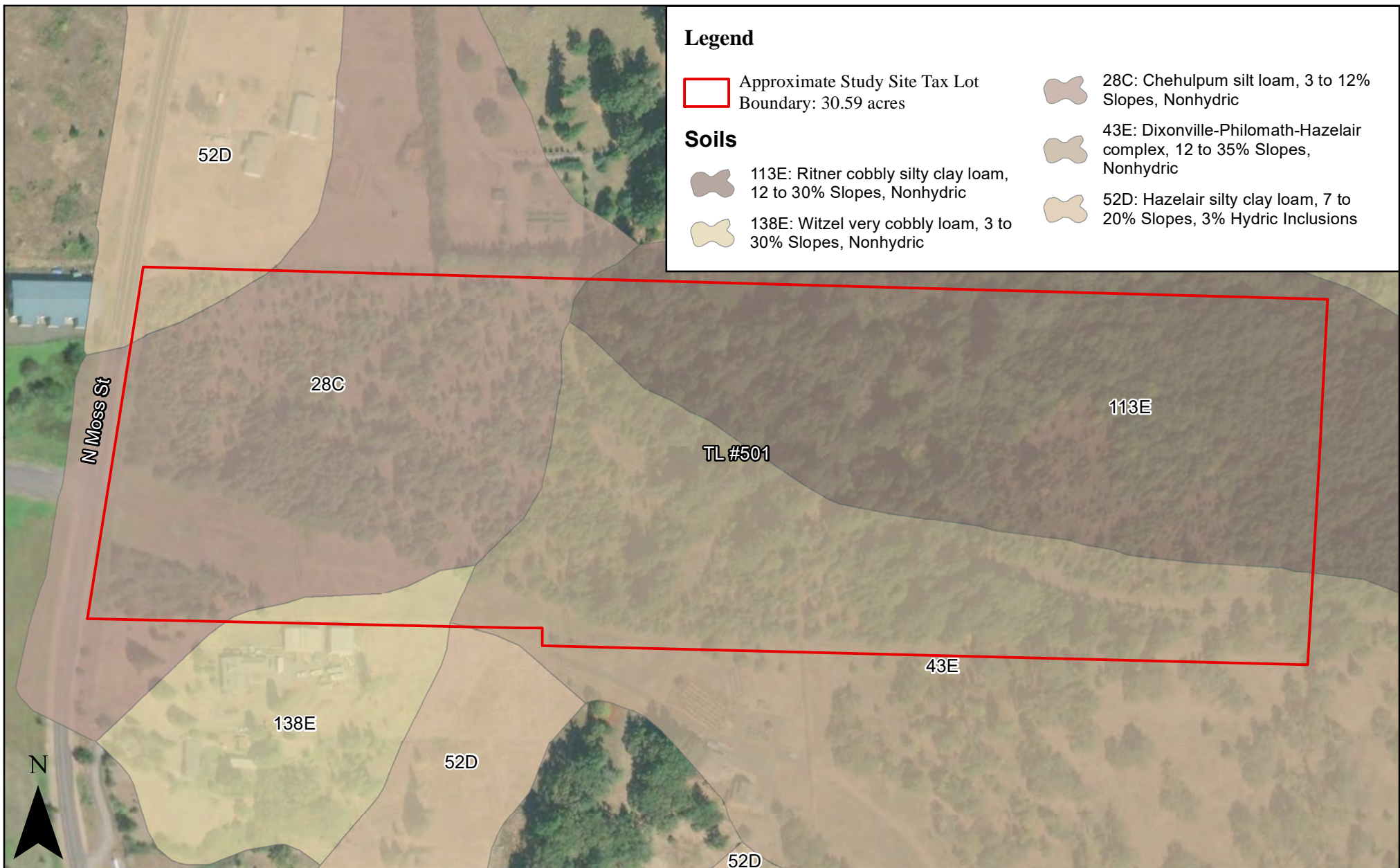
Date: 9/30/2019

Data Source: ESRI, 2019; Lane County Zone & Plan Maps, 2019; USFWS, NWI, 2018; LWI, ESA, 2011; ODF, 2018

Figure 3. Wetland Inventory and Stream Map

Plum Creek Project Site: S&A #2722

FIGURE 4: USDA/NRCS SOIL SURVEY MAP



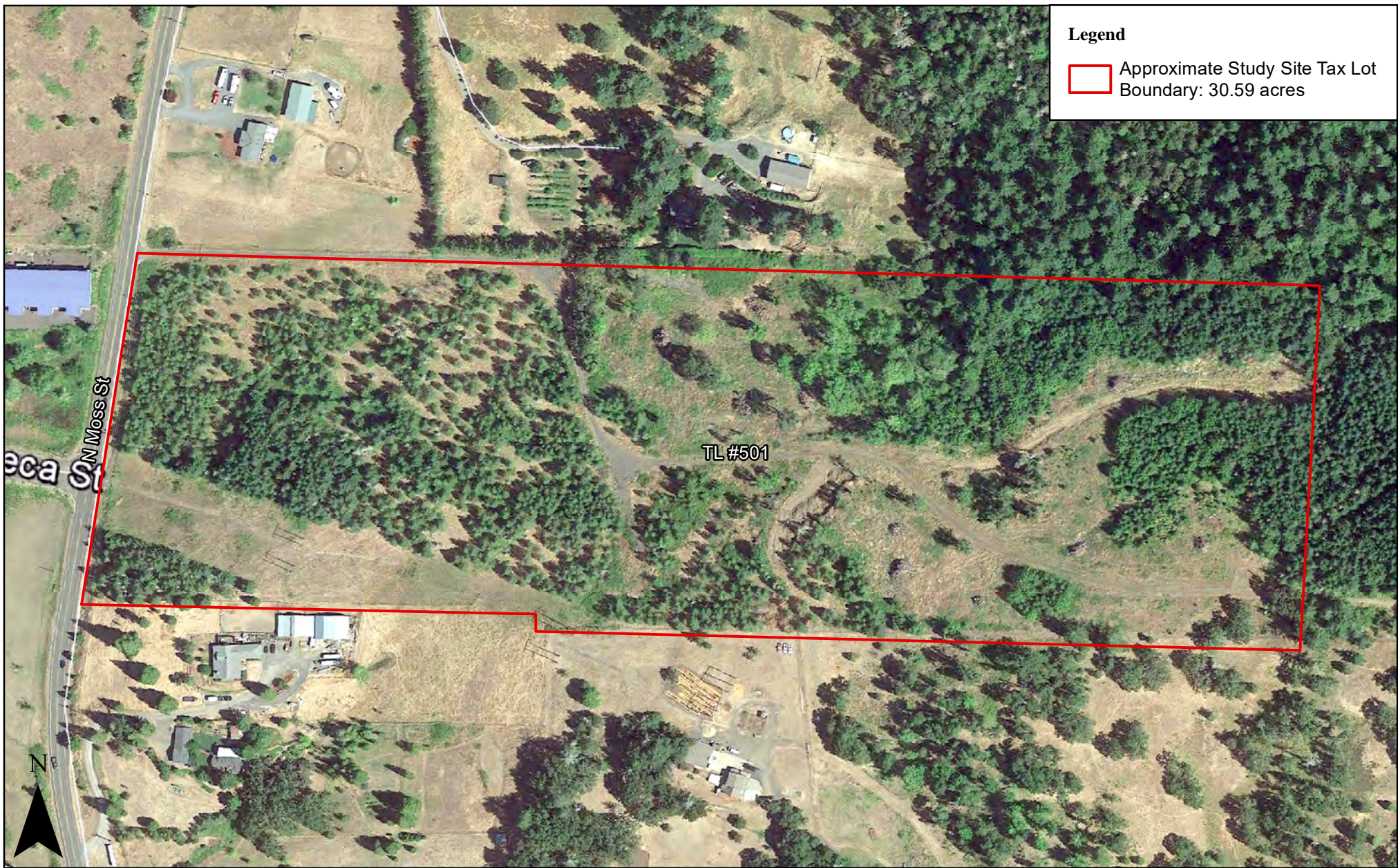
Date: 9/30/2019

Data Source: ESRI, 2019; Lane County Zone & Plan Maps, 2019; Soil Survey Staff, USDA, NRCS, 9/6/2019

Figure 4. USDA/NRCS Soil Survey Map of Lane County

Plum Creek Project Site: S&A #2722

FIGURE 5A: RECENT AERIAL IMAGE – JULY 28, 2019



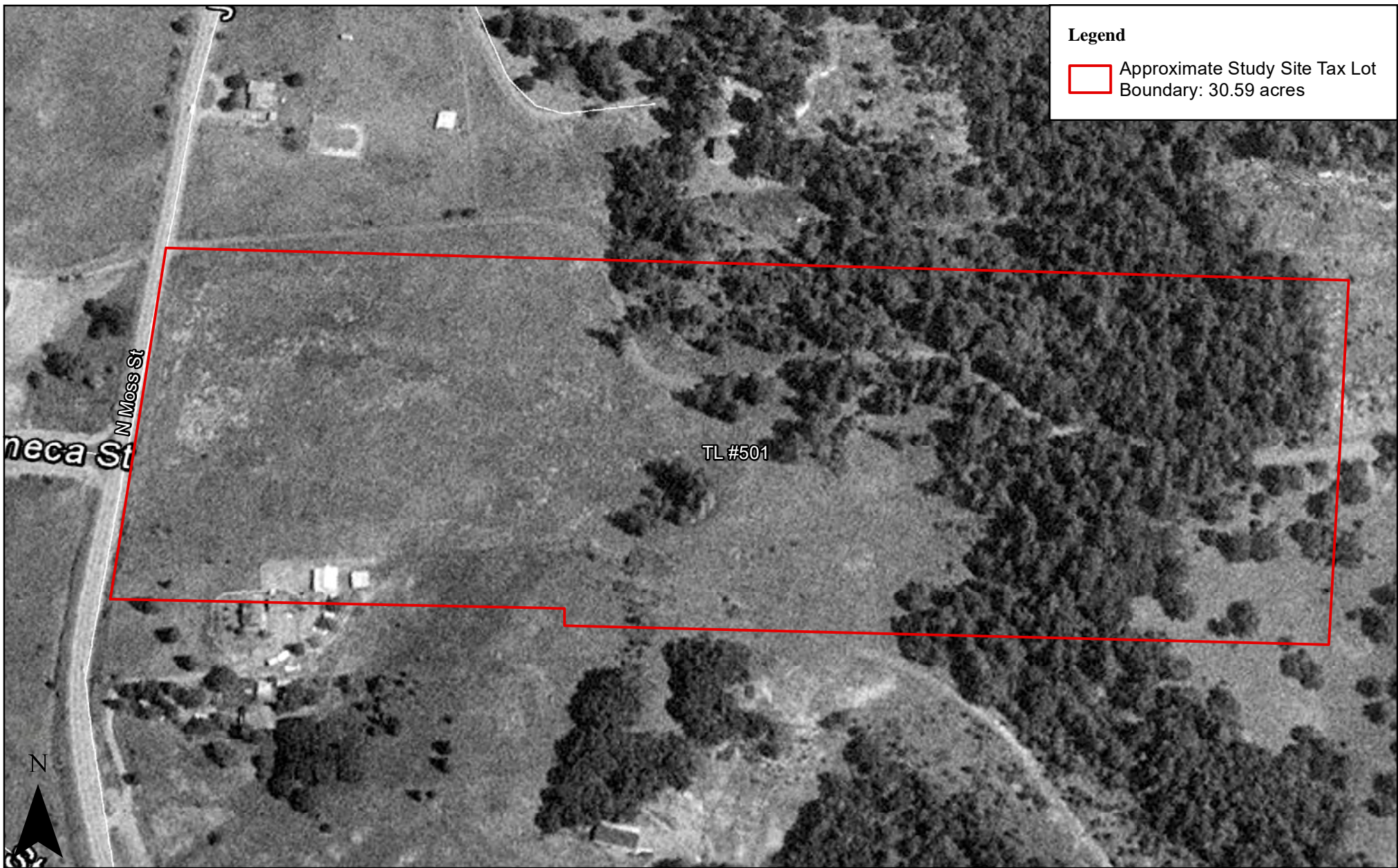
Date: 9/30/2019

Data Source: ESRI, 2019; Lane
County Zone & Plan Maps, 2019

Figure 5a. Recent Aerial Photograph -
July 28, 2019

Plum Creek Project Site: S&A #2722

FIGURE 5B: HISTORICAL AERIAL IMAGE – JUNE 29, 1995



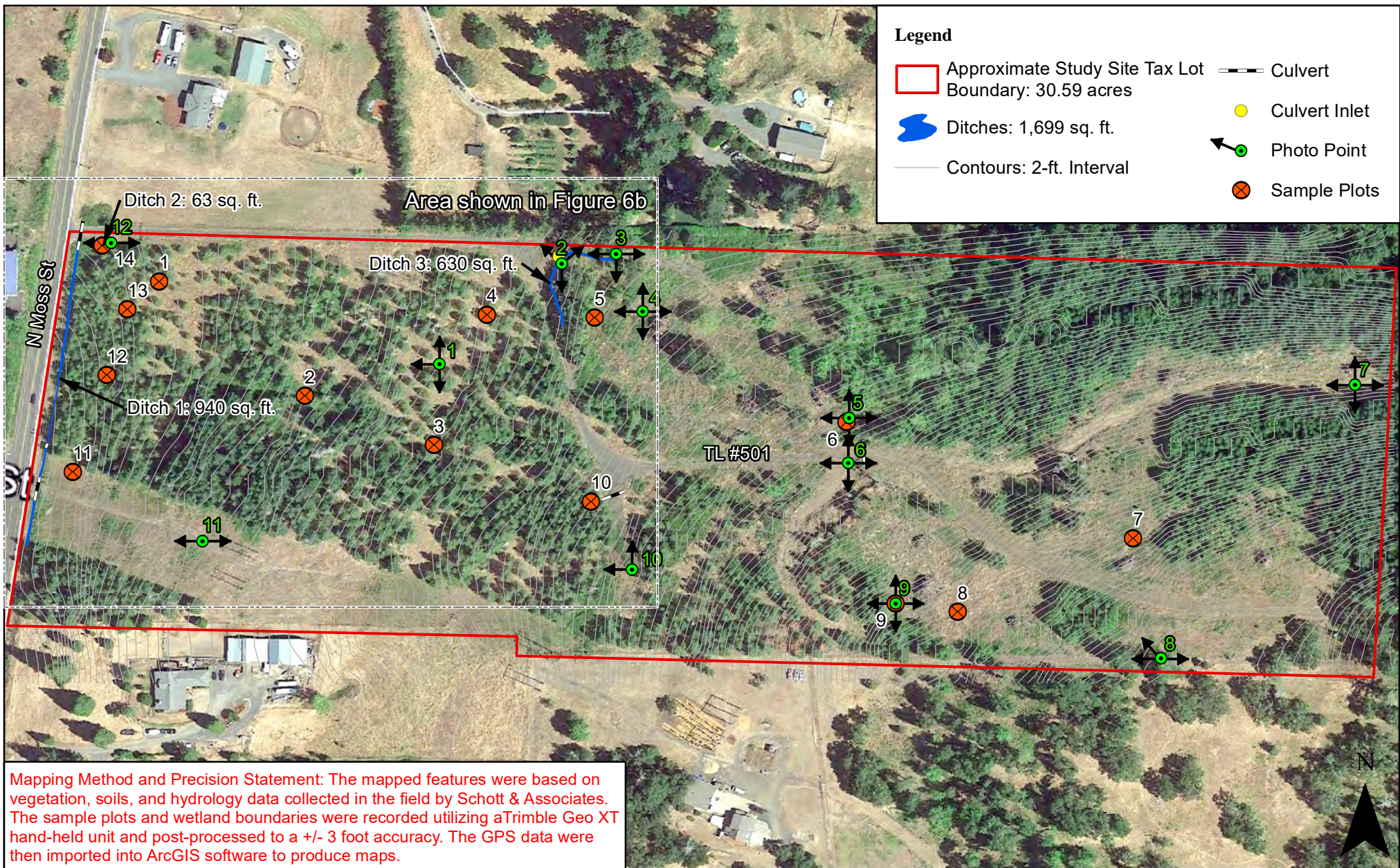
Date: 9/30/2019

Data Source: ESRI, 2019; Lane
County Zone & Plan Maps, 2019

Figure 5b. Historical Aerial Photograph -
June 29, 1995

Plum Creek Project Site: S&A #2722

FIGURE 6A: WETLAND DELINEATION MAP



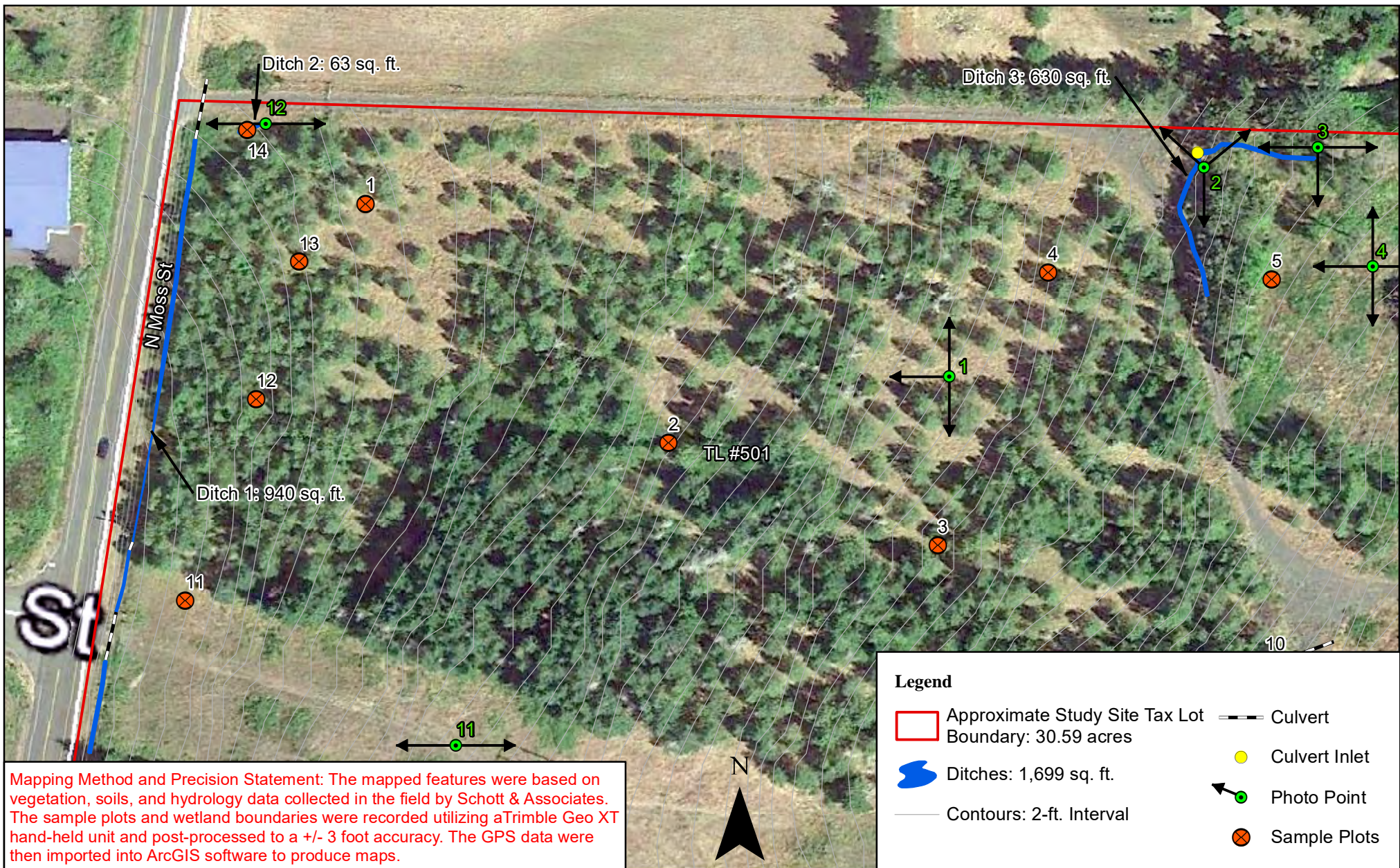
Date: 10/9/2019

Data Source: Google Earth, 2019; Lane County Zone & Plan Maps, 2019

Figure 6a. Wetland Delineation Map - Overview

Plum Creek Project Site: S&A #2722

FIGURE 6B: WETLAND DELINEATION MAP-DETAIL



Date: 10/9/2019

Data Source: Google Earth, 2019; Lane County Zone & Plan Maps, 2019

Figure 6b. Wetland Delineation Map - Detail

Plum Creek Project Site: S&A #2722

APPENDIX B: DATA FORMS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 1
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-5
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.931092 Long: -122.7827909 Datum: WGS 84
 Soil Map Unit Name: Chehulpum, silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: PEM1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u>Pinus ponderosa</u>	15	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____				
Total Cover:	15			
Shrub Stratum				Prevalence Index Worksheet:
1. <u>Rubus armeniacus</u>	T		FAC	Total % Cover of: _____ Multiply by: _____
2. <u>Quercus garryana</u>	T		FACU	OBL species _____ x1 = _____
3. _____				FACW species _____ x2 = _____
4. _____				FAC species _____ x3 = _____
5. _____				FACU species _____ x4 = _____
Total Cover:	0			UPL species _____ x5 = _____
Herb Stratum				Column Totals: _____ (A) _____ (B)
1. <u>Vicia americana</u>	20	Y	FAC	Prevalence Index = B/A = _____
2. <u>Agrostis capillaris</u>	20	Y	FAC	
3. <u>Alopecurus pratensis</u>	15		FAC	Hydrophytic Vegetation Indicators:
4. <u>Dipsacus fullonum</u>	5		FAC	_____ 1 - Rapid Test for Hydrophytic Vegetation
5. <u>Plantago lanceolata</u>	5		FACU	<u>X</u> 2 - Dominance Test is >50%
6. <u>Daucus carota</u>	5		FACU	_____ 3 - Prevalence Index is ≤3.0 ¹
7. <u>Schedonorus arundinaceus</u>	5		FAC	_____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
8. <u>Danthonia sp.</u>	25	Y	FAC	_____ 5 - Wetland Non-Vascular Plants ¹
9. _____				_____ Problematic Hydrophytic Vegetation ¹ (Explain)
10. _____				
11. _____				
Total Cover:	100			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover:	0			
% Bare Ground in Herb Stratum	0	% Cover of Biotic Crust	0	
Remarks:				

SOIL

Sampling Point: _____ 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/2	100					SiCL	
7-13	10YR 3/2	100					GSiCL	Gravelly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <u>X</u>
Type: _____	
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____	
(includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 2
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Converging slope Local relief (concave, convex, none): Concave Slope (%): 5-10
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9306163 Long: -122.7819068 Datum: WGS 84
 Soil Map Unit Name: Chehulpum, silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located on a slope. The topography is a very shallow crease. The ground is uneven and predominantly covered in brush. There is no indication this area is a drainage.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u><i>Pinus ponderosa</i></u>	15	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
2. <u><i>Pseudotsuga menziesii</i></u>	10	Y	FACU	
3. <u><i>Fraxinus latifolia</i></u>	5		FACW	
4. _____				
Total Cover: _____	30			
Shrub Stratum				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u><i>Rubus armeniacus</i></u>	20	Y	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____	20			
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u><i>Schedonorus arundinaceus</i></u>	25	Y	FAC	
2. <u><i>Holcus lanatus</i></u>	20	Y	FAC	
3. <u><i>Agrostis capillaris</i></u>	15		FAC	
4. <u><i>Cirsium arvense</i></u>	15		FAC	
5. <u><i>Alopecurus pratensis</i></u>	5		FAC	
6. <u><i>Daucus carota</i></u>	5		FACU	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: _____	85			
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover: _____	0			
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: _____ 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <u>X</u>
Type: _____ Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 3
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9304207 Long: -122.7811296 Datum: WGS 84
 Soil Map Unit Name: Chehulpum, silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located on a slope.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u><i>Pinus ponderosa</i></u>	15	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. <u><i>Crataegus monogyna</i></u>	15	Y	FAC	
3. <u><i>Pseudotsuga menziesii</i></u>	5		FACU	
4. _____				
Total Cover:	35			
Shrub Stratum				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u><i>Rubus armeniacus</i></u>	5	Y	FAC	
2. <u><i>Crataegus monogyna</i></u>	5	Y	FAC	
3. _____				
4. _____				
5. _____				
Total Cover:	10			
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u><i>Schedonorus arundinaceus</i></u>	80	Y	FAC	
2. <u><i>Agrostis capillaris</i></u>	5		FAC	
3. <u><i>Plantago lanceolata</i></u>	5		FACU	
4. <u><i>Apocynum androsaemifolium</i></u>	5		FACU	
5. <u><i>Cirsium arvense</i></u>	1		FAC	
6. <u><i>Hypericum perforatum</i></u>	5		FACU	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover:	101			
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover:	0			
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____		0		

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 2/2	100					SiL	
7-13	7.5YR 2/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <u>X</u>
Type: _____ Depth (inches): _____	

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 4
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-10
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9309893 Long: -122.7808368 Datum: WGS 84
 Soil Map Unit Name: Chehulpum, silt loam, 3 to 12 percent slopes, Nonhydic NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located on a slope, very slight hint of a swale. Documenting conditions.	

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u><i>Pinus ponderosa</i></u>	10	Y	FACU	
2. <u><i>Pseudotsuga menziesii</i></u>	5	Y	FACU	
3. _____				
4. _____				
Total Cover: _____	15			
<u>Shrub Stratum</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____	0			
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u><i>Agrostis capillaris</i></u>	40	Y	FAC	
2. <u><i>Schedonorus arundinaceus</i></u>	30	Y	FAC	
3. <u><i>Vicia americana</i></u>	15		FAC	
4. <u><i>Cynosurus cristatus</i></u>	5		FACU	
5. <u><i>Daucus carota</i></u>	5		FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: _____	95			
<u>Woody Vine Stratum</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
Total Cover: _____	0			
% Bare Ground in Herb Stratum <u>5</u>		% Cover of Biotic Crust <u>0</u>		

Remarks:

SOIL

Sampling Point: _____ 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					SiL	Very rocky soil

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes _____ No <u>X</u>
Type: _____		
Depth (inches): _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present?	Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____		
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 5
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Shallow depression/hillslope Local relief (concave, convex, none): Concave Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9309885 Long: -122.7801972 Datum: WGS 84
 Soil Map Unit Name: Ritner cobbly silty clay loam, 12 to 30 percent slopes, Nonhydic NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located on a hillslope within a shallow depression. Downslope to the west is a ditch. Topography is up slope to the east. No indications of hydrology were observed.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u>Fraxinus latifolia</u>	20	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
2. <u>Quercus garryana</u>	5	Y	FACU	
3. _____				
4. _____				
Total Cover:	25			
Shrub Stratum				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Symphoricarpos albus</u>	5	Y	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover:	5			
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Juncus patens</u>	15	Y	FACW	
2. <u>Melissa officinalis</u>	10	Y	FACU	
3. <u>Bidens sp.(unknow)</u>	5		FAC	
4. <u>Polystichum munitum</u>	T		FACU	
5. <u>Daucus carota</u>	2		FACU	
6. <u>Bromus carinatus</u>	3			
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover:	35			
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>Rubus ursinus</u>	15	Y	FACU	
2. _____				
Total Cover:	15			
% Bare Ground in Herb Stratum <u>40</u> % Cover of Biotic Crust <u>0</u>				

Remarks: Unknown Biden sp., considering FAC.

SOIL

Sampling Point: _____ 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
(includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 6
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Shallow depression/hillslope Local relief (concave, convex, none): Concave Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9305699 Long: -122.7786783 Datum: WGS 84
 Soil Map Unit Name: Ritner cobbly silty clay loam, 12 to 30 percent slopes, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located on a hillslope. Area appears to be associated with a old quarry area, the slope is a cut slope.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u>Populus balsamifera</u>	5	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
Total Cover: <u>5</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. <u>Rubus armeniacus</u>	30	Y	FAC	
2. <u>Rosa pisocarpa</u>	10	Y	FAC	
3. _____				
4. _____				
5. _____				
Total Cover: <u>40</u>				
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Holcus lanatus</u>	40	Y	FAC	
2. <u>Juncus effusus</u>	10		FACW	
3. <u>Agrostis capillaris</u>	10		FAC	
4. <u>Daucus carota</u>	5		FACU	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>65</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>35</u>		% Cover of Biotic Crust <u>0</u>		

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	7.5YR 3/4	100					SiL	
7-13	7.5YR 3/3	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 7
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9301048 Long: -122.7769548 Datum: WGS 84
 Soil Map Unit Name: Ritner cobbly silty clay loam, 12 to 30 percent slopes, Nonhydic NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Area appears to have been graded out (historically) as an access landing.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. <u>Rubus armeniacus</u>	20	Y	FAC	
2. <u>Quercus garryana</u>	5	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>25</u>				
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Holcus lanatus</u>	50	Y	FAC	
2. <u>Agrostis capillaris</u>	30	Y	FAC	
3. <u>Schedonorus arundinaceus</u>	10	_____	FAC	
4. <u>Daucus carota</u>	5	_____	FACU	
5. <u>Juncus patens</u>	5	_____	FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>100</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: _____ 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 8
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9297676 Long: -122.7779869 Datum: WGS 84
 Soil Map Unit Name: Dixonville-philomath-hazelair complex, 12 to 35 percent sloped, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Hillslope, slash piles are in the area.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. <u>Pinus ponderosa</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>5</u>				
Herb Stratum				
1. <u>Agrostis capillaris</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Schedonorus arundinaceus</u>	<u>15</u>		<u>FAC</u>	
3. <u>Holcus lanatus</u>	<u>15</u>		<u>FAC</u>	
4. <u>Cynosurus cristatus</u>	<u>15</u>		<u>FACU</u>	
5. <u>Bromus diandrus</u>	<u>5</u>		<u>NOL</u>	
6. <u>Bromus carinatus</u>	<u>5</u>		<u>NOL</u>	
7. <u>Cirsium arvense</u>	<u>T</u>		<u>FAC</u>	
8. <u>Daucus carota</u>	<u>T</u>		<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>95</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 9
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9297967 Long: -122.7783571 Datum: WGS 84
 Soil Map Unit Name: Dixonville-philomath-hazelair complex, 12 to 35 percent sloped, Nonhydic NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Hillslope, plot just below a slash pile, appears to be a shallow depression with mixed vegetation. Upslope is PIPO and RUAR. Downslope is dominated by poison oak.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. <u>Rubus armeniacus</u>	30	Y	FAC	
2. <u>Prunus sp.</u>	10	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>40</u>				
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Holcus lanatus</u>	30	Y	FAC	
2. <u>Juncus effusus</u>	30	Y	FACW	
3. <u>Agrostis capillaris</u>	10		FAC	
4. <u>Juncus patens</u>	5		FACW	
5. <u>Dipsacus fullonum</u>	5		FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>80</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 3/2	100					SiCL	
11-13	2.5Y 6/3	100					Rocky	Soil is predominantly rock ~60 %

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks: Top 11 inches of soils was dominated by slash logs, below that the soils became very rocky. There are no indications of redox or hydrology.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
(includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 10
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.930198 Long: -122.7801853 Datum: WGS 84
 Soil Map Unit Name: Dixonville-philomath-hazelair complex, 12 to 35 percent sloped, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located below a culvert that extends under an access road. Plot placed to document conditions, there does not appear to be a drainage, or wetland below the culvert. The topography flattens out and extends downslope. Any hydrology that may flow would surface flow and spread out.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u><i>Pinus ponderosa</i></u>	15	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
4. _____				
Total Cover: <u>15</u>				
Shrub Stratum				Prevalence Index Worksheet:
1. <u><i>Rosa pisocarpa</i></u>	5	Y	FAC	Total % Cover of: _____ Multiply by: _____
2. <u><i>Rubus armeniacus</i></u>	5	Y	FAC	OBL species _____ x1 = _____
3. _____				FACW species _____ x2 = _____
4. _____				FAC species _____ x3 = _____
5. _____				FACU species _____ x4 = _____
Total Cover: <u>10</u>				UPL species _____ x5 = _____
Herb Stratum				Column Totals: _____ (A) _____ (B)
1. <u><i>Schedonorus arundinaceus</i></u>	40	Y	FAC	Prevalence Index = B/A = _____
2. <u><i>Agrostis capillaris</i></u>	40	Y	FAC	
3. <u><i>Phleum pratense</i></u>	5		FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>85</u>				
Woody Vine Stratum				Hydrophytic Vegetation Indicators:
1. _____				_____ 1 - Rapid Test for Hydrophytic Vegetation
2. _____				<u>X</u> 2 - Dominance Test is >50%
				_____ 3 - Prevalence Index is ≤3.0 ¹
				_____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
				_____ 5 - Wetland Non-Vascular Plants ¹
				_____ Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
(includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 11
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Hillslope/Terrace Local relief (concave, convex, none): Concave Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9302621 Long: -122.7832737 Datum: WGS 84
 Soil Map Unit Name: Chehulpum silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot located near the western site boundary. Plot is located at the toe of slope, within open right of way for powerlines.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>0</u>				
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Agrostis capillaris</u>	40	Y	FAC	
2. <u>Daucus carota</u>	20	Y	FACU	
3. <u>Schedonorus arundinaceus</u>	20	Y	FAC	
4. <u>Chrysanthemum vulgare</u>	5		NOL	
5. <u>Danthonia californica</u>	5		FAC	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>90</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>10</u>		% Cover of Biotic Crust <u>0</u>		

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/2	100					CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <u>X</u>
Type: _____ Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 12
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9306813 Long: -122.7830875 Datum: WGS 84
 Soil Map Unit Name: Chehulpum silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: PEM1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot placed north of right-of-way within forested area.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u>Pinus ponderosa</u>	40	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. <u>Crataegus monogyna</u>	5		FAC	
3. <u>Thuja plicata</u>	5		FAC	
4. _____				
Total Cover: _____	50			
Shrub Stratum				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Acer circinatum</u>	T		FAC	
2. <u>Toxicodendron diversilobum</u>	T		FAC	
3. _____				
4. _____				
5. _____				
Total Cover: _____	0			
Herb Stratum				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Schedonorus arundinaceus</u>	60	Y	FAC	
2. <u>Agrostis capillaris</u>	40	Y	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: _____	100			
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover: _____	0			
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____		0		

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/2	100					CL	
7-14	10YR 2/2	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Raised ant mounds were present, but there was no other indication of hydrology in the area.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 13
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.930968 Long: -122.7829756 Datum: WGS 84
 Soil Map Unit Name: Chehulpum silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: PEM1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Plot placed north of right-of-way within forested area.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <u>Pinus ponderosa</u>	10	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
4. _____				
Total Cover: <u>10</u>				
Shrub Stratum				Prevalence Index Worksheet:
1. <u>Rubus armeniacus</u>	10	Y	FAC	Total % Cover of: _____ Multiply by: _____
2. <u>Fraxinus latifolia</u>	5	Y	FACW	OBL species _____ x1 = _____
3. _____				FACW species _____ x2 = _____
4. _____				FAC species _____ x3 = _____
5. _____				FACU species _____ x4 = _____
Total Cover: <u>15</u>				UPL species _____ x5 = _____
Herb Stratum				Column Totals: _____ (A) _____ (B)
1. <u>Agrostis capillaris</u>	30	Y	FAC	Prevalence Index = B/A = _____
2. <u>Schedonorus arundinaceus</u>	20	Y	FAC	
3. <u>Dipsacus fullonum</u>	5		FAC	Hydrophytic Vegetation Indicators:
4. <u>Chrysanthemum vulgare</u>	5		NOL	_____ 1 - Rapid Test for Hydrophytic Vegetation
5. <u>Plantago lanceolata</u>	5		FACU	<u>X</u> 2 - Dominance Test is >50%
6. <u>Daucus carota</u>	5		FACU	_____ 3 - Prevalence Index is ≤3.0 ¹
7. <u>Camaassia sp.?</u>	5		FAC	_____ 4 - Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____				_____ 5 - Wetland Non-Vascular Plants ¹
9. _____				_____ Problematic Hydrophytic Vegetation ¹ (Explain)
10. _____				
11. _____				
Total Cover: <u>75</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Remarks: Approximately 25 percent litter. Some of the dried vegetation may have been camas, as seen by DSL. However most of it was dried up.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 2/2	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <u>X</u>
Type: _____	
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____	
(includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Plum Creek City/County: Lowell/Lane Sampling Date: 8/13/2019
 Applicant/Owner: McDougal Brothers State: OR Sampling Point: 14
 Investigator(s): J.Reed, M. Schott Section, Township, Range: Section 11, T19S, R1W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0-4
 Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 43.9312372 Long: -122.7831341 Datum: WGS 84
 Soil Map Unit Name: Chehulpum silt loam, 3 to 12 percent slopes, Nonhydric NWI Classification: PEM1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Plot placed within small ditch. Appears to be in the same location that DSL took the plot.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Shrub Stratum				
1. <u>Rubus armeniacus</u>	40	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>40</u>				
Herb Stratum				
1. <u>Dipsacus fullonum</u>	30	Y	FAC	
2. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>30</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>30</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

Remarks: Vegetation documents the bottom of the ditch. RUAR is rooted both in and outside of the ditch. Moving west, the ditch is dominated by blackberry.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	98	10YR 3/3				LC	
4-6	10YR 3/3	100						
6-10	10YR 2/2	95	7.5YR 3/3	5	C	M	LC	
10-13	10YR 2/2	55					C	Soils are mixed.
	7.5YR 3/3	15						
	7.5YR 4/3	15						
	5B 2.5/1	15						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Plot located in bottom of ditch. Appears to be a remnant ditch. No indication outside of drainage pattern indicating hydrology.

APPENDIX C: GROUND LEVEL PHOTOGRAPHS



Photo Point 1. Facing east, upslope.



Photo Point 1. Facing south.



Photo Point 1. Facing west, downslope.



Photo Point 2. Showing culvert along northern site boundary. Culvert extends underground offsite to the north.



Path of ditch
extending south,
ditch is overgrown.
No evidence of recent
hydrology.

Photo Point 2. Facing south, showing overgrown ditch.



Photo Point 2. Facing northeast, showing ditch.



Photo Point 3. Facing west, downslope showing abandoned ditch.



Photo Point 3. Facing south, showing hillslope.



Photo Point 3. Facing east upslope, along old access road.



Photo Point 4. Facing west, downslope.



Photo Point 4. Facing north.



Photo Point 4. Facing east, upslope, showing slash pile.



Photo Point 4. Facing south, showing hillside.



Photo Point 5. Facing along hillslope, steep slopes extending north.



Photo Point 5. Facing east, showing hillside slope.



Photo Point 5. Facing south, showing slight depression from historic access road cut.



Photo Point 5. Facing west, downslope.



Photo Point 6. Facing west, downslope.



Photo Point 6. Facing south, showing what appeared to be an old rock quarry area.



Photo Point 6. Facing east, upslope.



Photo Point 6. Facing north.



Photo Point 7. Facing north, downslope.



Photo Point 7. Facing east.



Photo Point 7. Facing south, upslope.



Photo Point 7. Facing west, showing old access road.



Photo Point 8. Facing east, upslope along southern site boundary.



Photo Point 8. Facing northwest.



Photo Point 8. Facing west, along southern site boundary.



Photo Point 9. Facing east, upslope.



Photo Point 9. Facing north.



Photo Point 9. Facing west, downslope.



Photo Point 9. Facing south.



Photo Point 10. Facing west, downslope.



Photo Point 10. Facing north, showing old access road.



Photo Point 11. Facing west, downslope in powerline right-of-way.



Photo Point 11. Facing east, upslope in powerline right-of-way.



Photo Point 12. Facing west, showing Ditch 2.



Photo Point 12. Facing east.

APPENDIX D: LITERATURE CITATIONS

- Environmental Laboratory, 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS.
- Environmental Laboratory, 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), Wetlands Regulatory Assistance Program ERDC/EL TR-10-3 U.S. Army Engineer Research and Development Center. Vicksburg, MS.
- Federal Interagency Committee for Wetland Delineation, 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 138 pp.
- Federal Register, 1980. 40 CFR Part 230: Section 404(b)(1), Guidelines for Specification of Disposal Sites of Dredged or Fill Material, Vol. 45, No. 249, pp. 85352-85353, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register, 1982. Title 33, Navigation and Navigable Waters; Chapter II, Regulatory Programs of the Corps of Engineers. Vol. 47, No. 138, p. 31810, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register, 1986. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule, Vol. 51, No. 219 pp. 41206-41259, U.S. Govt. Printing Office, Washington, D.C.
- Kollmorgen Corporation, 1975. Munsell Soil Color Charts. Macbeth Division of Kollmorgen Corporation, Baltimore, MD.
- Lichvar, R.W., D.L Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 Wetland Ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN2153 733X.
- Natural Resource Conservation Service Water Agricultural Applied Climate Information Center: Lookout Point Dam. 1981-2019. U.S. Department of Agriculture. Available: <http://agacis.rcc-acis.org>
- Oregon Department of State Lands. 2012. A Guide to the Removal-Fill Permit Process. Salem, OR. April 2012.
- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed [10/4/2019]



Oregon

Kate Brown, Governor

Attachment G

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

February 20, 2020

McDougal Bros.
Attn: Philip Velie
P.O. Box 518
Creswell, OR 97426

Kate Brown
Governor

Bev Clarno
Secretary of State

Re: WD # 2019-0565 **Approved**
Wetland Delineation Report for Plum Creek;
Lane County; T19S R1W S11, TL501

Tobias Read
State Treasurer

Dear Mr. Velie:

The Department of State Lands has reviewed the wetland delineation report prepared by Schott & Associates, Inc., for the site referenced above. Based upon the information presented in the report, we concur that there are no jurisdictional wetlands or other waters of the state within the study area, as indicated on attached Figures 6a and 6b. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the study area, 3 ditches (Ditch 1-3) were identified. The ditches are exempt per OAR 141-085-0515(8) and -0515(10); therefore, they are not subject to current state Removal-Fill requirements.

This concurrence is for purposes of the state Removal-Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Lane County, Matt Unitis, at (503) 986-5262.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Ryan". The signature is fluid and cursive, with the first name "Peter" and last name "Ryan" clearly distinguishable.

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: Jodi Reed, Schott and Associates
City of Lowell Planning Department (Maps enclosed for updating LWI)
Henry Hearley, Lane Council of Governments
Benny Dean, Corps of Engineers
Charles Redon, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 776 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information	
<input type="checkbox"/> Applicant <input checked="" type="checkbox"/> Owner Name, Firm and Address: McDougal Bros. Attn: Philip Velie P.O.Box 518 Creswell, OR 97426	Business phone # (541) 915-8483 Mobile phone # (optional) E-mail: philvelie@aol.com
<input type="checkbox"/> Authorized Legal Agent, Name and Address (if different):	Business phone # Mobile phone # (optional) E-mail:
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.	
Typed/Printed Name: <u>Philip Velie</u> Signature: <u>Philip Velie</u> Date: _____ Special instructions regarding site access: _____	
Project and Site Information	
Project Name: Plum Creek	Latitude: 43.93418 Longitude: -122.780059 decimal degree - centroid of site or start & end points of linear project
Proposed Use: 30-Lot Subdivision	Tax Map # 19011100 Tax Lot(s) 501
Project Street Address (or other descriptive location): East of N Moss Street and Seneca Street	Tax Map # Tax Lot(s) Township 19S Range 1W Section 11 QQ Use separate sheet for additional tax and location information
City: Lowell County: Lane	Waterway: _____ River Mile: _____
Wetland Delineation Information	
Wetland Consultant Name, Firm and Address: Schott & Associates, Inc. Attn: Jodi Reed PO Box 589 Aurora, Oregon 97002	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: Jodi@schottandassocaites.com
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.	
Consultant Signature: <u>Jodi Reed</u> Date: 10/10/2019	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Study Area size: 30.86ac Total Wetland Acreage: 0.0000	
Check Applicable Boxes Below	
<input type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> Industrial Land Certification Program Site <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____	<input checked="" type="checkbox"/> Fee payment submitted \$ <u>454</u> <input type="checkbox"/> Fee (\$100) for resubmittal of rejected report <input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee) DSL # _____ Expiration date _____ <input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____
For Office Use Only	
DSL Reviewer: <u>MU</u> Fee Paid Date: <u>11</u> / <u>18</u> / <u>19</u> DSL WD # <u>2019-0565</u>	Date Delineation Received: <u>10/10/19</u> Scanned: <input type="checkbox"/> Electronic: <input checked="" type="checkbox"/> DSL App.# _____

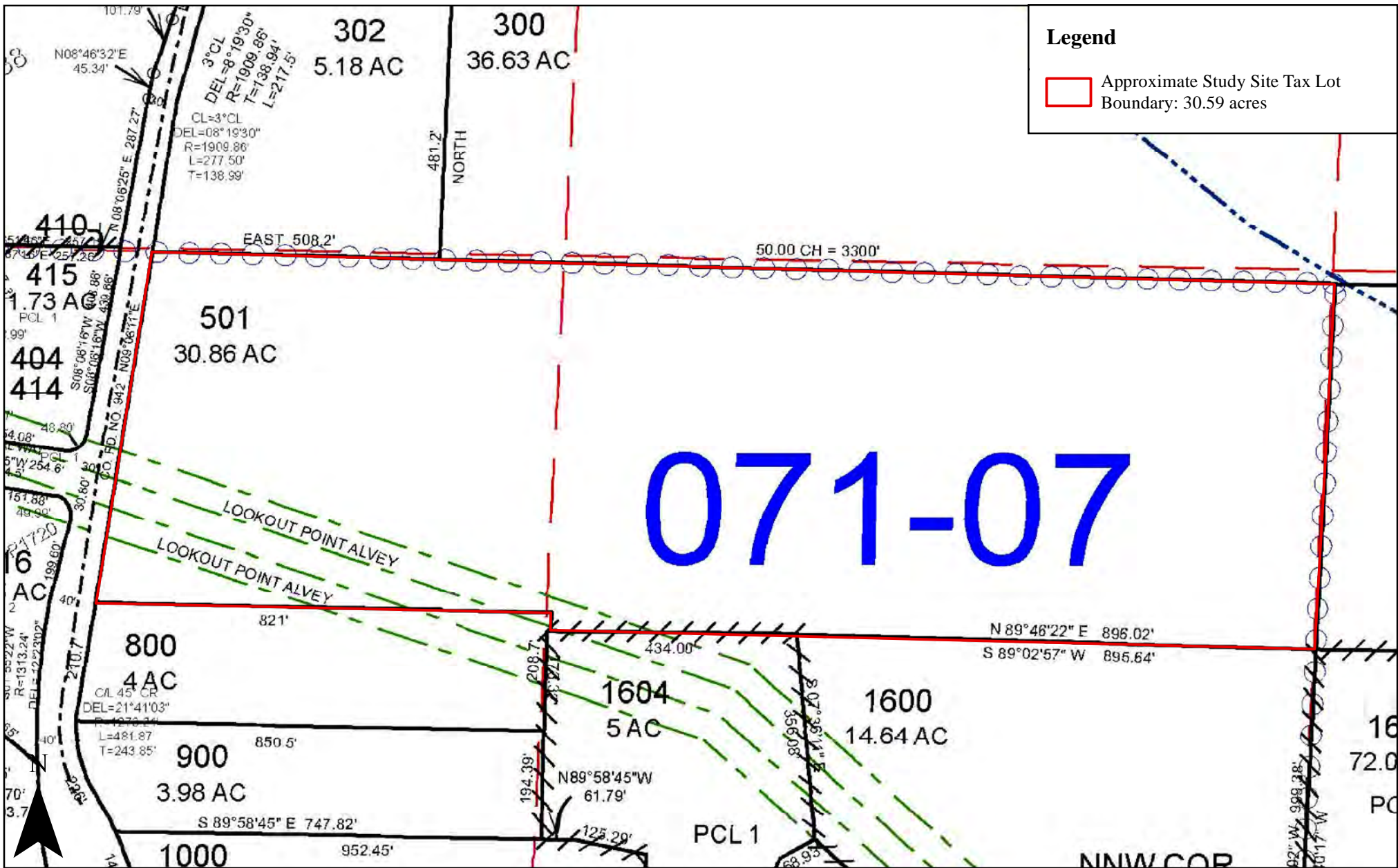


Date: 9/30/2019

Figure 1. Location Map

Data Source: ESRI, 2019

Plum Creek Project Site: S&A #2722

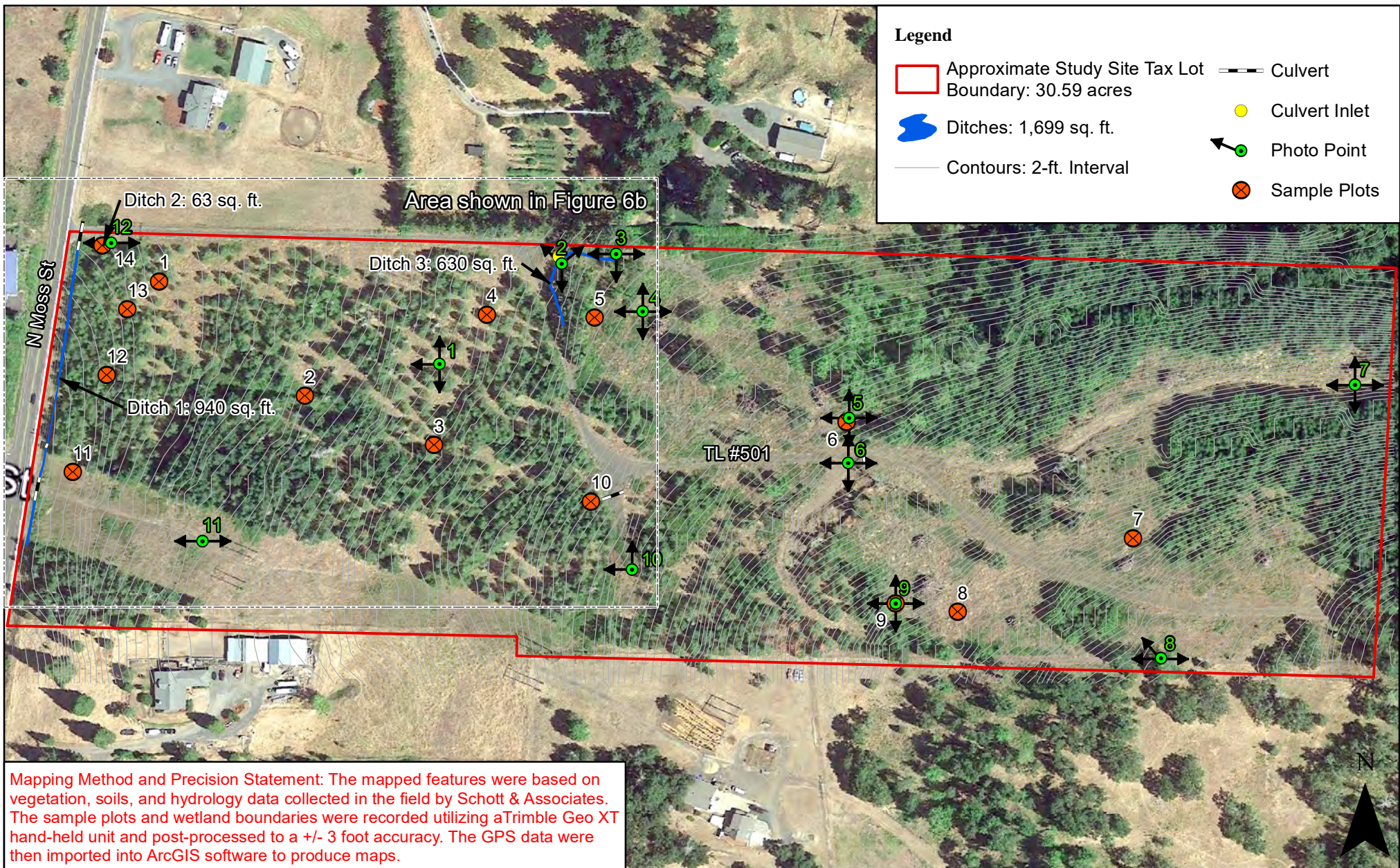


Date: 9/30/2019

Data Source: Lane County
 Zone & Plan Maps, 2019

Figure 2. Lane County Tax Map:
 19011100

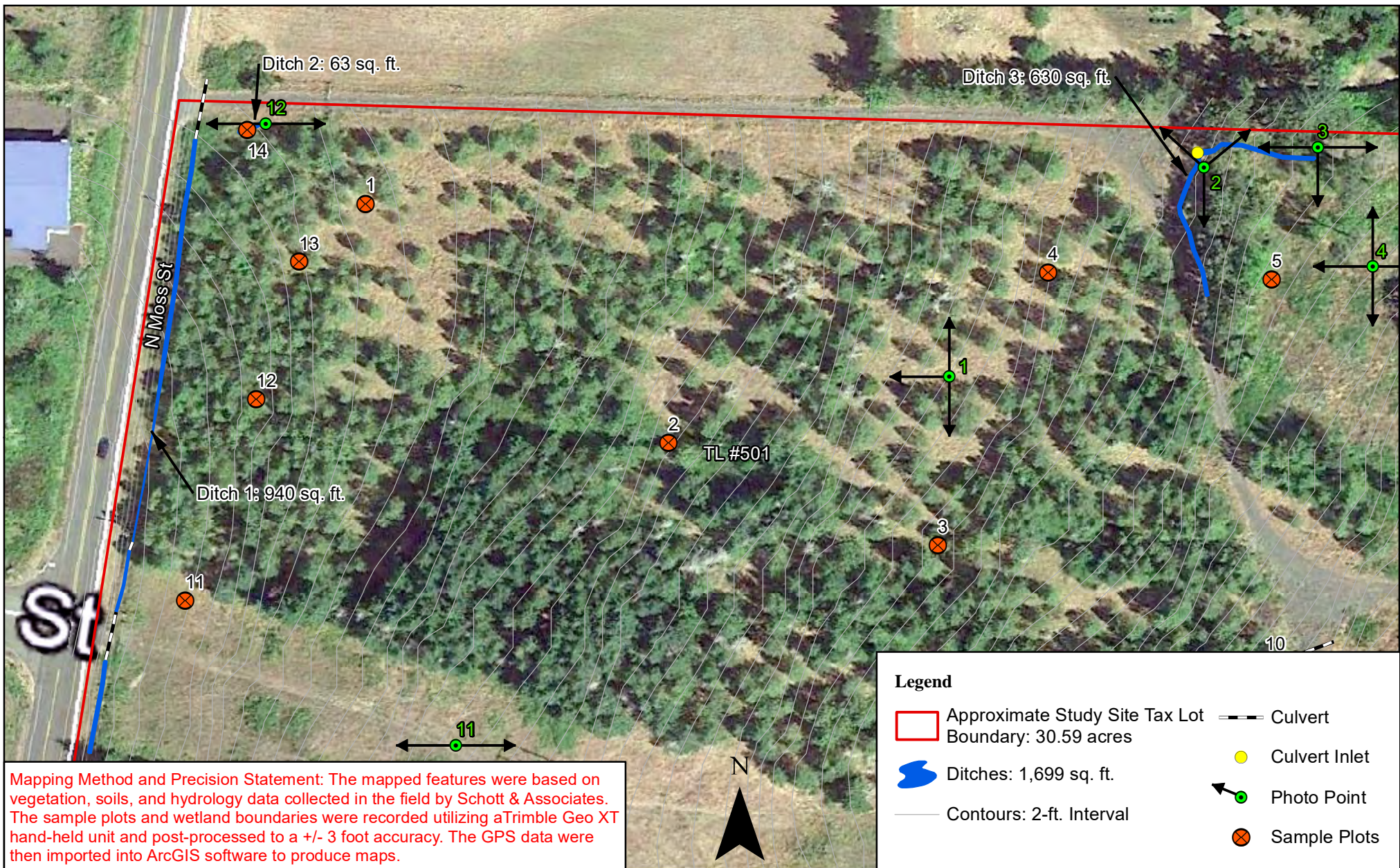
Plum Creek Project Site: S&A #2722



Date: 10/9/2019

Data Source: Google Earth, 2019; Lane County Zone & Plan Maps, 2019

Figure 6a. Wetland Delineation Map - Overview



Date: 10/9/2019

Data Source: Google Earth, 2019; Lane County Zone & Plan Maps, 2019

Figure 6b. Wetland Delineation Map - Detail

Attachment H

HEARLEY Henry O

From: ANTHONY J FAVREAU <favreaugroup@msn.com>
Sent: February 24, 2020 12:24 PM
To: HEARLEY Henry O; philvelie@aol.com
Cc: CALLISTER Jacob (LCOG); WALTERS Denise; COBB Jared; Max Baker; Matt Wadlington
Subject: RE: City Engineer Comments that need to be addressed on Tentative Map Submission for McDougal Bros Subdivision

Henry,

While I agree with Matt's assessment of the difficulty of grading for those lots, I believe this should be addressed during the building permit process since custom homes will need to be designed for most lots. During the building permit process for homes on these lots, it is highly likely retaining walls and building stem walls will be constructed to fit a house on those lots. To build retaining walls now without knowing the layout of the houses is not practical. The houses on lots 16 & 19 will likely have daylight basements, multiple steps in the building foundation, stem walls, and retaining walls. This information should be presented at the time of building permit and not at the tentative map phase. Houses can be built on these lots, but it will take a custom design to accomplish it and we are not at that point in the project.

Thanks,

Tony Favreau
541-683-7048

From: [HEARLEY Henry O](#)
Sent: Monday, February 24, 2020 11:36 AM
To: [ANTHONY J FAVREAU](#); [philvelie@aol.com](#)
Cc: [CALLISTER Jacob \(LCOG\)](#); [WALTERS Denise](#); [COBB Jared](#); [Max Baker](#); [Matt Wadlington](#)
Subject: City Engineer Comments that need to be addressed on Tentative Map Submission for McDougal Bros Subdivision
Importance: High

Hi Tony and Phil,

Matt Wadlington, the City Engineer, has a few comments that need to be addressed on the tentative map. I've attached both email correspondences with the City Engineer, so that you may review them for yourself. While Matt indicates most of the comments can be addressed during the final design phase of the project, there are two that need to be addressed as part of the tentative map approval process.

Of particular importance, as it relates to the tentative map submitted on February 5, please see the two comments below.

Conceptual Grading Plan (Sheet 2)

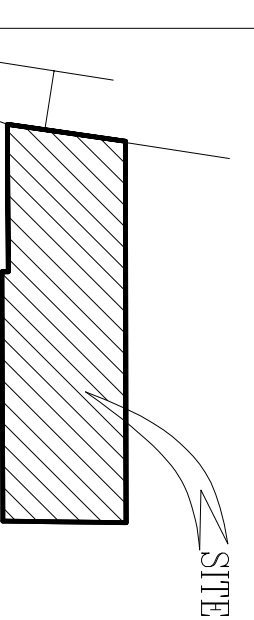
- No lot grading is shown. With up to 8' (regularly 4' – 6') of grade differential between lots, the developer should be clear about the intention of those slopes. Per the report, all slopes are 2:1 with no retaining walls, but with lots that are only 60' wide, when a 6' vertical (12' horizontal) slope is added there's only 48' left over. Given development code standard setbacks (assuming 2 stories = 7.5'), the building pad area is reduced to less than 40'. Is this realistic?

- I also think it's going to be critical to see how lots 16 & 19 are graded to see if they're viable lots. From the back of lot 16 to the back of lot 19, there's about 40' of fall. I think how these lots are going to be graded will/should impact the PC/CC discussion of allowing the flag lots.

Other comments identified in previous email (9/19/19) should be considered and addressed during design.

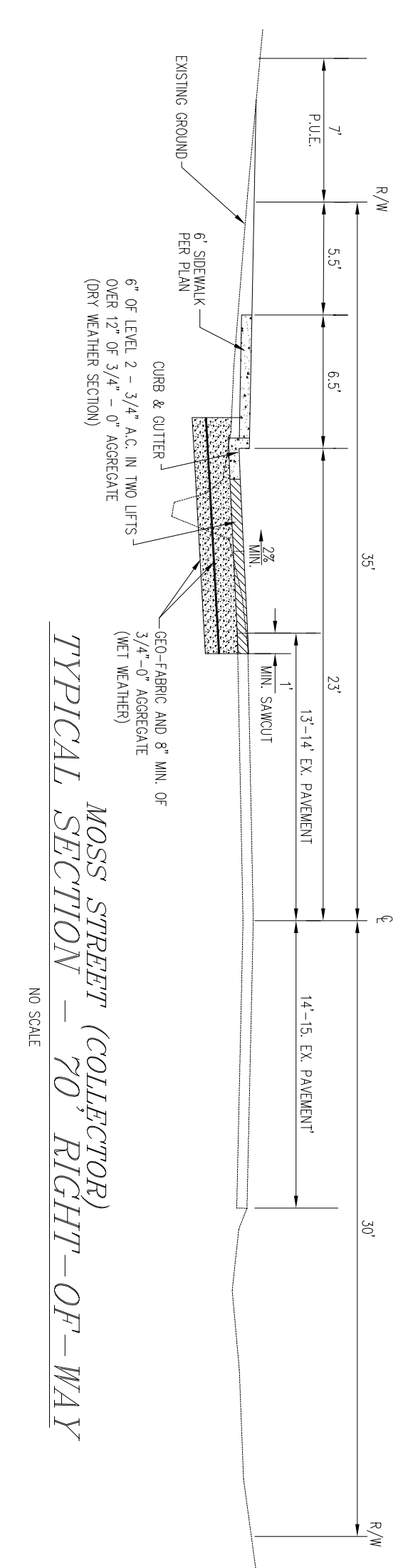
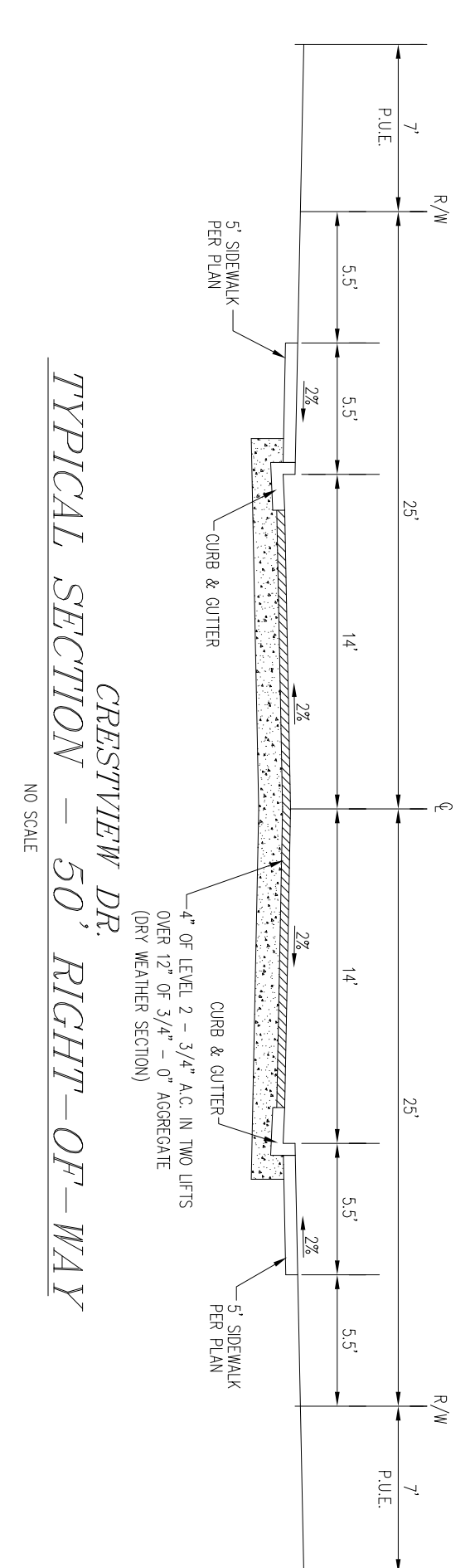
If you have specific engineering questions, please feel free to direct them to Matt.

Henry O. Hearley
Assistant Planner
Lane Council of Governments
hhearley@locg.org
541-682-3089



VICINITY MAP
NO SCALE

Attachment I

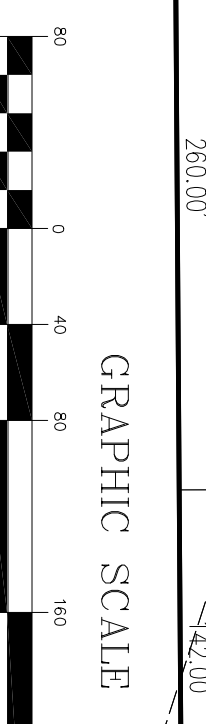
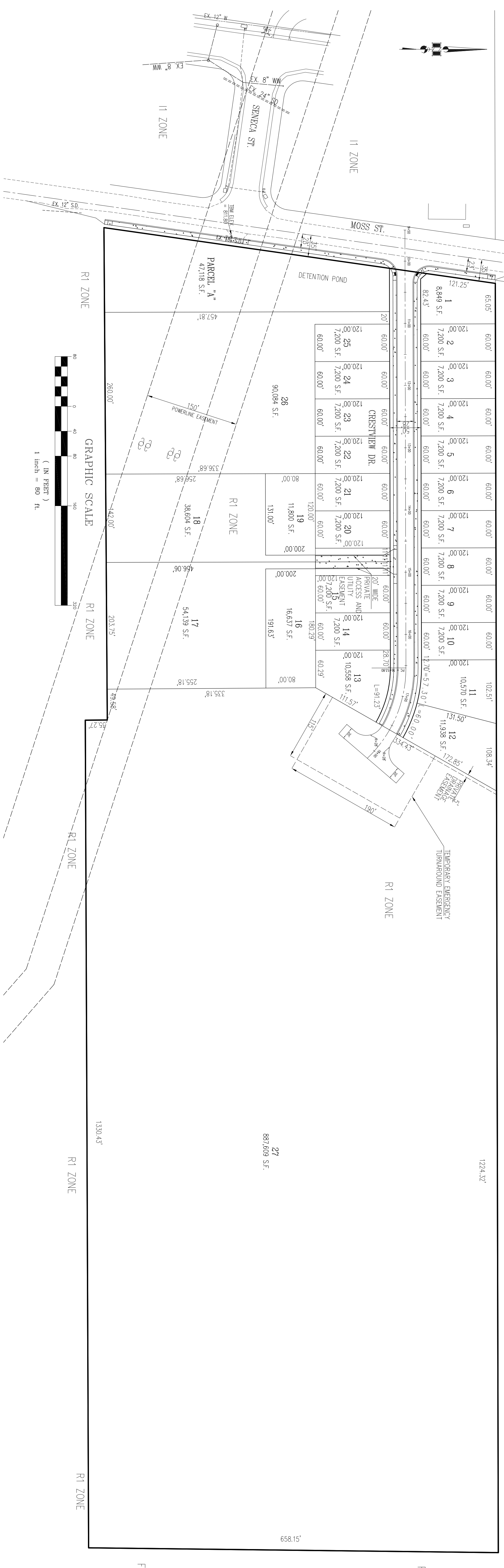
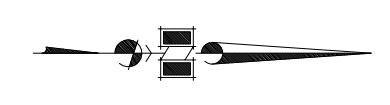


F2 ZONE

HOUSE
EL=885'

BARN
EL=868.9'

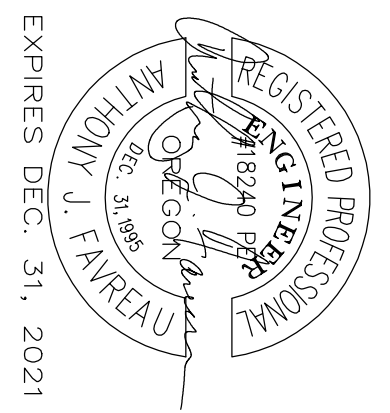
F2 ZONE



Benchmark used:
Lane County Benchmark 82
USSS Brass Cap H. 3827
NAAD 88 Elev = 719.49 feet

SOIL TYPES

#28 CHEHULUPIUM, SOIL GROUP D, WELL DRAINED
#43E DIXON-PHILOMATH-HAZELAR COMPLEX, SOIL GROUP D, WELL DRAINED

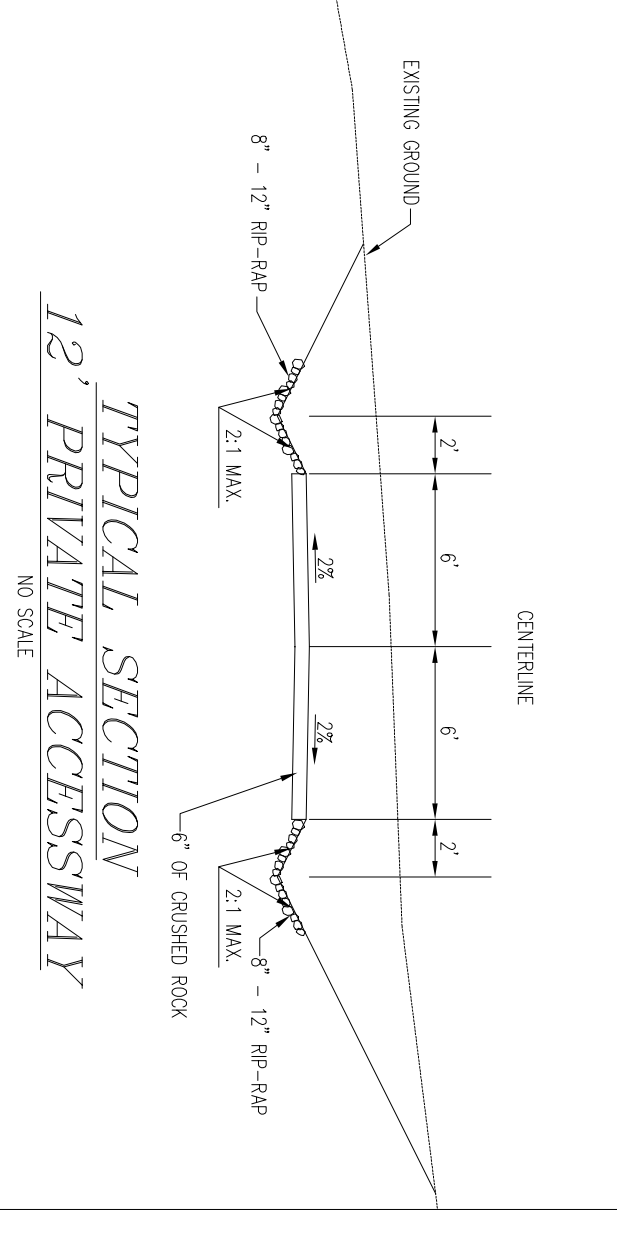
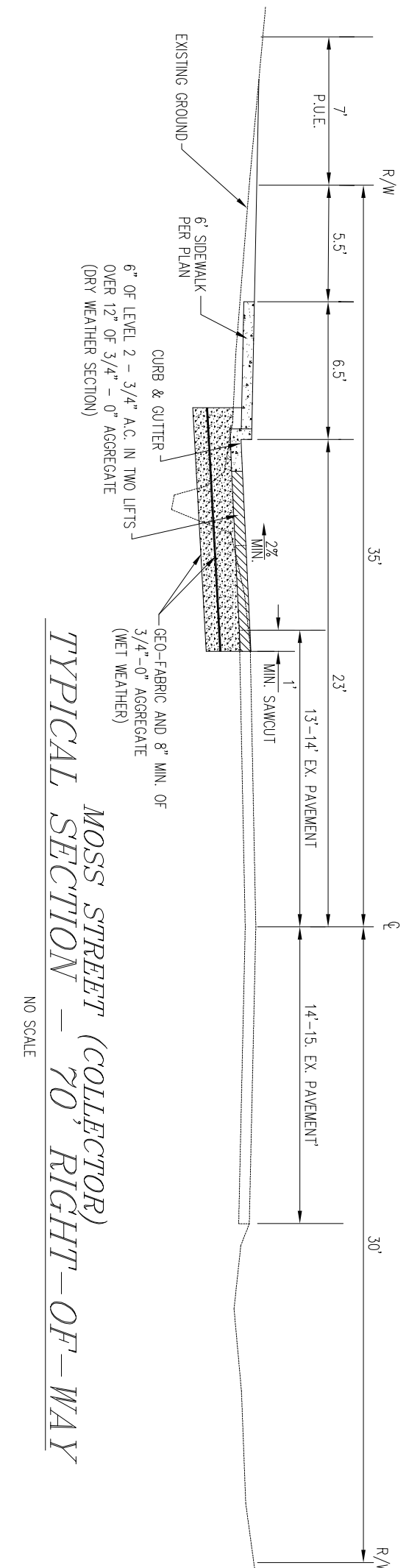
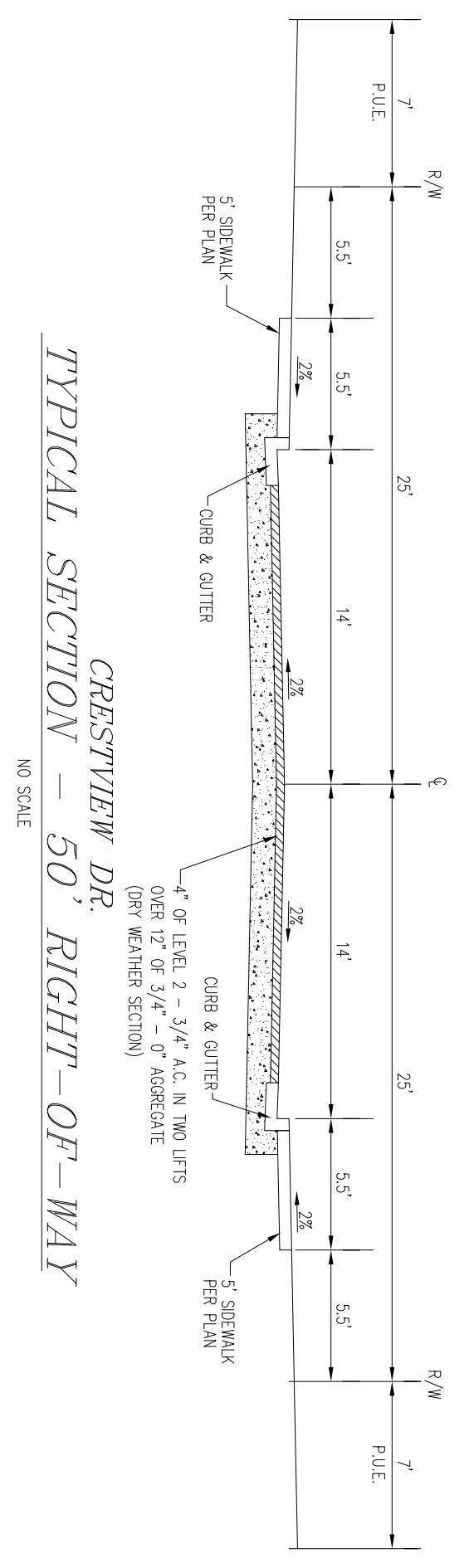
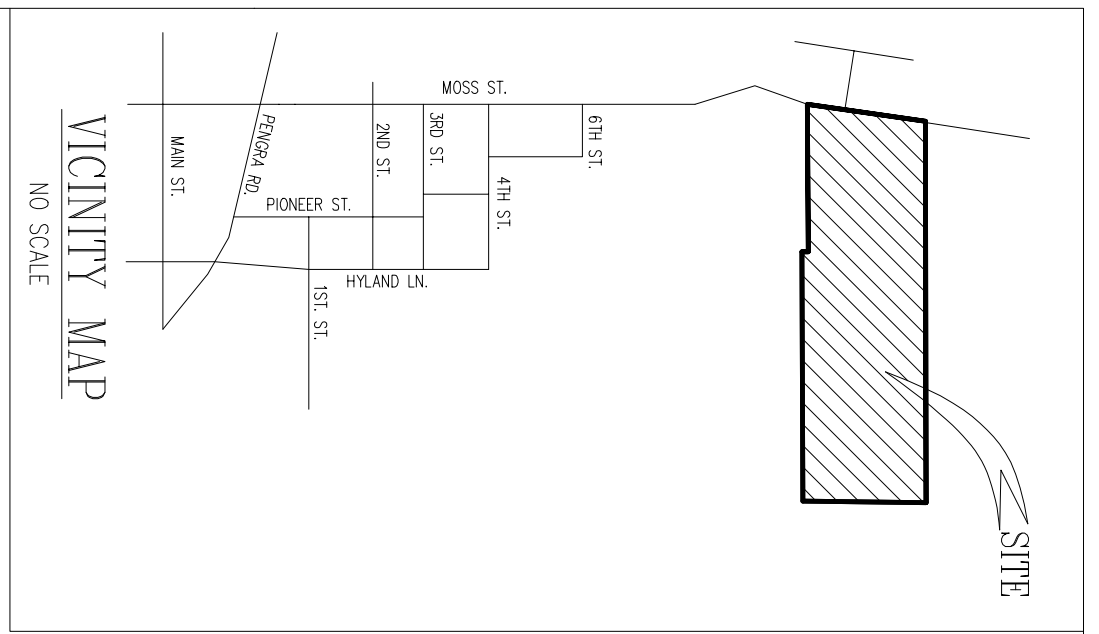


PLANS PREPARED BY:
THE FAVREAU GROUP
CIVIL ENGINEERING
3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

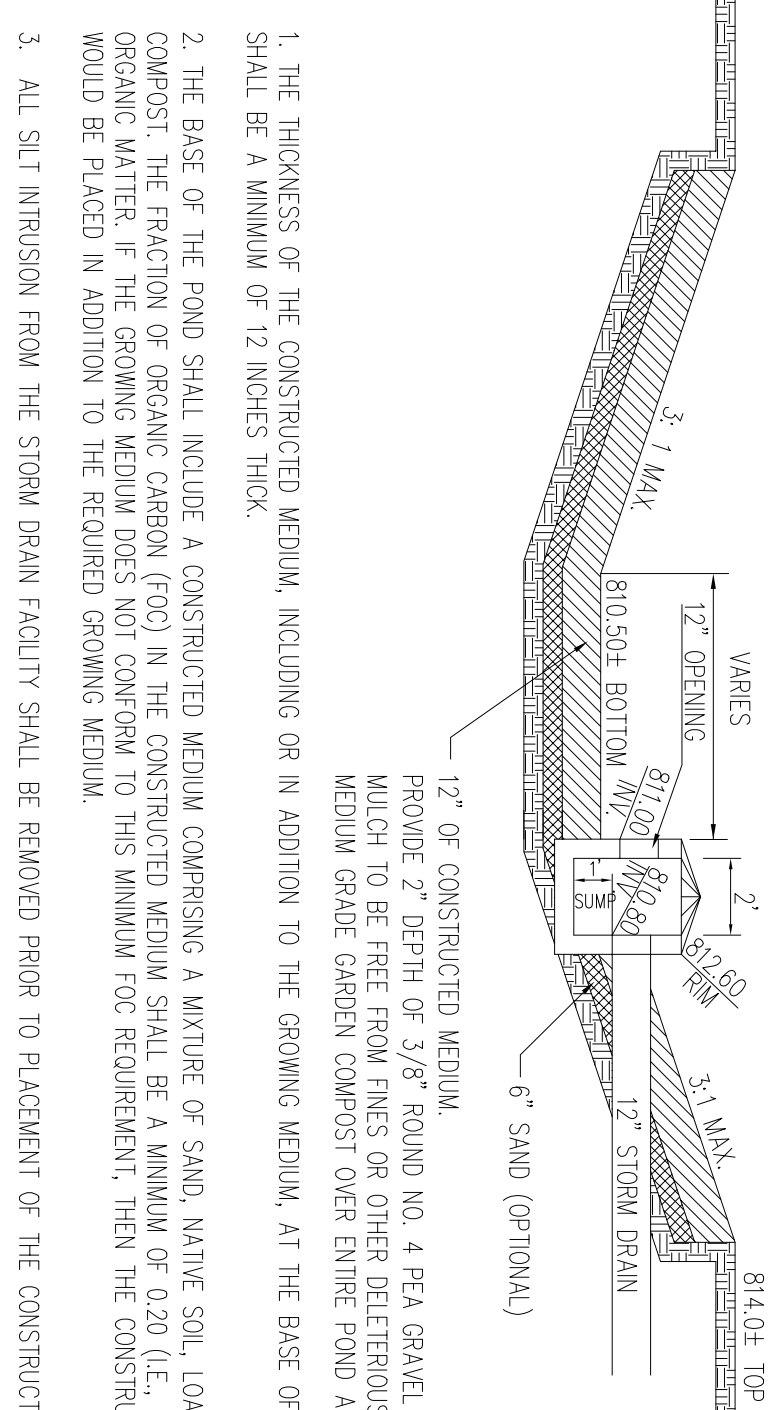
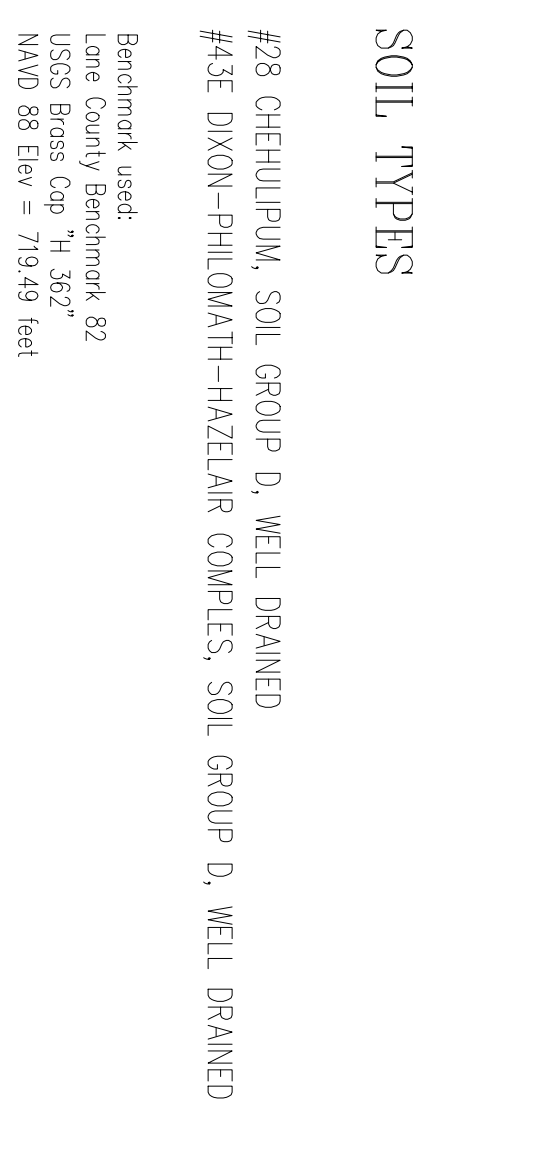
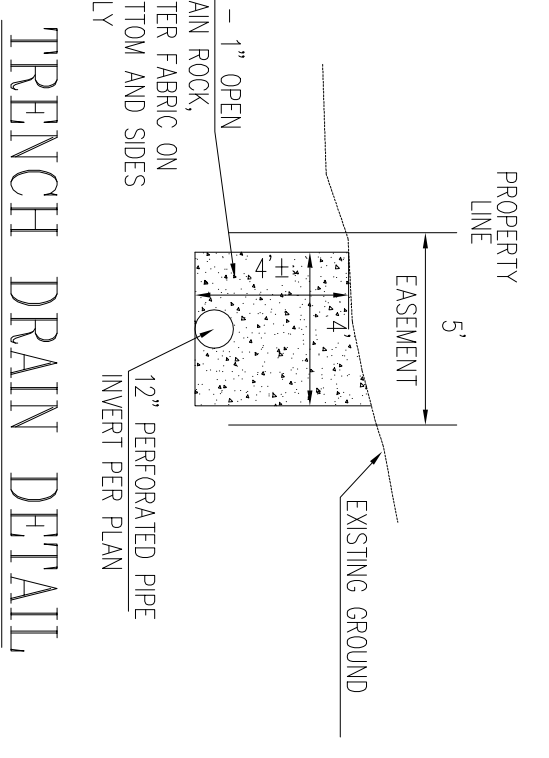
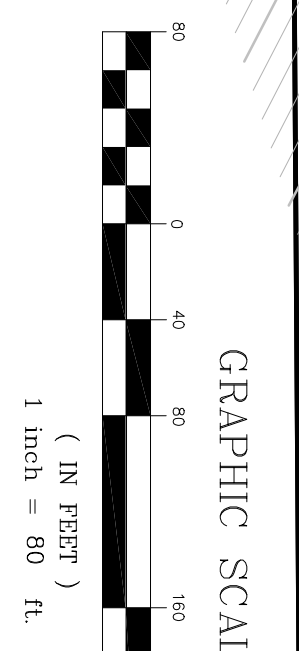
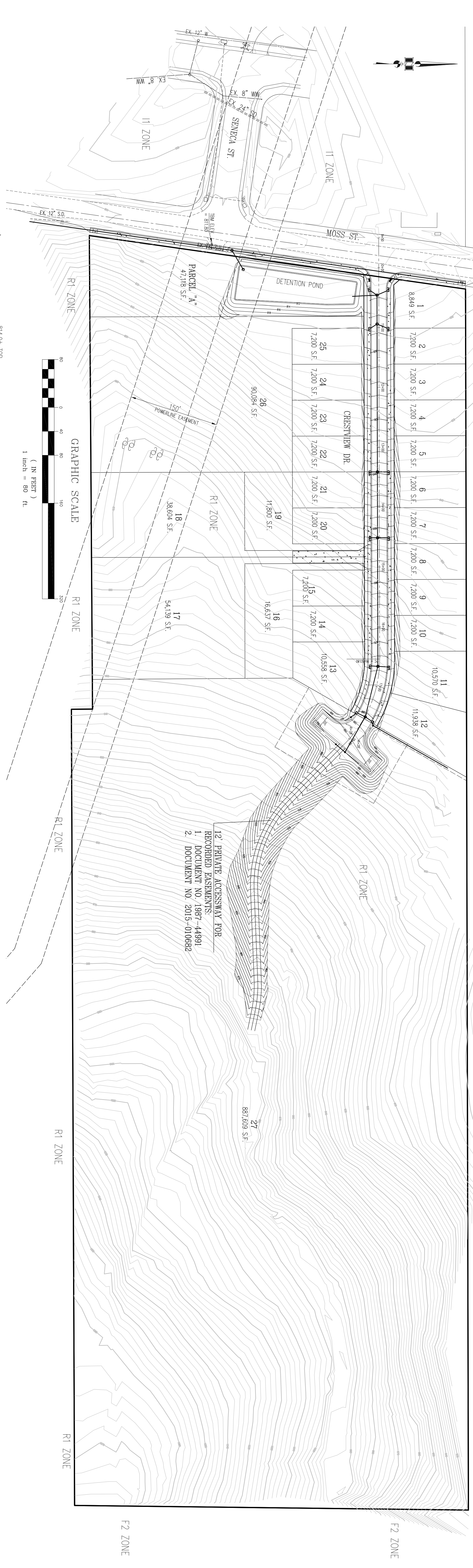
DATE	BY	DESCRIPTION	APP.
		REVISIONS	

APPROVED:

TENTATIVE MAP FOR
CRESTVIEW ESTATES
CITY OF LOWELL
PUBLIC WORKS DEPARTMENT
SHT. 1 OF 5



Attachment J



1. THE THICKNESS OF THE CONSTRUCTED MEDIUM, INCLUDING OR IN ADDITION TO THE GROWING MEDIUM, AT THE BASE OF THE POND SHALL BE A MINIMUM OF 12 INCHES THICK.

2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPRISING A MIXTURE OF SAND, NATIVE SOIL, LOAM, AND COMPOST. THE FRACTION OF ORGANIC CARBON (FOC) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 0.20 (I.E. 40-50% ORGANIC MATTER. IF THE GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOC REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.

3. ALL SILT INTRUSION FROM THE STORM DRAIN FACILITY SHALL BE REMOVED PRIOR TO PLACEMENT OF THE CONSTRUCTED MEDIUM.

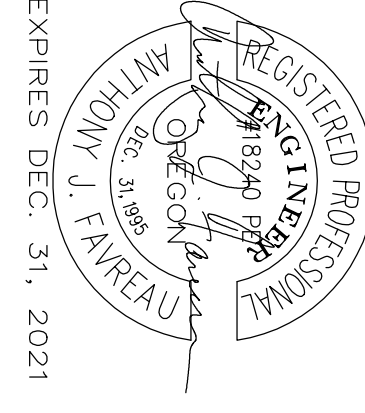
EQUAL NUMBER OF PLANTS FOR EACH ZONE, SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

ZONE A (AT AND BELOW RIM ELEVATION) ZONE B (ABOVE RIM ELEVATION)

CAREX ORNUPA 4" POTS 754 EACH CAMASSIA QUAWASH 4" POTS 232 EACH

JUNOS PATENS 4" POTS 754 EACH DESCHAMPSIA CRESPIGOSA 4" POTS 232 EACH

RAIN GARDEN DETAIL
NO SCALE



PLANS PREPARED BY:

THE FAVREAU GROUP
CIVIL ENGINEERING

3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

DATE	BY	DESCRIPTION	APP.	CHECKED	DATE
		DESIGNED			
		DRAWN			
		REVISIONS			

APPROVED:

CITY OF LOWELL
PUBLIC WORKS DEPARTMENT

CONCEPTUAL GRADING PLAN
CRESTVIEW ESTATES

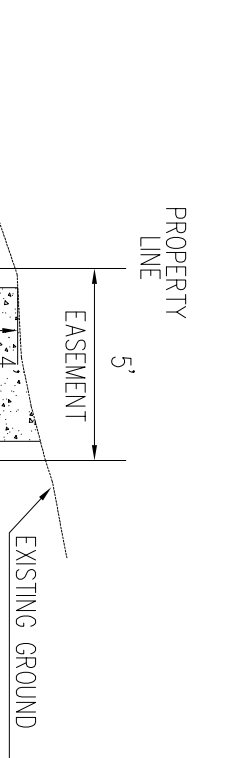
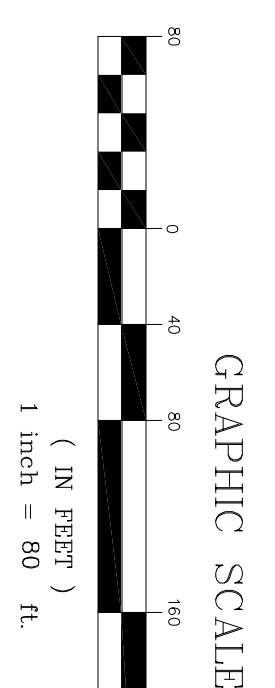
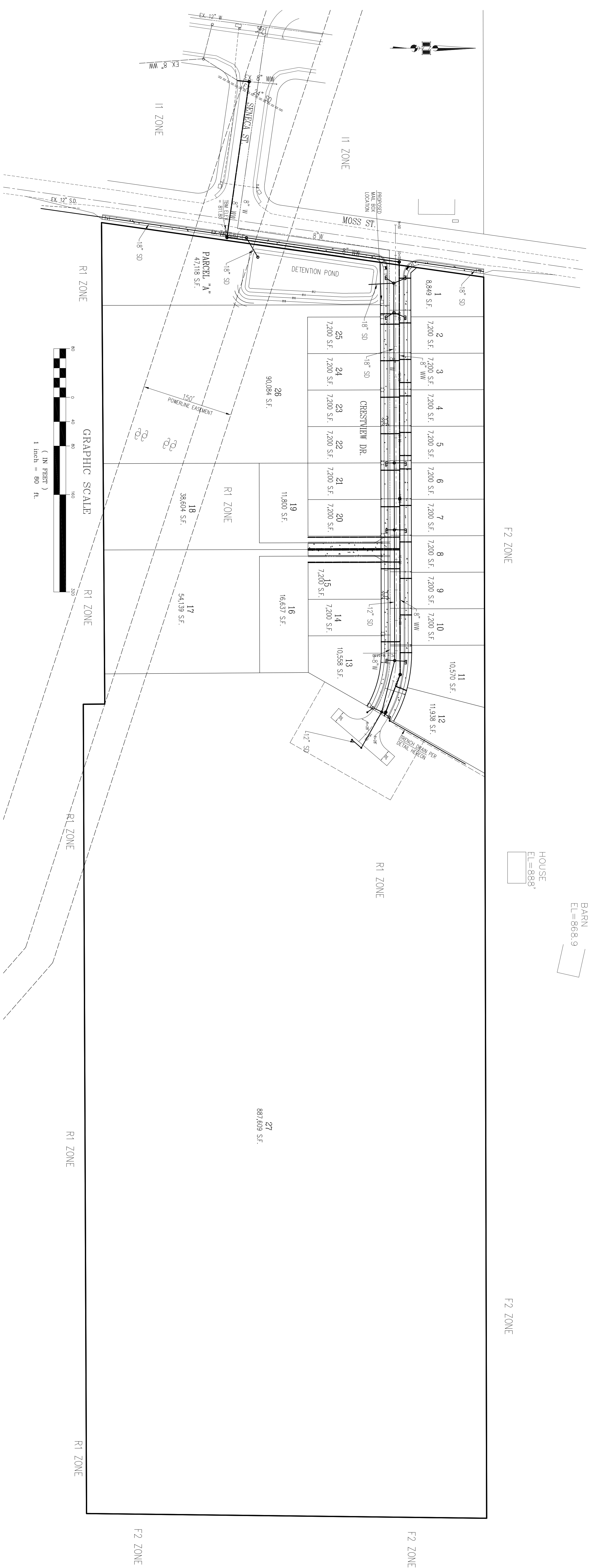
SHT. 2 OF 5



LEGEND

- EX. 12" S.D. --- EXISTING STORM DRAIN AND SIZE
- EX. 8" W.W. --- EXISTING WASTEWATER AND SIZE
- EX. 8" W --- EXISTING WATER LINE AND SIZE
- 12" S.D. --- PROPOSED STORM DRAIN AND SIZE
- 8" W.W. --- PROPOSED WASTEWATER AND SIZE
- 8" W --- PROPOSED WATER LINE AND SIZE
- ☆ PROPOSED STREET LIGHT
- ⊙ EXISTING FIRE HYDRANT
- ⊙ PROPOSED FIRE HYDRANT

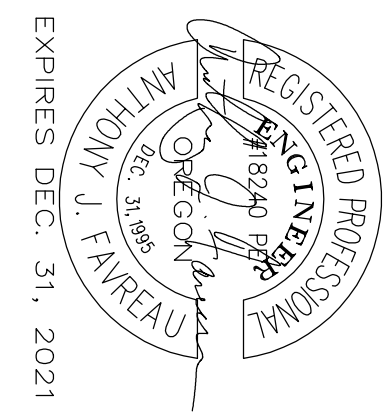
Attachment K



SOIL TYPES

#28 CHELUPUM, SOIL GROUP D, WELL DRAINED
 #43E DIXON-PHILMATH-HAZELAR COMPLEX, SOIL GROUP D, WELL DRAINED

TRENCH DRAIN DETAIL



PLANS PREPARED BY:
THE FAVREAU GROUP
 CIVIL ENGINEERING

3750 NORWICH AVE.
 EUGENE, OR 97408 (541) 683-7048

DATE	BY	DESCRIPTION	REVISIONS

APPROVED:

DATE

DESIGNED

CHECKED

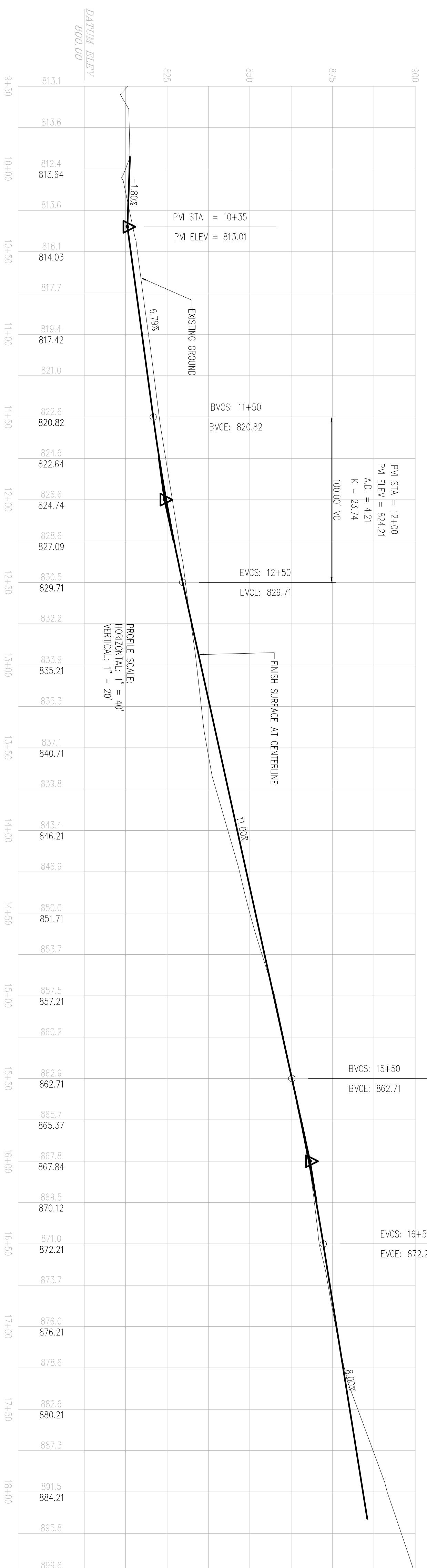
UTILITY PLAN FOR

MCDUGAL PROPERTY

CITY OF LOWELL
 PUBLIC WORKS DEPARTMENT

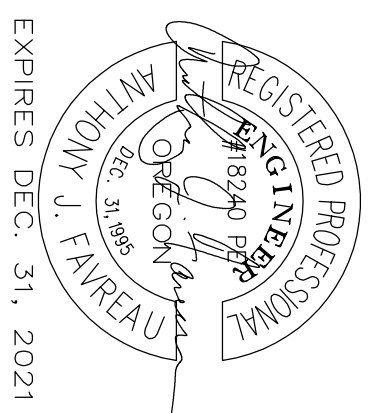
SHT. 3 OF 5

Attachment I



SOIL TYPES

#28 CHEHUPIUM, SOIL GROUP D, WELL DRAINED
 #43E DIXON-PHILMATH-HAZELAR COMPLEX, SOIL GROUP D, WELL DRAINED



PLANS PREPARED BY:

THE FAVREAU GROUP
CIVIL ENGINEERING

3750 NORWICH AVE.
 EUGENE, OR 97408 (541) 683-7048

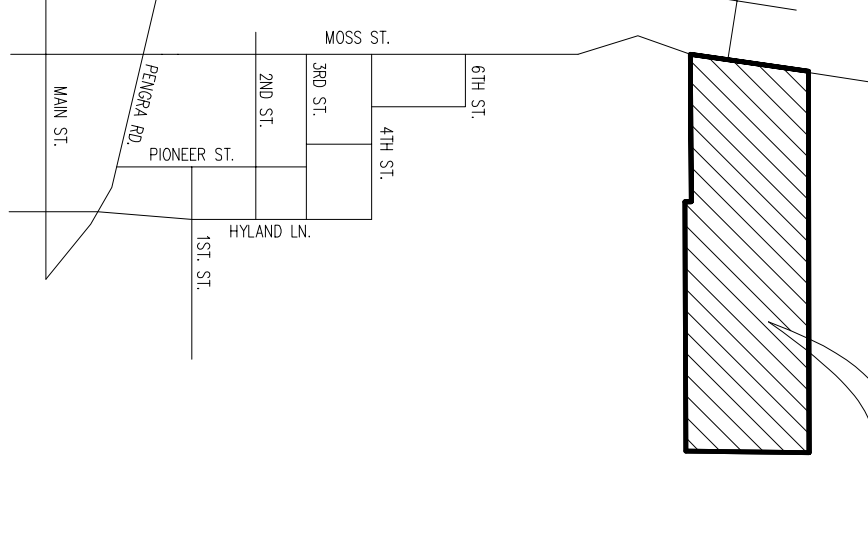
DATE	BY	DESCRIPTION	APP.

APPROVED:	
DESIGNED	DATE
CHECKED	DATE
DRAWN	DATE

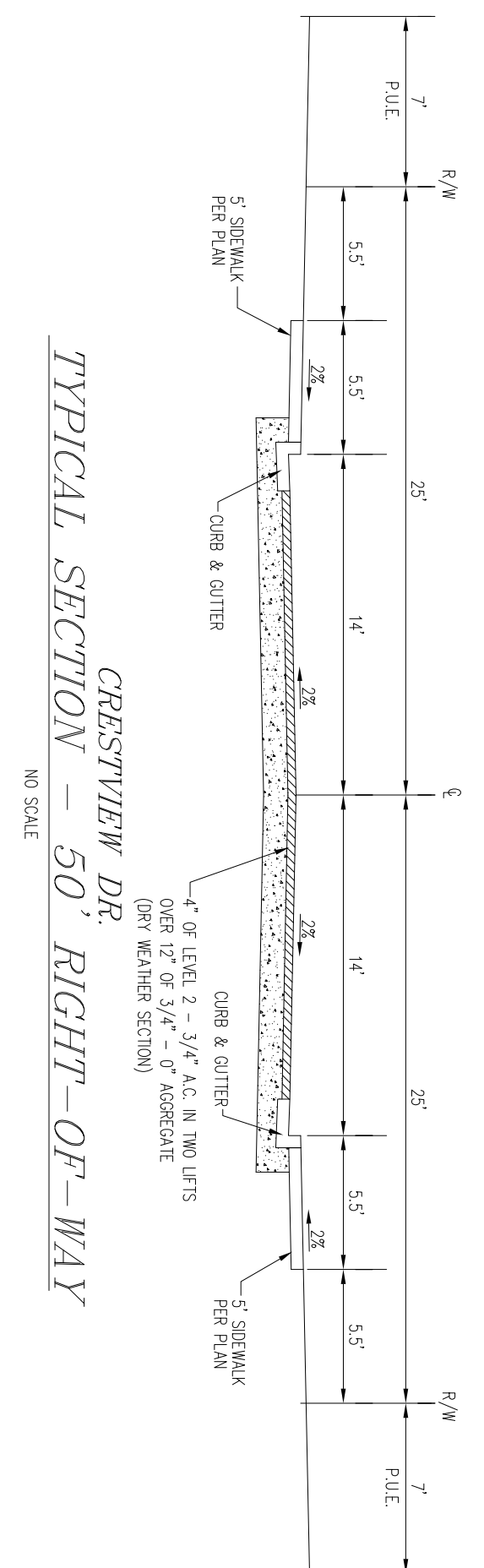
STREET PROFILE
CRESTVIEW ESTATES

CITY OF LOWELL
 PUBLIC WORKS DEPARTMENT

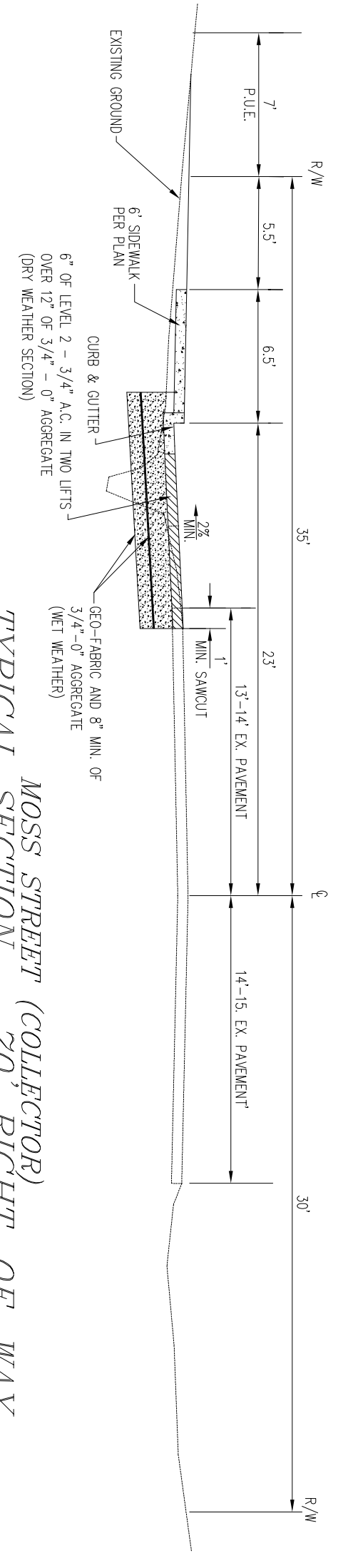
SITE



VICINITY MAP
NO SCALE

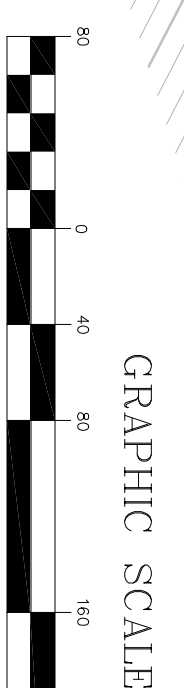
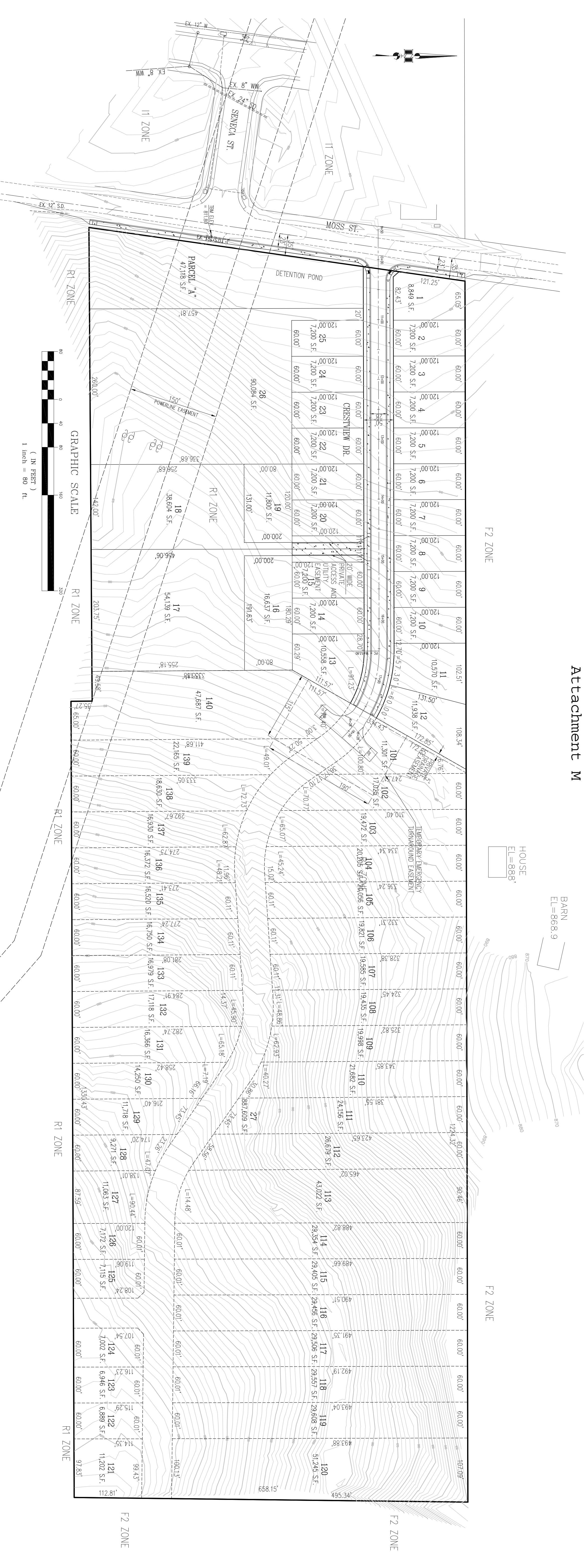


TYPICAL SECTION - 50' RIGHT-OF-WAY
CRESTVIEW DR.
NO SCALE



TYPICAL SECTION - 70' RIGHT-OF-WAY
MOSS STREET (COLLECTOR)
NO SCALE

Attachment M

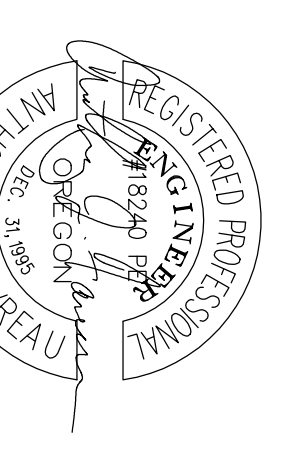


GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.

SOIL TYPES

#28 CHEHUPLUM, SOIL GROUP D, WELL DRAINED
#43E DIXON-PHILOMATH-HAZELAR COMPLEX, SOIL GROUP D, WELL DRAINED

Benchmark used:
Lane County Benchmark 82
USSS Brass Cap H. 382
NAVD 88 Elev = 719.49 feet



PLANS PREPARED BY:

THE FAVREAU GROUP
CIVIL ENGINEERING

3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

APPROVED:

SHADOW PLAT FOR
CRESTVIEW ESTATES

DATE	BY	DESCRIPTION	APP.
		DESIGNED	
		CHECKED	
		DRAWN	
		CITY OF LOWELL	
		PUBLIC WORKS DEPARTMENT	
		SHIT. 5 OF 5	

Attachment N

HEARLEY Henry O

From: ANTHONY J FAVREAU <favreaugroup@msn.com>
Sent: March 26, 2020 8:07 AM
To: HEARLEY Henry O
Cc: philvelie@aol.com; WALTERS Denise
Subject: RE: 15% slopes or greater - Section 9.633 and 9.634

Follow Up Flag: Follow up
Flag Status: Flagged

Henry,

See my responses in **red** below. Let me know if you need anything else.

Thanks,

Tony Favreau
541-683-7048

From: [HEARLEY Henry O](#)
Sent: Thursday, March 26, 2020 7:46 AM
To: [ANTHONY J FAVREAU](#)
Cc: [philvelie@aol.com](#); [WALTERS Denise](#)
Subject: RE: 15% slopes or greater - Section 9.633 and 9.634

Good morning Tony,

Hope you're doing well.

In addition to the Geotech report, according to the attached, a surveyor's report and engineer's plan (contains several reports)) will be required at some point as well (because of the 15% slopes). I've attached the referenced code.

Response: The surveyor's report is the existing topography as shown on the grading plan. We can do a separate sheet, if necessary, with just the existing topography during the construction drawing phase. The engineer's plan are the construction drawings which will be prepared after the tentative approval.

Also, I'm writing the discussion and findings now for the proposal, but I want to make sure I'm accurately representing the proposal:

With respect to grading – the grading plan on sheet 2, is that the actual grading plan? You note in your narrative, that the applicant does not intend to perform grading, just get the lots platted and then sell to a builder for the development of home sites. Will the applicant only be performing the grading required for the public infrastructure improvements (streets, water, etc..)? **Response: A more detailed grading plan for the public infrastructure only will be prepared during the construction drawing phase. At this time we are proposing to only perform the grading necessary to build the public infrastructure. During the building permit process for the houses, the lots will need to be graded and individual grading plans will be prepared.**

Similarly related, could you briefly describe what the applicant intends to do should tentative approval be granted by City Council? What actions would the applicant immediately set out on accomplishing? This is just so I can accurately capture the proposal on paper and possibly field any questions. I expect at the two hearings, there will be questions

more specifically directed to the applicant / engineer during your portion of the hearing. **After tentative approval, we intend to start on the construction drawings for the public infrastructure and then, once the city approves the plans, start construction on the public infrastructure.**

Thanks for any clarification you can provide.
Henry

From: HEARLEY Henry O
Sent: March 23, 2020 12:50 PM
To: ANTHONY J FAVREAU <favreaugroup@msn.com>; philvelie@aol.com
Cc: Matt Wadlington <Mwadlington@civilwest.net>; COBB Jared <jcobb@ci.lowell.or.us>; CALLISTER Jacob (LCOG) <jcallister@lcog.org>; WALTERS Denise <DWALTERS@lcog.org>; DARNIELLE Gary L <GDARNIELLE@lcog.org>
Subject: RE: 15% slopes or greater - Section 9.633 and 9.634

Ok, thank you, Tony.

Henry

From: ANTHONY J FAVREAU <favreaugroup@msn.com>
Sent: March 23, 2020 12:49 PM
To: HEARLEY Henry O <HHEARLEY@Lcog.org>; philvelie@aol.com
Cc: Matt Wadlington <Mwadlington@civilwest.net>; COBB Jared <jcobb@ci.lowell.or.us>; CALLISTER Jacob (LCOG) <jcallister@lcog.org>; WALTERS Denise <DWALTERS@lcog.org>; DARNIELLE Gary L <GDARNIELLE@lcog.org>
Subject: RE: 15% slopes or greater - Section 9.633 and 9.634

Henry,

Yes, the site contains slopes over 15%. We are anticipating a geotech report will be required over the entire site at the construction drawing phase.

Thanks,

Tony Favreau
541-683-7048

From: [HEARLEY Henry O](#)
Sent: Monday, March 23, 2020 12:35 PM
To: [ANTHONY J FAVREAU](#); philvelie@aol.com
Cc: [Matt Wadlington](#); [COBB Jared](#); [CALLISTER Jacob \(LCOG\)](#); [WALTERS Denise](#); [DARNIELLE Gary L](#)
Subject: 15% slopes or greater - Section 9.633 and 9.634

Hi Tony,

I know you've addressed the hillside development standards of the Lowell code and indicated that cut and fill slopes will be constructed under the supervision of the City and Geotechnical Engineer, when needed. But I'm inquiring about the requirements of Section 9.633, does the entire, or portion (or lots?) of the subject property contain slopes that are greater than 15%?

Thanks for any clarification you can add. I've included the code references here.

Henry

Henry O. Hearley
Associate Planner
Lane Council of Governments
hhearley@locg.org
541-682-3089

Attachment O



Isabelle Mathews
Seneca Jones Timber Co.
PO Box 851
Eugene, OR 97440

November 5, 2019

Henry Hearley
Lane Council of Governments
859 Willamette St, Ste 500
Eugene, OR 9701

RE: Lowell Land Use Notice of Public Hearing

Dear Henry Hearley:

We are in receipt of your recent notice regarding the proposed 29-unit subdivision on the 30.59-acre parcel east of Moss St, zoned R-1. Seneca Jones Timber Company has timber holdings to the west of this tax lot.

This property is located immediately along the farm/forest interface. As a forest land owner in Lane County, we conduct all our forest management activities utilizing seasoned professionals to meet guidelines established in the Oregon Forest Practices Act. Nonetheless, many of our routine activities can generate noise, dust, and other concerns which may not be compatible with residential neighborhoods. In addition, this subdivision is proposed directly across from a main access point into our timber property which may serve heavy operational traffic during management activities. To mitigate some concerns, without placing undue restrictions or adding costs to accepted forestry practices, we respectfully request the City of Lowell:

1. Seek the execution of a Forest Management Covenant, recorded with the approval of this application wherein the applicant(s) acknowledges and accepts the occurrence of these activities.
2. Encourage the use of maximum setbacks as they apply to future dwellings that may be sited on the newly created parcels and ensure these areas are adequately cleared to provide appropriate fuel breaks.
3. Future dwellings should be constructed with the use of fire-resistant materials, including spark arrestors on all chimneys.

4. Consider the effect of increased traffic on Moss St. and Seneca St. The roads currently support access to utility lines and the transportation of forest products. This standard may not be suitable to meet the increased transportation needs of such a facility, while adequately providing for human safety and fire protection.
5. Address measures to prevent residents and recreationalists from unknowingly entering adjacent resource landowner property boundaries. Traffic from recreationalists, hunters, equestrians, or other residents alike, may contribute to increased:
 - a. Property damage (i.e. littering, soil impacts)
 - b. Fire Risk, especially during dry months
 - c. Safety and liability exposure
 - d. Interference with active forest management activities

While we have no objections to the approval of this development, we ask the City of Lowell to fully address these compatibility issues with the applicant prior to final approval. Our aspiration would be for the city to adopt a balanced resolution that will not create unreasonable demands, while avoiding additional costs to existing forestland owners and increased fire hazard to our most valuable resource lands.

Thank you for the opportunity to comment and please keep us apprised of any future developments in this process.

Sincerely,



Isabelle Mathews
Real Estate Specialist

Cc: Jared Cobb – City Administrator, Ted Reiss – Timberlands Manager

HEARLEY Henry O

From: Isabelle Mathews <imathews@senecasawmill.com>
Sent: November 5, 2019 11:42 AM
To: HEARLEY Henry O
Cc: COBB Jared; WALTERS Denise
Subject: RE: [EXTERNAL] RE: City of Lowell Hearing Subdivision Proposal - Map & Tax Lot 19-01-11-00-00501
Attachments: Lowell_Subdivision_SJTCComment.pdf

Good morning (just barely),

I have attached a comment on behalf of Seneca Jones Timber Co. for the subdivision being proposed on the map & tax lot identified above. Let me know if you need any additional information to include this and thank you again for all the information!

Thanks,



ISABELLE MATHEWS

Real Estate Specialist

Seneca Sawmill Co. | Seneca Jones Timber Co. | Seneca Sustainable Energy

OFFICE: 541.461.6216 | MOBILE: 541.729.1835

Address: 90201 Highway 99 N, Eugene, OR 97402

Mailing Address: Post Office Box 851, Eugene OR 97440

www.senecasawmill.com  LIKE US ON FACEBOOK!

From: HEARLEY Henry O <HHEARLEY@Lcog.org>
Sent: Friday, October 18, 2019 7:28 AM
To: Isabelle Mathews <imathews@senecasawmill.com>
Cc: COBB Jared <jcobb@ci.lowell.or.us>; WALTERS Denise <DWALTERS@lcog.org>
Subject: [EXTERNAL] RE: City of Lowell Hearing Subdivision Proposal - Map & Tax Lot 19-01-11-00-00501

Hi Isabelle,

I can email you the applicant's materials or send via mail if you provide an address.

You're welcome to submit a comment, if it's received before the staff report is published I can include it in the report, otherwise, it'll be printed and distributed to the Commissioners. If you want your comment included in the staff report, please have it to me before November 26. You're also welcome to attend the hearing in person and provide oral testimony.

Please let me know if you have any further questions or concerns,
Henry

From: Isabelle Mathews <imathews@senecasawmill.com>
Sent: October 17, 2019 3:25 PM

To: HEARLEY Henry O <HHEARLEY@Lcog.org>

Subject: City of Lowell Hearing Subdivision Proposal - Map & Tax Lot 19-01-11-00-00501

Good afternoon,

I received a notice for a public hearing regarding a proposed 29-unit subdivision on the above mentioned tax lot. We are interested in providing a public comment; however, before doing so I would like the opportunity to review the submitted materials. I understand from the letter we will have the opportunity to review the documents at the Lowell City Hall a week before the hearing. I would like to determine if there will be an opportunity to review the information sooner?

Thank you,



ISABELLE MATHEWS

Real Estate Specialist

Seneca Sawmill Co. | Seneca Jones Timber Co. | Seneca Sustainable Energy

OFFICE: 541.461.6216 | MOBILE: 541.729.1835

Address: 90201 Highway 99 N, Eugene, OR 97402

Mailing Address: Post Office Box 851, Eugene OR 97440

www.senecasawmill.com  LIKE US ON FACEBOOK!

-- NOTICE: It is okay to print this email. Paper is a plentiful, biodegradable, renewable, recyclable, sustainable product made from trees that supports our economy by providing jobs and income for millions of Americans. Thanks to improved forest management, we have more trees in America today than we had 100 years ago. --

Attachment P

MIA M. NELSON
40160 East First Street
Lowell, OR 97452

541.520.3763

mia@sunridge.net

April 3, 2020

Lowell Planning Commission
City of Lowell
107 East 3rd Street
Lowell, Oregon 97452

Re: Crestview Estates

Dear Planning Commissioners:

Please accept these comments on behalf of both my family's company, Lookout Point LLC and myself personally. Our company owns property immediately to the south of the proposed subdivision, which is also within the Lowell city limits and zoned R-1.

We are in support of this project. We did have concerns with the initial design, but the applicant has either already resolved those concerns, or has pledged to accept conditions of approval that would resolve them.¹

Because it is serviceable by our existing water system, this property has an important role to play in Lowell's future. The proposed plan makes efficient use of this land resource, despite challenges presented by the BPA powerlines, sloped terrain and the need for stormwater detention.

We urge you not to impose any conditions that would reduce the density or make this property more expensive or difficult to develop than it already is. Lowell needs more housing; we hope you will embrace this opportunity to partner with the applicant and help that happen.

Sincerely,



Mia Nelson

¹ The pledged conditions of approval are: 1) Lot 27 will be removed from the platted area and remain as an unsubdivided remainder; 2) the city will retain a reserve strip at the eastern terminus of Crestview Drive; 3) a plat note will stipulate that no platted lot may provide legal or physical access to the unsubdivided remainder.

15
10

Attachment Q

8744991

GRANT OF EASEMENT AND MAINTENANCE AGREEMENT

For Value received, receipt of which is hereby acknowledged, BERT FEGLES AND GLADYS W. FEGLES (GRANTORS), hereby grant, transfer and convey to OTTO t'HOOF (GRANTEE), a perpetual nonexclusive easement to use a strip of land twenty (20) feet wide as follows:

9903A001 10/09/87 REC
0003

15.00

Beginning at 3" brass cap found marking the West 1/4 Corner of Section 11, T19S, R1W, W.M.; thence N 88° 48' 47" E, 671.89 feet to a point on the East R/W line of Lane County Road No. 886, said point being marked by a 5/8" iron pin and also being the TRUE POINT OF BEGINNING of this roadway easement; thence along the centerline of an existing roadway as follows:

S 89° 45' 00" E, 753.38 feet to Sta. 7+53.38; thence S 77° 21' 15" E, 198.25 feet to Sta. 9+51.63; thence S 50° 36' 00" E, 413.14 feet to Sta. 13+64.77, said point being marked by a 5/8" iron pin; thence S 43° 30' 30" E, 181.55 feet to Sta. 15+46.32; thence S 57° 37' 45" E, 98.19 feet to Sta. 16+44.51; thence S. 72° 04' 45" E, 135.94 feet to Sta. 17+80.45; thence S 77° 52' 00" E, 149.80 feet to Sta. 19+30.25; thence N 89° 30' 00" E, 167.11 feet to Sta. 20+97.36; thence S 86° 36' 45" E, 124.72 feet to Sta. 22+22.08; thence S 85° 42' 45" E, 258.94 feet to Sta. 24+81.02; thence S 74° 50' 45" E, 205.50 feet to Sta. 26+86.52, said point being marked by a 5/8" iron pin; thence S 86° 31' 15" E, 126.30 feet to Sta. 28+12.82; thence S 84° 13' 15" E, 82.81 feet to Sta. 28+95.63; thence S 80° 11' 00" E, 85.93 feet to Sta. 29+81.56; thence S 87° 49' 30" E, 102.78 feet to Sta. 29+84.34; thence N 81° 10' 00" E, 76.38 feet to Sta. 31+60.72; thence N 62° 40' 45" E, 176.75 feet to Sta. 33+37.47; thence N 53° 39' 45" E, 110.18 feet to Sta. 34+47.65; thence N 32° 59' 15" E, 110.99 feet to Sta. 35+58.64; thence N 19° 06' 45" E, 145.95 feet to Sta. 37+04.59; thence N 15° 49' 15" E, 223.67 feet to Sta. 39+28.26; thence N 23° 26' 15" E, 58.73 feet to Sta. 39+86.99, said point being marked by a 5/8" iron pin; thence N 39° 33' 00" E, 46.50 feet to Sta. 40+33.49; thence N 52° 39' 45" E, 108.37 feet to Sta. 41+41.86; thence N 60° 44' 15" E, 127.78 feet to Sta. 42+69.64; thence N 72° 56' 15" E, 218.84 feet to Sta. 44+88.48; thence N 79° 32' 30" E, 56.16 feet to Sta. 45+44.64; thence S 82° 03' 45" E, 56.68 feet to Sta. 46+01.32; thence S 72° 01' 15" E, 83.71 feet to Sta. 46+85.03; thence N 87° 30' 45" E, 52.28 feet to Sta. 47+37.31; thence N 65° 43' 45" E, 60.23 feet to Sta. 47+97.54; thence N 49° 30' 00" E, 86.37 feet to Sta. 48+83.91; thence N 57° 26' 15" E, 67.99 feet to Sta. 49+51.90; thence N 73° 18' 15" E, 156.31 feet to Sta. 51+08.21; thence N 62° 32' 45" E, 51.26 feet to Sta. 51+59.47, said point being marked by a 5/8" iron pin; thence N 50° 37' 45" E, 75.85 feet to Sta. 52+35.32; thence N 65° 15' 45" E, 74.11 feet to Sta. 53+09.43; thence N 71° 30' 30" E, 79.71 feet to Sta. 53+89.14; thence N 54° 34' 00" E, 45.69 feet to Sta. 54+34.83; thence N 29° 47' 30" E, 67.35 feet to Sta. 55+02.18; thence N 47° 04' 30" E, 5.41 feet to Sta. 55+07.59, said point

9903A001 10/09/87PFD
0003

10.00

8744991

being South, 2091.89 feet from a brass cap found marking the N.E. corner of Section 11, T19S, R1W, W. M.; thence leaving existing roadway in a Southeasterly direction, while maintaining a +16% maximum grade, until new centerline location intersects the S 1/2 of the N-S centerline of Section 12 at a point 100' South of the center 1/4 corner of said section.

1. This easement is not personal or in gross but is to be appurtenant to each and every portion of the following described property owned by the grantees:

The Southeast quarter (SE 1/4) of Township 19 South-Range 1 West, WM-Section 12 less the Southwest Quarter (SW 1/4) of the Southeast quarter (SE 1/4) of Township 19 South - Range 1 West, WM - Section 12, in Lane County, Oregon.

2. This easement is granted over and across property owned by Grantors in Lane County, Oregon, described as follows:

South 1/2 of the SW 1/4 of the NW 1/4 and the North 1/2 of the SW 1/4 of Section 12, plus the South 1/2 of the SE 1/4 of the NE 1/4 and the North 1/2 of the North 1/2 of the South 1/2 of Section 11 lying East of County Road No. 886, all in T19S, R1W, WM.

3. This grant is made upon the following terms:

3.1 Grantees are granted the right to use the twenty (20) foot easement strip, including the existing roadway, as a means of ingress and egress to and from the land described in paragraph 1, or any portions thereof.

3.2 Grantors and Grantees shall at all times hereafter jointly maintain the easement property and roadway in a condition as good as its present condition. The cost of such maintenance and repairs shall be paid by the Grantors and Grantees in proportion to their use.,

3.3 Grantors shall, at all times and without restriction, have the right to use the easement property and roadway for purposes not inconsistent with Grantee's full enjoyment of the rights herein granted.

3.4 All costs for additional road construction along the right-of-way will be the responsibility of the moving party unless there is a written agreement signed by both parties stating otherwise.

3.5 Ownership of all timber located on the right-of-way remains vested with the Grantor. All logs over 8 inches MBH that are cut as the result of road construction or repair by the Grantee will be decked along the right-of-way and the Grantor notified.

3.6 This grant of easement shall run with the land and shall be binding on and shall inure to the benefit of Grantors and Grantees, their Heirs, successors or assigns Except that if this tract is sold or traded to an adjoining landowner with other legal access this easement will be voided and cease to exist.

Page 2 - Grant of Easement and Maintenance Agreement

8744991

IN WITNESS THEREOF, we have executed this grant of Easement and Maintenance Agreement on this 30th day of September, 1987.


Bert Fegles
Bert Fegles

Gladys W Fegles by Roger B. Fegles
Gladys W. Fegles Her attorney in fact

Grantors

STATE OF OREGON)
County of Lane)

On the 30th day of September, 1987, personally appeared the above named BERT FEGLES and GLADYS W. FEGLES, husband and wife, and acknowledged the foregoing instrument to be their voluntary act and deed. Before me:

Ernest G. Hallett
Notary Public for Oregon
My Commission Expires 11/15/91


8744991

State of Oregon,
County of Lane--ss.

I, the County Clerk, in and for the said County, do hereby certify that the within instrument was received for record at

o OCT 27 14: 04

Recd 1480R

Lane County OFFICIAL Records.
Lane County Clerk

By: John E. Fawcett
County Clerk

AFTER RECORDING, RETURN TO:
PLUM CREEK TIMBERLANDS, L.P.
601 Union Street, Suite 3100
Seattle, WA 98101
Attn: Paul Hill
File No. 912-37.15-0010

Lane County Clerk
Lane County Deeds & Records

2015-010682

03/18/2015 09:17:26 AM

RPR-ESMT Cnt=1 Stn=3 CASHIER 02 12pages
\$60.00 \$11.00 \$10.00 \$21.00

\$102.00

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT (the "Agreement"), dated this 16th day of March, 2015, is by and between PLUM CREEK TIMBERLANDS, L.P., a Delaware limited partnership, hereinafter called "Grantor," and GENTRACO, INC., and its successors, assigns, hereinafter collectively called "Grantee." Grantor's and Grantee's addresses are set forth in Section 24 herein.

Grantor, for and in consideration of \$1.00 and other valuable consideration received by Grantor, the receipt and sufficiency of which is hereby acknowledged, does hereby grant to Grantee, subject to all of the terms and conditions described herein, a permanent non-exclusive easement and right-of-way for utilities and the use and maintenance of an existing road (hereinafter, the "Road") over, under, upon, along, and across the following described lands in the County of Lane, State of Oregon (the "Servient Estate"):

A strip of land sixty (60) feet in width, thirty (30) feet on each side of the centerline, with such additional widths as may be necessary for needed cuts and fills over and across a portion of the property legally described as follows and in the location approximately as shown on **Exhibit "A"** attached hereto and incorporated herein by this reference:

Township 19 South, Range 1 West, W.M.
Section 11: N1/2SW1/4

The easement and right-of-way described above is hereinafter referred to as the "Easement."

The above grant and conveyance is subject to all matters of public record as of the date of recording of this Agreement.

Grantor and Grantee agree that the rights granted herein shall be subject to the following terms, provisions, and conditions applicable to Grantor, Grantee and their respective successors and assigns:

1. Purpose.

(a) This Easement is granted for the purpose of maintaining, repairing, and using the Road for ingress and egress to Grantee's property for all lawful residential, commercial

AFTER RECORDING RETURN TO
FIDELITY NATIONAL TITLE INSURANCE
COMPANY OF OREGON
800 WILLAMETTE ST., #500
EUGENE, OR 97401

and industrial uses and developments. Grantee's property is more particularly described as follows (the "Dominant Estate"):

Beginning at the East one quarter corner of Section 11, Township 19 South, Range 1 West of the Willamette Meridian, in Lane County, Oregon; Thence along the East line of said Section 11, North 0°32'06" East 1317.79 feet; Thence leaving the East line of said Section 11, South 89°56'20" West 1332.20 feet; Thence South 0°36'12" West 1319.51 feet; Thence South 89°51'55" West 1333.79 feet; Thence South 0°40'17" West 658.02 feet; Thence North 89°53'04" East 2669.14 feet more or less to a point on the East line of said Section 11; Thence along the East line of said Section 11, North 0°32'06" East 658.89 feet more or less to the Point of Beginning, all in Lane County, Oregon. The bearing and distance on the above legal description was based from County Survey File No. 31173, as filed in the Lane County Surveyors Office.

(b) Further, the easement granted herein is also for the purpose of constructing, reconstructing, maintaining, repairing, and using an underground utility transmission line under, along and across the Easement. Such utility line shall be buried so that it will at all points be at a minimum of four (4) feet below the surface of the ground, and shall be installed and maintained in a manner reasonably satisfactory to Grantor. The location of such utility line shall be clearly marked and the markings shall be maintained to the reasonable satisfaction of Grantor.

2. Relocation. Grantor reserves unto itself and its successors and assigns the right at its expense to relocate the Easement, the utility line and the Road subject to the condition that, except for distance and curvature, such relocated Easement and Road and utility line provides the same type and quality of access and utility service as existed prior to such relocation and does not change the point of interconnection on the boundaries of the Servient and Dominant Estates without the prior consent of the owner of the Dominant Estate, which consent shall not be unreasonably withheld or delayed. If the location of the Road and/or utilities is changed, Grantor and Grantee shall place of public record an amendment to this Agreement to reflect such relocation.

3. Reserved Rights. Grantor, for itself and its successors and assigns, reserves the right at all times and for any purpose to go upon, cross and recross, at any place on grade or otherwise, the Easement and to use the Road in any manner and for any purpose that will not unreasonably interfere with the rights granted hereunder.

4. Third Parties. The Easement granted herein is non-exclusive, and Grantor may, in its sole discretion, grant to third parties the right to utilize the Easement or Road for any purpose or purposes reserved to Grantor upon such terms as it chooses; provided, that use by such third party shall be subject to the terms and conditions of this Easement and shall not unreasonably interfere with the rights granted hereunder. Nothing herein contained shall be deemed a gift or dedication of any portion of the Easement or Road to the general public, or for any public use or purpose whatsoever. Except as herein specifically provided, no rights, privileges, or immunities hereunder shall inure to the benefit of any third party, nor shall any third party be deemed to be a beneficiary of any of the provisions contained herein.

5. Maintenance, Repair, Improvement.

5.1 Maintenance.

(a) For purposes of this Agreement, "maintenance" is defined as the work normally necessary to preserve and keep the Road and appurtenant Road facilities (such as bridges, culverts, gates, ditches and brushing) as nearly as possible in their present condition or as hereafter improved, and shall include repairs, reconstruction, and resurfacing (except for repairs, reconstruction or resurfacing described in Paragraph 5.2 hereof) and noxious weed control. The cost of maintenance shall be allocated on the basis of respective uses of the Road. When any party uses the Road, or a portion thereof, that party shall perform or cause to be performed, or contribute or cause to be contributed, that share of the maintenance occasioned by such use as hereinafter provided. During periods when the Road, or a portion thereof, is being used solely by one party, such party shall maintain that portion of the Road so used to the standards existing at the time use is commenced, and shall follow all applicable laws, rules and regulations and Best Management Practices of the State of Oregon available from the Oregon Department of Forestry, as the same may be amended from time to time (hereinafter, "BMPs").

(b) During periods when more than one party is using the Road, or a portion thereof, each party's share of maintenance shall be pro rata in proportion to its intensity of use thereof. If necessary, and at the request of either party, the parties hereto shall meet and establish necessary maintenance provisions. Such provisions shall include, but shall not be limited to:

(i) The appointment of a maintainer, which may be one of the parties hereto or any third party, who will perform or cause to be performed, at a reasonable and agreed upon rate, the maintenance of the Road or the portion thereof being used; and

(ii) A method of payment by which each party using the Road or a portion thereof shall pay its pro rata share of the cost incurred by said maintainer in maintaining, the Road or portion thereof.

5.2 Improvement. For the purposes of this Agreement, "improvement" is defined as the work necessary to surface, resurface, widen, recondition or replace the Road and appurtenant Road facilities (such as bridges, culverts, gates, ditches and brushing) to a higher or greater standard than that prevailing on the date of this Agreement. When any existing or planned use of lands accessed by the Road described herein will result in use of the Road in excess of its design elements, design standards, and/or road maintenance standards, the party responsible for such existing or planned use shall likewise be responsible for any additional costs that are necessary to meet design elements, design standards, and/or road maintenance standards that can accommodate such existing or planned use (as well as other existing uses).

5.3 Notification. Grantee shall provide to Grantor written notification not less than ten (10) business days prior to commencing any maintenance or improvement activities within the Easement. Written notification shall include the following:

(a) The constructing party's name, address and phone number;

- (b) A legal description and map showing the location of proposed activities;
- (c) Name, company name, address and phone number of individual and/or company performing maintenance or improvement activities; and
- (d) Description of the scope of any such maintenance or improvement activities.

Grantee shall also provide to Grantor written notification within five (5) business days of completion of any maintenance or improvement activities.

6. Structures and Gates. Grantee may not construct any structures, including, without limitation, gates or fences, along or across the Easement without the prior written permission of Grantor, which permission may be withheld in Grantor's sole discretion. Both parties acknowledge and agree that Grantor may control the access granted hereunder by a locked gate and such other measures reasonably necessary to prevent unauthorized vehicle access. Both parties agree that such gate will be closed and locked at all times except when authorized use of the Road by Grantor, Grantee or their respective permittees requires that it be open. The party constructing any locked gate shall ensure that the other party has a key or access code to the gate. The parties hereto shall use their reasonable efforts to prevent unauthorized vehicle traffic behind such gate.

7. No Protest Clause. As a material term of this Agreement, and as partial consideration for the Easement granted herein, Grantee agrees to cooperate in good faith with Grantor or Grantor's successors or assigns on any future development plans on property owned by Grantor or one of its affiliates. Further, Grantee, for itself, and its successors and assigns, agrees to not protest any future use, design, construction or reconstruction of the Roads that are subject of the Easement granted herein.

8. Road Users' Association. Grantee acknowledges and agrees, for itself and its successors, assigns, heirs and personal representatives, that the Easement and Road may be utilized now or in the future by additional persons. In such event, Grantor shall have the right to require Grantee to form or become a member of a non-profit road users' association or homeowners' association pursuant to the Oregon Nonprofit Corporation Act. The association shall be responsible for the Grantee's share of maintenance and improvement obligations arising under this Agreement. Grantee shall be responsible for the payment of dues and other charges under the association's governing documents. The president of the association shall be the sole point of contact with respect to the Grantee's obligations under this Agreement and the association shall inform the Grantor whenever the president's name and/or address have changed. Notice to the association by the Grantor as may be required or allowed under this Agreement shall be deemed sufficient when addressed to the last name and address of the president provided to the Grantor by the association. Grantee will provide periodic updates at least once per year to the Grantor on all Road maintenance, repair, and improvement activities undertaken by the association.

9. Road Damage. Each party using any portion of the Road shall repair or cause to be repaired at its sole cost and expense that damage to the Road occasioned by it which is in excess of that which it would cause through normal and prudent usage of the Road. Should inordinate damage to the Road occur which is not caused by an authorized user of the Road, the parties hereto

shall meet to agree on the cost and method of replacement or repair, and the shares of repair or replacement cost to be borne by each user of the Road.

10. Damages. Grantee shall pay for all damages, including but not limited to timber, crops and grazing lands located within the Easement or adjacent thereto arising out of Grantee's use or maintenance of this Easement.

11. Condition and Use of Easement. Grantor makes no warranties as to the current state of the Easement or the Road, or likely future condition of the Easement or Road. Grantee acknowledges that the Road will be used for a wide range of activities, including but not limited to, the use of heavy vehicles and for logging activities. All parties using the Easement or Road do so at their own risk, and nothing in this Agreement shall be construed to impose any liability for injuries to persons or property against Grantor by reason of neglect or failure to maintain the Easement or the Road located thereon. Grantee shall comply with all governmental laws, ordinances, rules and regulations, BMPs and SFIs applicable to the construction, reconstruction, maintenance, repair, improvement, or use of the Easement.

12. Right-of-Way Timber. Grantor reserves to itself and its successor and assigns all timber now on or hereafter growing within the Easement, which Grantor may harvest and remove at any time. Upon prior written notice to Grantor, Grantee shall have the right to cut timber within the Easement to the extent necessary for maintaining or improving the Road. Timber so cut shall, unless otherwise agreed to, be cut into logs of lengths specified by Grantor and decked along the Road for disposal or removal by Grantor.

13. Personal Insurance. All persons using the Easement for any purpose shall obtain and maintain a policy of Automobile Liability Insurance in a form generally acceptable in the State of Oregon and customary in the area of the Easement.

14. Non-Residential Use of Easement. As described in Section 1 herein, Grantee may use the Easement in connection with non-residential uses on the Dominant Estate. As a condition to such use, Grantee must first (a) provide written notice to Grantor specifying the nature of the non-residential uses and (b) comply with the insurance requirements set forth in this Section 14. For the purposes of this Agreement any use of the Dominant Estate for anything other than private residences shall be a "non-residential use". In the event the Easement is to be used in connection with non-residential uses on the Dominant Estate, the following insurance requirements shall apply.

A. Commercial Insurance. Prior to any non-residential use of the Road, Grantee shall obtain and maintain, throughout the period of such use, liability insurance issued in a form and by an insurance company acceptable to Grantor. Coverage requirements shall be as follows and have an **AM Best's Key Rating Guide of B+ VI (financial class) or better rating:**

- i. Commercial General Liability Insurance to include minimum limits of \$1,000,000 per occurrence and \$1,000,000 annual aggregate Combined Single Limit Bodily Injury, Death and Property Damage. Extension of coverage to include Comprehensive Form, Premises and Operations, Contractual Liability, Products and Completed Operations, Independent Contractors, Personal Injury, Broad Form Property

Damage, Cross Liability, and Pollution arising out of heat, smoke or fumes from a Hostile Fire. Additionally, the policy shall not exclude X, C or U (Explosion, Collapse, or Underground).

ii. Comprehensive Automobile Liability insurance covering owned, non-owned, hired and other vehicles, with a combined single limit of \$1,000,000 per occurrence Combined Single Limit Bodily Injury, Death and Property Damage.

iii. The policies specified above shall include an endorsement which shall name Grantor and Plum Creek Timber Company, Inc., together with its subsidiaries and affiliates (collectively the "Plum Creek Companies") as additional insureds on a primary basis for the term of the temporary commercial use. The additional insured endorsement must be ISO CG20 10 11 85 (or other form with like wording).

iv. The policies specified above shall include an endorsement which shall provide that Grantor, at the address in Section 24 herein, will be given a 30 - day written notice prior to cancellation, coverage modification or other material change in the policy. No such cancellation, modification or change shall affect Grantee's obligation to maintain the insurance coverages required by this Agreement.

v. All liability coverages must be on an "occurrence" basis as opposed to "claims made."

vi. All such insurance shall be in a form and company acceptable to Grantor sufficient to protect Grantee, its contractors and their subcontractors, to the extent that they are involved in the work, and Grantor against the claims of third persons, and to cover claims by Grantor against Grantee, its contractor and their subcontractors for which Grantee has assumed liability under this Agreement.

vii. If requested by Grantor, Grantee shall furnish to Grantor a certificate of insurance dated and signed by a stated, authorized agent for the insuring company or companies, in a form acceptable to Grantor and containing a representation that coverage of the types listed herein is provided with the required liability limits and the stated endorsements. Grantor reserves the right to require a certified copy of the policy(ies) or to examine the actual policy(ies). Said certificate(s) of insurance shall be issued to Grantor at the address in Section 24 herein.

viii. If Grantee retains the services of any contractor, Grantee shall cause each contractor to maintain insurance coverages and limits of liability of the same type and the same amount as are required of Grantee under this Agreement. Grantee shall obtain, prior to the commencement of the contractor's services, the required certificates of insurance and additional insured endorsements, if requested by Grantor.

15. Indemnification. Grantee shall assume all risk of, and indemnify and hold harmless, and at its expense defend Grantor and Plum Creek Companies from and against any claims, loss, cost, legal actions, liability or expense on account of personal injury to or death of any persons

whatsoever, including but not limited to Grantor and the Plum Creek Companies, their employees, agents, or contractors, or damage to or destruction of property to whomsoever belonging, including but not limited to property of Grantor and the Plum Creek Companies, their employees, agents or contractors, or any fire, resulting partly or wholly, directly or indirectly from Grantee's exercise of the rights herein granted; provided, however, that Grantee's undertaking herein contained shall not be construed as covering personal injury to or death of persons, or damage to or destruction of property resulting from the sole negligence of Grantor and the Plum Creek Companies.

16. Liens. Grantee shall keep the Easement and the Servient Estate free from liens arising in any manner out of the activities of Grantee and shall promptly discharge any such liens that are asserted. If Grantee fails to fulfill this obligation, the owner of the Servient Estate may do so, in which event Grantee shall pay all costs and expenses incurred by the owner of the Servient Estate in connection therewith plus costs and interest at the rate of the lesser of twelve percent (12%) per annum or the maximum permitted by law.

17. Taxes. Grantee shall pay all taxes and/or assessments that may become chargeable against this easement, if separately assessed by statute.

18. Termination. If Grantee determines that the Easement, or any portion thereof, is no longer needed, this Agreement shall terminate. Any termination under this paragraph shall be evidenced by a statement in recordable form furnished by Grantee to Grantor or its successor(s) or assign(s) in interest; provided, however, that any liability or obligation incurred or owed by Grantee prior to the recording of such statement shall survive the termination of this Agreement. Grantor may terminate this Agreement for uncured breach as hereinafter described. Grantor shall have the right to dedicate all or any portion of the Road to the state, county or municipality as a public road, in which event the Easement on the portion so dedicated shall terminate.

19. Default. Failure of Grantee to perform any of its obligations hereunder shall constitute a default. Upon default, Grantor shall notify Grantee in writing, describing the nature of such default and the action necessary to cure the default. Grantee shall have thirty (30) days following its receipt of a notice to cure the default, unless it appears that Grantee has commenced to cure the default in good faith and has diligently continued to pursue such curing, but has been unable to complete the same within said 30-day time period due to the nature of the default or other causes beyond the control of Grantee, in which case the time period shall be extended accordingly; provided, however, that no extension shall be afforded for a default in the payment of a monetary obligation. In the event Grantee fails to cure the breached obligation during the prescribed cure period, as the same may be extended, Grantor shall be entitled to exercise all rights and remedies available to it at law or equity, including but not limited to specific performance pursuant to the terms of this Agreement without the necessity of posting a bond, or termination of this Agreement and the Easement. In the event of a monetary default that has not been cured within the cure period, in addition to any other remedies available at law or in equity, Grantor shall have the right to a lien against the Dominant Estate which may be assessed, recorded with the county clerk and foreclosed in the manner set forth in ORS Sections 94.704 through 94.733 or any successor statute.

20. Rights and Obligations. The rights and obligations hereunder shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. The Easement is an easement appurtenant to the Dominant Estate, and may not be transferred separately from, or severed from, title to the Dominant Estate. Furthermore, the benefits of the Easement shall not be extended to any properties other than the Dominant Estate without the consent of the owner of the fee simple interest of the Servient Estate.

21. Invalidity. In the event any portion of this Agreement should be held to be invalid, illegal, or unenforceable by any court of competent jurisdiction, such holding shall not affect the remaining provisions hereof unless the court's ruling includes a determination that the principal purpose and intent of this Agreement is thereby defeated.

22. Costs and Attorneys' Fees. If any party hereto is required to retain an attorney to enforce any provision of this Agreement, whether or not an arbitration or legal proceeding is commenced, the substantially prevailing party or parties shall be entitled to recover from the other reasonable attorneys' fees and other costs incurred, regardless of whether at trial, on appeal, in any bankruptcy proceeding, in an arbitration or without resort to suit. Attorneys' fees covered by this paragraph include, without limitation, fees incurred without resort to suit, at trial, in an arbitration proceeding, in bankruptcy proceedings to modify or vacate any automatic stay of such legal action or proceeding, in appeals, and in post-judgment collection services. Costs covered by this paragraph include, without limitation, the costs of searching records, obtaining title reports (including foreclosure reports), surveyors' reports, appraisal fees, and title insurance premiums.

23. Governing Law. This Agreement shall be interpreted, construed and enforced according to the laws of the State of Oregon.

24. Notices. All notices required or permitted hereunder shall be in writing, and shall be: (1) delivered in person or by private messenger or overnight courier service to the party intended where evidence of delivery is obtained; (2) sent by certified mail, postage prepaid, with return receipt requested, to the party intended; or (3) dispatched by facsimile transmission (accompanied with reasonable evidence of receipt of transmission and with a confirmation copy mailed no later than the day after transmission) to the party intended. Notice shall be delivered or sent to the last address provided by the party intended and to the address appearing in the records for the County in which the Easement is located. The initial address of the signatories hereto is:

Grantor: Plum Creek Timberlands, L.P.
380 NW 1st Street
Toledo, OR 97391
Attention: Resources Manager
Facsimile: (541) 269-5904

And to: 601 Union Street, Suite 3100
Seattle, Washington 98101
Attention: Legal Department
Facsimile: (206) 467-3795

Grantee: Gentraco, Inc.
6860 SW Winding Way
Corvallis, OR 97333
Attention: Eric Thompson
Facsimile: (541) 929-2917

Upon at least ten (10) days' prior written notice, each party shall have the right to change its address to any other address within the United States of America.

[Signatures on following two pages]

IN WITNESS WHEREOF, the parties hereto have executed this instrument, as of the day and year first above written.

GRANTOR:

PLUM CREEK TIMBERLANDS, L.P.
By Plum Creek Timber I, L.L.C.,
Its General Partner

Attest:

By: *Larry D. Neilson*
Larry D. Neilson
Senior Vice President
Resources and Operations Support

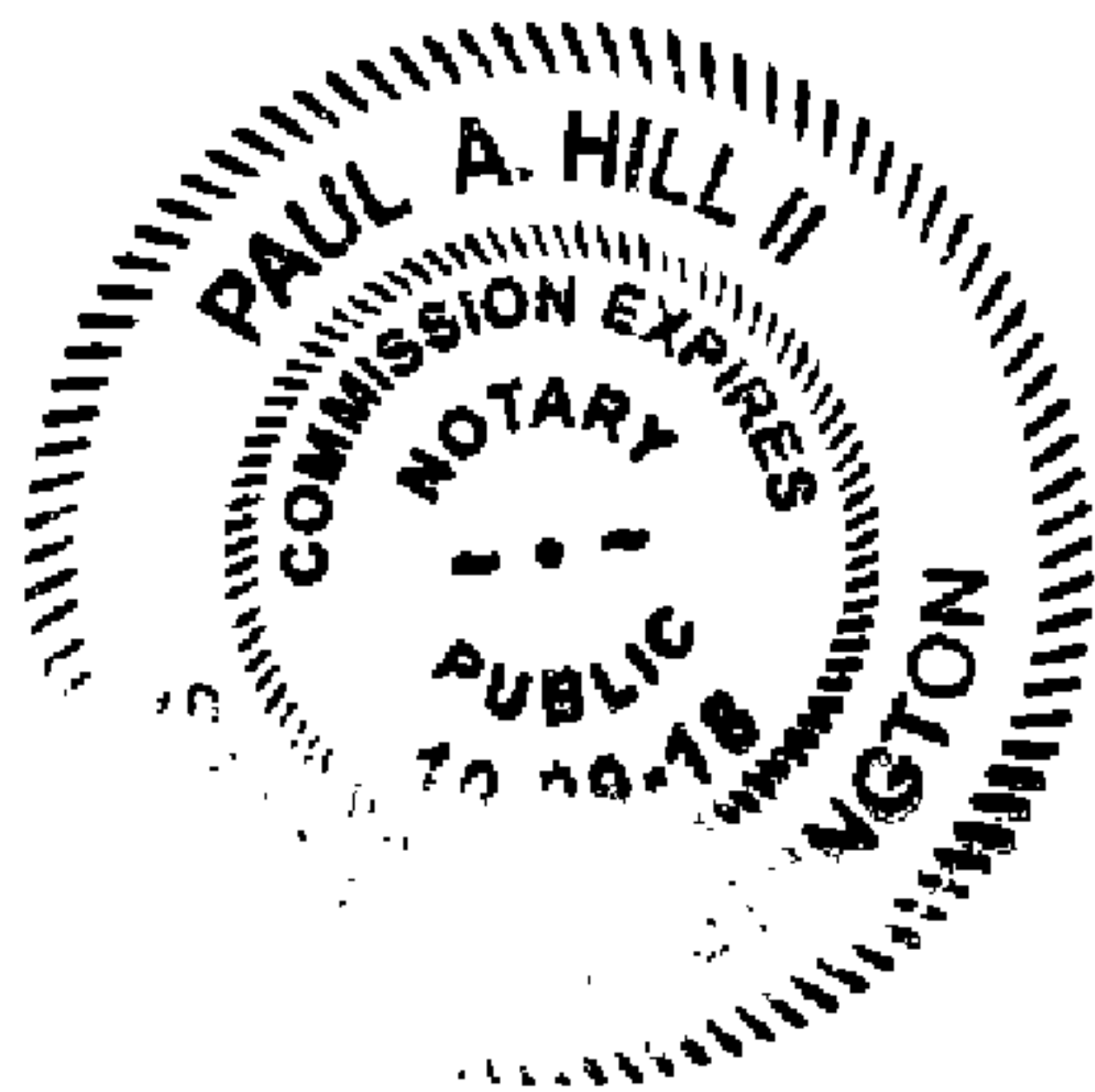
By: *David J. Sprinkle*
David J. Sprinkle
Director, Law and Assistant Secretary

ACKNOWLEDGMENT

STATE OF WASHINGTON)
)ss
COUNTY OF KING)

On this 11th day of March, 2015, I certify that I know or have satisfactory evidence that Larry D. Neilson and David J. Sprinkle are the persons who appeared before me, and said persons acknowledged that they signed this instrument, and on oath stated that they were authorized to execute the instrument and acknowledged it as the Senior Vice President Resources and Operations Support and Director, Law and Assistant Secretary, respectively, of Plum Creek Timber I, L.L.C., general partner of Plum Creek Timberlands, L.P., a Delaware limited partnership, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.


IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.



Paul A. Hill II
Notary Public in and for the
State of Washington
Residing in King County
My Commission Expires: 10/29/2018
Printed Name: Paul A. Hill II

GRANTEE:

GENTRACO, INC.

By ✓ 
 Name Eric C. Thompson
 Title President

ACKNOWLEDGMENT

STATE OF OREGON)
)ss
 COUNTY OF Benton)

On this ✓ 12 day of March, 2015, before me personally appeared Eric C. Thompson, to me known to be the President of Gentraco, Inc., the corporation that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that he/she is authorized to execute said instrument on behalf of the corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.




✓ 
 Notary Public in and for the
 State of Oregon
 Residing at Corvallis, OR
 My Commission Expires ✓ 4/3/18
 Printed Name ✓ Melissa A Kahl

Exhibit "A" to Easement Agreement

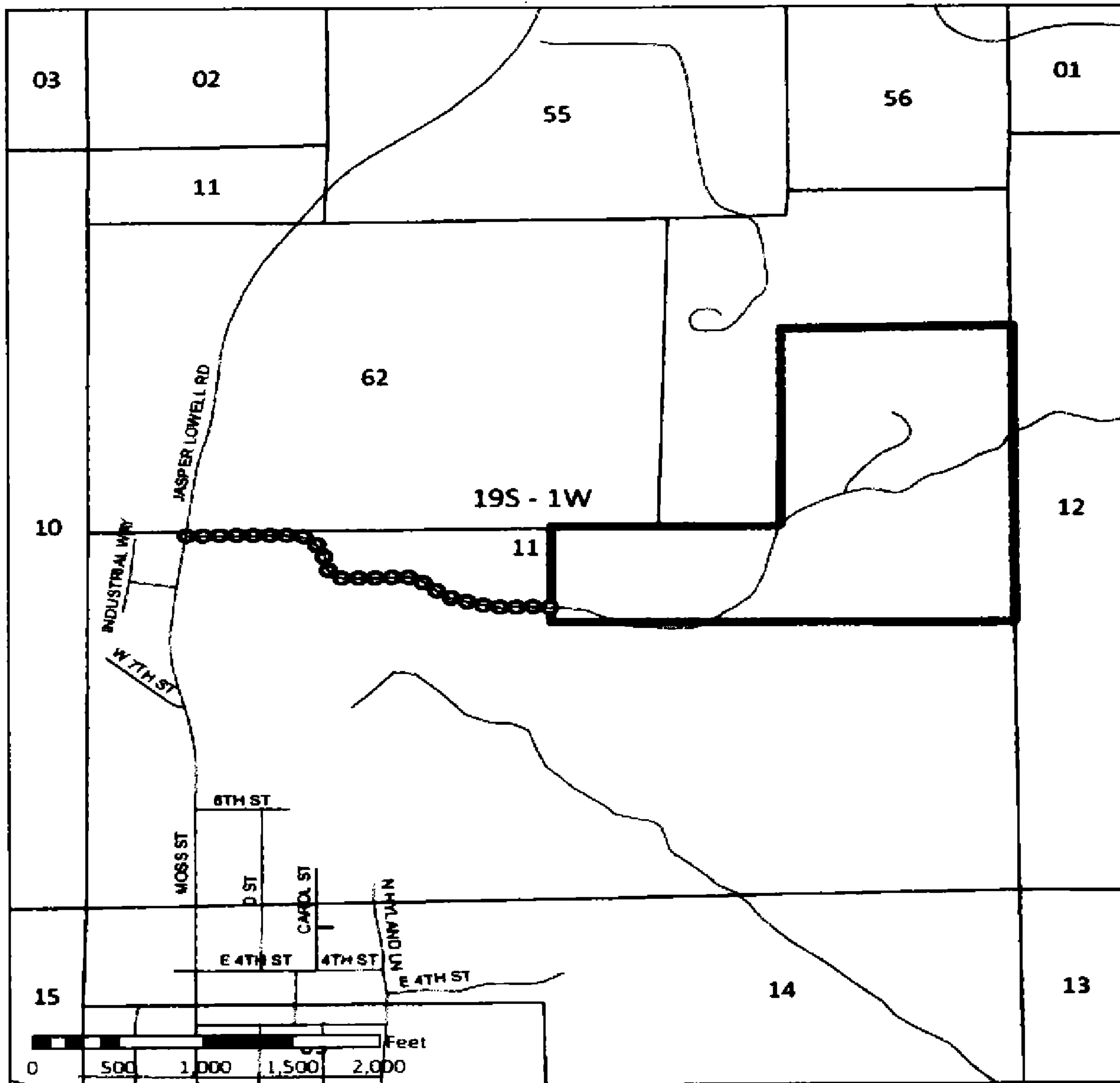


Exhibit " A "
T19S-R01W Section 11
Lane County, OR

○○○○ Easement Grant



Plum Creek

GIS Services - PH/JNR Feb 20, 2015
T19SR01W_Sec11_EasementGrant.mxd

ATTACHMENT R

MCDUGAL DRAINAGE STUDY September 30, 2019

SITE CHARACTERISTICS

The subject property is identified on County Assessor's Maps as 19-01-11-00 Tax Lot 501. It is located on the east side of Moss St. The site is covered with small trees and grasses.

EXISTING HYDROLOGY

A portion of the site drains to the southwest corner (Basin A) and the other portion of the property drains to the north (Basin B).

RUNOFF CURVE NUMBERS

The runoff curve numbers from the Oregon Stormwater Manual were used. (see attached table) The site is located in soil group D. Woods-fair was used as the pre-development condition (CN=79) and Residential- ¼ acre (CN=87) was used as the post-development condition. There are 26 proposed lots in the 11.3-acre basin A, which gives an average lot size of 0.43 acres.

PROPOSED HYDROLOGY

The proposed development will generally maintain the existing flow patterns. The proposed subdivision has been broken up into two separate drainage basins.

Basin A is 12.7 acres and the proposed drainage system for basin A will consist of piping the proposed drainage to a proposed detention pond on the east side of Moss St. The pond was sized using the TR-55 unit hydrograph storage indication method. The proposed detention pond has an overflow outlet at elevation 812.40. The proposed outlet will drain into the existing ditch along the east side of Moss St. The total 10-year pre-development flow from basin A is 6.79 c.f.s. The 10-year post-development flow is 9.19 c.f.s. The total proposed 10-year routed flow to the existing ditch is 4.29 c.f.s. The 18" outfall pipe will flow at 54.2 % full.

Attached are the following:

1. Basin A Pre-Development 10-year flow (TR-55)
2. Basin A Post-Development 10-year flow (TR-55)
3. Routed Post-Development 10-year Flow (TR-55)
4. Stage-Discharge Curve
5. Stage-Storage Curve
6. Hydrograph of 10-year Pre-development, 10-year Post-Development and 10-year Routed Storm
7. 18" Pipe Hydraulics
8. Overall Hydrology Map

Basin B, which is 2.3 acres, is the area expected to collect drainage from the portion of the development south and above the private driveway on lots 28 and 29. This drainage is collected in a roadside ditch along the south side of the proposed driveway and is directed to an 18" storm drain culvert to cross the driveway. The location of the culvert was determined by placing it at the most downstream point of the proposed driveway that will allow the culvert to discharge into the existing drainage basin that flows to the north. Using the TR-55 method, the increase in the 10-year runoff will be approximately 0.39 c.f.s. (1.76 c.f.s. – 1.37 c.f.s.). A rip rap apron will be installed on upstream end of the proposed culvert to prevent erosion. The downstream end of the proposed culvert will have a large rip rap apron to prevent erosion and spread the flow. I believe the increase in runoff will have a negligible effect on the existing drainage basin.

Attached are the following:

1. Basin B Pre-Development 10-year flow (TR-55)
2. Basin B Post-Development 10-year flow (TR-55)

CONCLUSION

Based on my calculations and the proposed drainage system is sized properly.



A handwritten signature in black ink that reads "Anthony J. Favreau".

TR-55 Tabular Hydrograph Method
Input Summary

Description
 BASIN A 10-YEAR PRE-DEV
 Rainfall Distribution Type IA
 Ia/P Interpolation Off
 Total Area 12.7000 ac

 Peak Time 504 min
 Peak Flow 6.7853 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
A		12.7000	79	30	0	4.8000

Support Data:

TR-55 Tabular Hydrograph Method
Input Summary

Description
 BASIN A 10-YEAR POST-DEV
 Rainfall Distribution Type IA
 Ia/P Interpolation Off
 Total Area 12.7000 ac

 Peak Time 498 min
 Peak Flow 9.1870 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
A		12.7000	87	25	0	4.8000

Support Data:

Storage Indication Method

Given Input Data:

File
 Description
 Time increment . 6 min

Input Files:

Pre-Dev Hydrograph curve .. C:\Users\favre\OneDrive\DRAWINGS\LOWELL\hd\pre-dev
 10-yr.hdc
 Post-Dev Hydrograph curve . C:\Users\favre\OneDrive\DRAWINGS\LOWELL\hd\post-dev
 10-yr.hdc
 Stage-Storage curve C:\Users\favre\OneDrive\DRAWINGS\LOWELL\hd\pond.ssc
 Stage-Discharge curve C:\Users\favre\OneDrive\DRAWINGS\LOWELL\hd\POND.sdc

Output Data:

Routed Peak Flow 4.2901 cfs
 Routed Peak Time 9 min
 Pre-Developed Peak Flow .. 6.7853 cfs
 Pre-Developed Peak Time .. 504 min
 Post-Developed Peak Flow . 9.1870 cfs
 Post-Developed Peak Time . 498 min

Support Calculations:

Time min	Inflow cfs	(I1+I2)/2 ft3	H1 ft	S1-(01/2)T ft3	S2+(02/2)T ft3	H2 ft	Outflow cfs
420	1.7435	313.8327	0.0000	0.0000	313.8327	810.5332	0.0000
426	1.8106	639.7358	810.5332	313.8327	953.5685	810.6008	0.0000
432	1.8776	663.8768	810.6008	953.5685	1617.4452	810.6700	0.0000
438	1.9447	688.0177	810.6700	1617.4452	2305.4630	810.7410	0.0000
444	2.1235	732.2762	810.7410	2305.4630	3037.7392	810.8159	0.0000
450	2.3023	796.6521	810.8159	3037.7392	3834.3913	810.8964	0.0000
456	2.4812	861.0281	810.8964	3834.3913	4695.4193	810.9786	0.1695
462	3.1517	1013.9209	810.9786	4634.4047	5648.3256	811.0670	0.5135
468	3.8223	1255.3306	811.0670	5463.4679	6718.7985	811.1655	0.8158
474	4.4929	1496.7404	811.1655	6425.0929	7921.8332	811.2750	1.1465
480	6.2364	1931.2779	811.2750	7509.1077	9440.3856	811.4108	1.5700
486	7.8458	2534.8022	811.4108	8875.1915	11409.9937	811.5833	2.0949
492	8.9858	3029.6922	811.5833	10655.8344	13685.5265	811.7785	2.6519
498	9.1870	3271.1019	811.7785	12730.8533	16001.9552	811.9736	3.1222
504	9.1199	3295.2429	811.9736	14877.9504	18173.1933	812.1529	3.4962
510	8.1140	3102.1151	812.1529	16914.5620	20016.6771	812.3025	3.7848
516	7.0411	2727.9300	812.3025	18654.1494	21382.0794	812.4116	3.9828
522	6.1023	2365.8154	812.4116	19948.2800	22314.0954	812.4853	4.1098
528	5.4317	2076.1237	812.4853	20834.5828	22910.7065	812.5321	4.1903

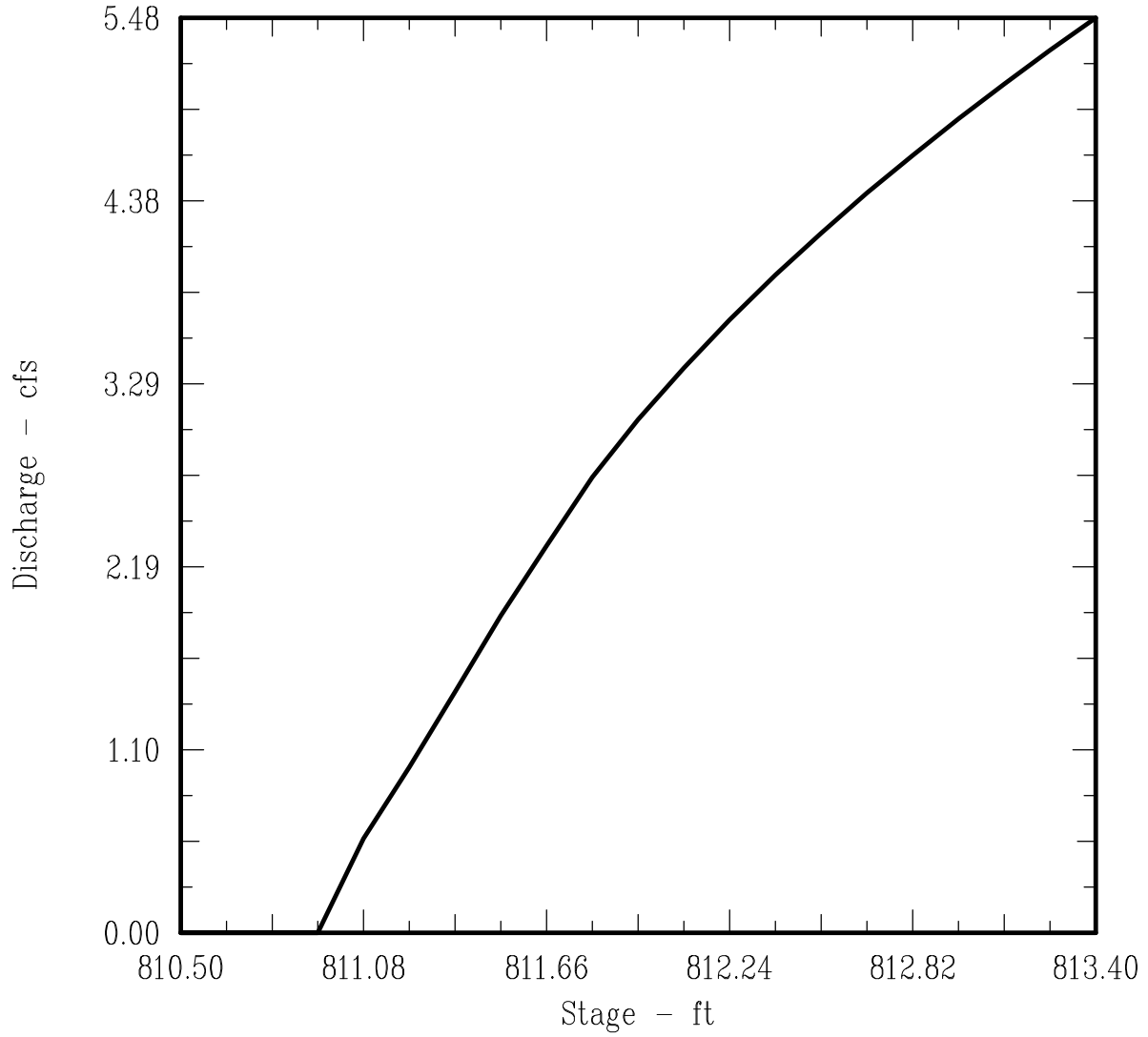
534	5.0629	1889.0312	812.5321	21402.2093	23291.2404	812.5618	4.2399
540	4.6941	1756.2558	812.5618	21764.8859	23521.1417	812.5798	4.2698
546	4.4929	1653.6567	812.5798	21983.9985	23637.6552	812.5889	4.2850
552	4.2917	1581.2338	812.5889	22095.0443	23676.2781	812.5919	4.2901
558	4.0906	1508.8108	812.5919	22131.8548	23640.6656	812.5892	4.2854
564	3.8894	1436.3879	812.5892	22097.9135	23534.3014	812.5808	4.2716
570	3.6882	1363.9650	812.5808	21996.5407	23360.5057	812.5673	4.2489
576	3.4870	1291.5421	812.5673	21830.9006	23122.4427	812.5486	4.2179
582	3.3529	1231.1896	812.5486	21604.0093	22835.1990	812.5262	4.1802
588	3.2188	1182.9077	812.5262	21330.3203	22513.2280	812.5010	4.1369
594	3.1517	1146.6962	812.5010	21023.9560	22170.6522	812.4739	4.0902
600	3.0847	1122.5553	812.4739	20698.1751	21820.7304	812.4463	4.0425
606	3.0400	1102.4378	812.4463	20365.4161	21467.8539	812.4183	3.9945
612	2.9953	1086.3438	812.4183	20029.8474	21116.1913	812.3904	3.9464
618	2.9506	1070.2498	812.3904	19695.4976	20765.7475	812.3624	3.8953
624	2.8835	1050.1323	812.3624	19363.4295	20413.5619	812.3342	3.8434
630	2.8164	1025.9914	812.3342	19029.9519	20055.9433	812.3056	3.7906
636	2.7494	1001.8504	812.3056	18691.3298	19693.1802	812.2764	3.7366
642	2.7326	986.7623	812.2764	18348.0152	19334.7775	812.2474	3.6831
648	2.7159	980.7270	812.2474	18008.8697	18989.5967	812.2194	3.6286
654	2.6991	974.6918	812.2194	17683.2996	18657.9914	812.1925	3.5751
660	2.6823	968.6566	812.1925	17370.9606	18339.6172	812.1665	3.5233
666	2.6421	958.3966	812.1665	17071.2368	18029.6334	812.1411	3.4728
672	2.6019	943.9121	812.1411	16779.4119	17723.3240	812.1161	3.4230
678	2.5616	929.4275	812.1161	16491.0461	17420.4736	812.0912	3.3730
684	2.5214	914.9429	812.0912	16206.2006	17121.1435	812.0664	3.3202
690	2.4812	900.4583	812.0664	15925.8722	16826.3305	812.0421	3.2682
696	2.4409	885.9737	812.0421	15649.7744	16535.7481	812.0180	3.2170
702	2.4007	871.4891	812.0180	15377.6384	16249.1276	811.9943	3.1663
708	2.3605	857.0046	811.9943	15109.2605	15966.2651	811.9706	3.1159
714	2.3202	842.5200	811.9706	14844.5507	15687.0706	811.9473	3.0654
720	2.2800	828.0354	811.9473	14583.5156	15411.5510	811.9242	3.0106
726	2.2666	818.3790	811.9242	14327.7232	15146.1022	811.9020	2.9578
732	2.2532	813.5508	811.9020	14081.2806	14894.8314	811.8808	2.9074
738	2.2397	808.7226	811.8808	13848.1755	14656.8981	811.8607	2.8595
744	2.2263	803.8944	811.8607	13627.4616	14431.3561	811.8417	2.8142
750	2.2129	799.0662	811.8417	13418.2422	14217.3084	811.8236	2.7712
756	2.2129	796.6521	811.8236	13219.6853	14016.3374	811.8066	2.7308
762	2.2129	796.6521	811.8066	13033.2587	13829.9108	811.7908	2.6867
768	2.2129	796.6521	811.7908	12862.7061	13659.3583	811.7763	2.6456
774	2.2129	796.6521	811.7763	12706.9562	13503.6083	811.7630	2.6080
780	2.2129	796.6521	811.7630	12564.7242	13361.3763	811.7509	2.5737
786	2.1995	794.2380	811.7509	12434.8367	13229.0748	811.7397	2.5418
792	2.1861	789.4098	811.7397	12314.0180	13103.4278	811.7290	2.5115
798	2.1727	784.5816	811.7290	12199.2761	12983.8578	811.7188	2.4827
804	2.1593	779.7534	811.7188	12090.0839	12869.8373	811.7091	2.4552
810	2.1459	774.9252	811.7091	11985.9595	12760.8847	811.6999	2.4289
816	2.1325	770.0971	811.6999	11886.4646	12656.5617	811.6909	2.4035
822	2.1190	765.2689	811.6909	11791.3109	12556.5798	811.6823	2.3791
828	2.1056	760.4407	811.6823	11700.1168	12460.5575	811.6740	2.3556

834	2.0922	755.6125	811.6740	11612.5342	12368.1467	811.6661	2.3331
840	2.0788	750.7843	811.6661	11528.2457	12279.0300	811.6584	2.3112
846	2.0721	747.1631	811.6584	11446.9897	12194.1528	811.6511	2.2902
852	2.0654	744.7490	811.6511	11369.6984	12114.4474	811.6442	2.2704
858	2.0587	742.3349	811.6442	11297.1167	12039.4517	811.6377	2.2517
864	2.0520	739.9208	811.6377	11228.8237	11968.7446	811.6317	2.2342
870	2.0453	737.5067	811.6317	11164.4361	11901.9428	811.6259	2.2176
876	2.0386	735.0926	811.6259	11103.6048	11838.6974	811.6205	2.2019
882	2.0319	732.6785	811.6205	11046.0120	11778.6905	811.6153	2.1870
888	2.0252	730.2644	811.6153	10991.3682	11721.6326	811.6104	2.1728
894	2.0185	727.8504	811.6104	10939.4099	11667.2602	811.6057	2.1593
900	2.0117	725.4363	811.6057	10889.8970	11615.3332	811.6012	2.1465
906	2.0050	723.0222	811.6012	10842.6110	11565.6332	811.5969	2.1340
912	1.9983	720.6081	811.5969	10797.3920	11518.0001	811.5928	2.1220
918	1.9916	718.1940	811.5928	10754.0686	11472.2626	811.5888	2.1105
924	1.9849	715.7799	811.5888	10712.4693	11428.2492	811.5849	2.0995
930	1.9782	713.3658	811.5849	10672.4381	11385.8039	811.5812	2.0888
936	1.9715	710.9517	811.5812	10633.8332	11344.7848	811.5777	2.0785
942	1.9648	708.5376	811.5777	10596.5254	11305.0630	811.5742	2.0685
948	1.9581	706.1235	811.5742	10560.3975	11266.5209	811.5708	2.0588
954	1.9514	703.7094	811.5708	10525.3426	11229.0520	811.5676	2.0494
960	1.9447	701.2953	811.5676	10491.2637	11192.5590	811.5644	2.0402
966	1.9380	698.8812	811.5644	10458.0725	11156.9537	811.5613	2.0313
972	1.9313	696.4671	811.5613	10425.6887	11122.1558	811.5582	2.0225
978	1.9246	694.0530	811.5582	10394.0392	11088.0922	811.5553	2.0140
984	1.9179	691.6389	811.5553	10363.0576	11054.6965	811.5524	2.0056
990	1.9112	689.2248	811.5524	10332.6834	11021.9082	811.5495	1.9974
996	1.9045	686.8107	811.5495	10302.8617	10989.6724	811.5467	1.9892
1002	1.8977	684.3966	811.5467	10273.5426	10957.9392	811.5439	1.9813
1008	1.8910	681.9825	811.5439	10244.6804	10926.6629	811.5412	1.9734
1014	1.8843	679.5684	811.5412	10216.2340	10895.8024	811.5385	1.9657
1020	1.8776	677.1543	811.5385	10188.1656	10865.3199	811.5359	1.9580
1026	1.8709	674.7402	811.5359	10160.4411	10835.1813	811.5332	1.9504
1032	1.8642	672.3261	811.5332	10133.0294	10805.3555	811.5306	1.9429
1038	1.8575	669.9120	811.5306	10105.9021	10775.8141	811.5280	1.9355
1044	1.8508	667.4979	811.5280	10079.0335	10746.5315	811.5255	1.9281
1050	1.8441	665.0838	811.5255	10052.4003	10717.4841	811.5230	1.9208
1056	1.8374	662.6697	811.5230	10025.9811	10688.6508	811.5204	1.9136
1062	1.8307	660.2556	811.5204	9999.7565	10660.0121	811.5180	1.9064
1068	1.8240	657.8415	811.5180	9973.7090	10631.5505	811.5155	1.8992
1074	1.8173	655.4274	811.5155	9947.8225	10603.2500	811.5130	1.8916
1080	1.8106	653.0133	811.5130	9922.2714	10575.2847	811.5106	1.8839
1086	1.8022	650.2975	811.5106	9897.0671	10547.3645	811.5081	1.8763
1092	1.7938	647.2799	811.5081	9871.9033	10519.1832	811.5057	1.8686
1098	1.7854	644.2622	811.5057	9846.5042	10490.7664	811.5032	1.8608
1104	1.7770	641.2446	811.5032	9820.8929	10462.1375	811.5007	1.8529
1110	1.7687	638.2270	811.5007	9795.0904	10433.3174	811.4982	1.8449
1116	1.7603	635.2094	811.4982	9769.1357	10404.3451	811.4956	1.8369
1122	1.7519	632.1917	811.4956	9743.0517	10375.2434	811.4931	1.8289
1128	1.7435	629.1741	811.4931	9716.8512	10346.0253	811.4905	1.8208

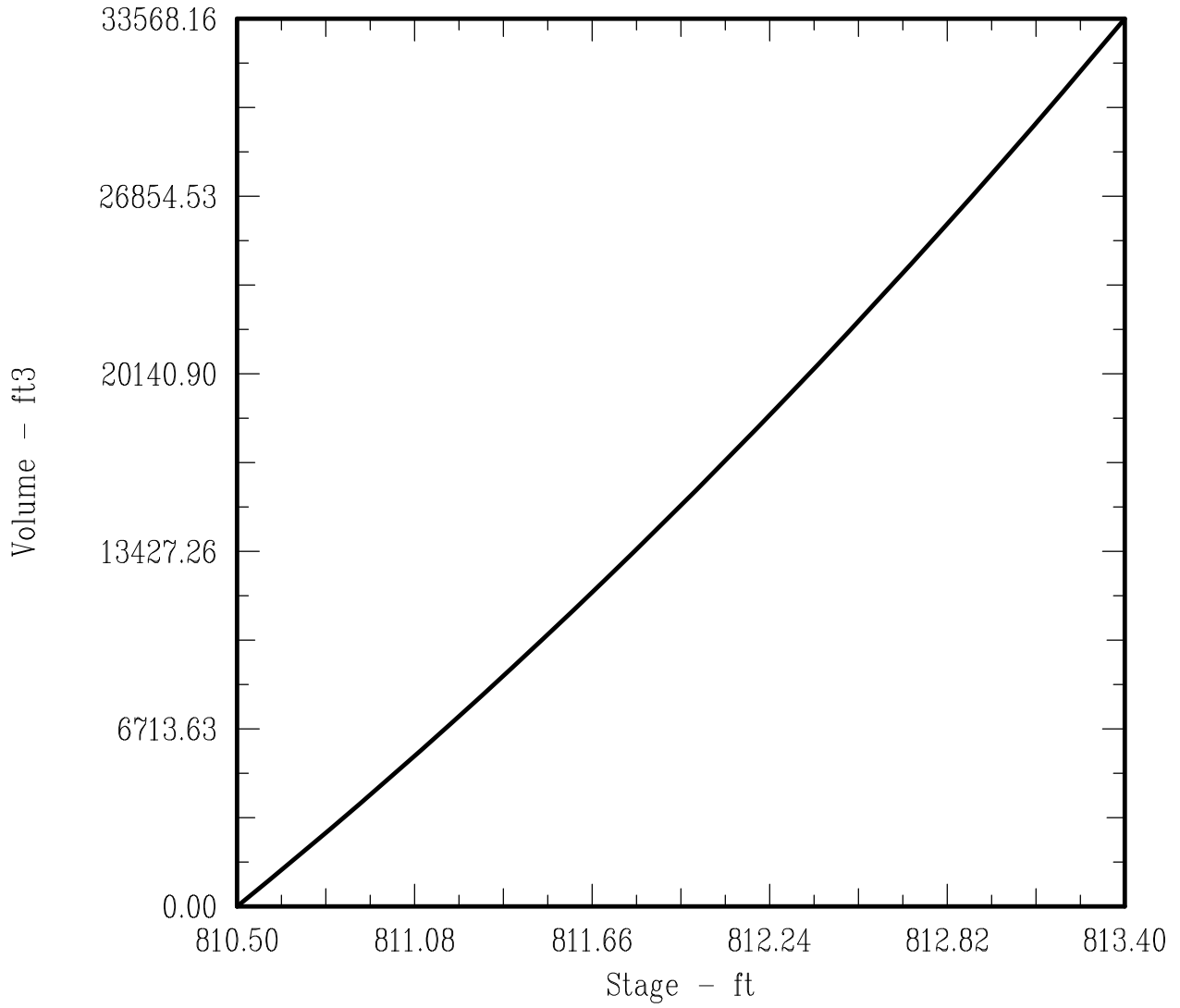
1134	1.7351	626.1565	811.4905	9690.5460	10316.7025	811.4879	1.8127
1140	1.7268	623.1389	811.4879	9664.1463	10287.2852	811.4853	1.8045
1146	1.7184	620.1213	811.4853	9637.6618	10257.7830	811.4827	1.7963
1152	1.7100	617.1036	811.4827	9611.1007	10228.2044	811.4801	1.7881
1158	1.7016	614.0860	811.4801	9584.4708	10198.5568	811.4775	1.7799
1164	1.6932	611.0684	811.4775	9557.7789	10168.8473	811.4749	1.7717
1170	1.6848	608.0508	811.4749	9531.0312	10139.0820	811.4723	1.7635
1176	1.6765	605.0331	811.4723	9504.2333	10109.2664	811.4696	1.7552
1182	1.6681	602.0155	811.4696	9477.3901	10079.4056	811.4670	1.7469
1188	1.6597	598.9979	811.4670	9450.5061	10049.5041	811.4644	1.7387
1194	1.6513	595.9803	811.4644	9423.5856	10019.5658	811.4617	1.7304
1200	1.6429	592.9627	811.4617	9396.6319	9989.5946	811.4591	1.7221
1206	1.6345	589.9450	811.4591	9369.6486	9959.5936	811.4565	1.7138
1212	1.6262	586.9274	811.4565	9342.6385	9929.5659	811.4538	1.7054
1218	1.6178	583.9098	811.4538	9315.6043	9899.5141	811.4512	1.6971
1224	1.6094	580.8922	811.4512	9288.5485	9869.4406	811.4485	1.6888
1230	1.6010	577.8746	811.4485	9261.4731	9839.3476	811.4459	1.6805
1236	1.5926	574.8569	811.4459	9234.3801	9809.2370	811.4432	1.6721
1242	1.5843	571.8393	811.4432	9207.2713	9779.1106	811.4406	1.6638
1248	1.5759	568.8217	811.4406	9180.1482	9748.9699	811.4379	1.6554
1254	1.5675	565.8041	811.4379	9153.0123	9718.8164	811.4353	1.6471
1260	1.5591	562.7864	811.4353	9125.8649	9688.6513	811.4326	1.6387
1266	1.5507	559.7688	811.4326	9098.7071	9658.4759	811.4300	1.6304
1272	1.5423	556.7512	811.4300	9071.5399	9628.2911	811.4273	1.6220
1278	1.5340	553.7336	811.4273	9044.3642	9598.0978	811.4246	1.6137
1284	1.5256	550.7160	811.4246	9017.1810	9567.8970	811.4220	1.6053
1290	1.5172	547.6983	811.4220	8989.9910	9537.6893	811.4193	1.5969
1296	1.5088	544.6807	811.4193	8962.7948	9507.4755	811.4167	1.5886
1302	1.5004	541.6631	811.4167	8935.5930	9477.2561	811.4140	1.5802
1308	1.4920	538.6455	811.4140	8908.3863	9447.0318	811.4113	1.5718
1314	1.4837	535.6278	811.4113	8881.1751	9416.8030	811.4087	1.5635
1320	0.0000	267.0595	811.4087	8853.9599	9121.0194	811.3824	1.4808

Stage-Discharge Curve

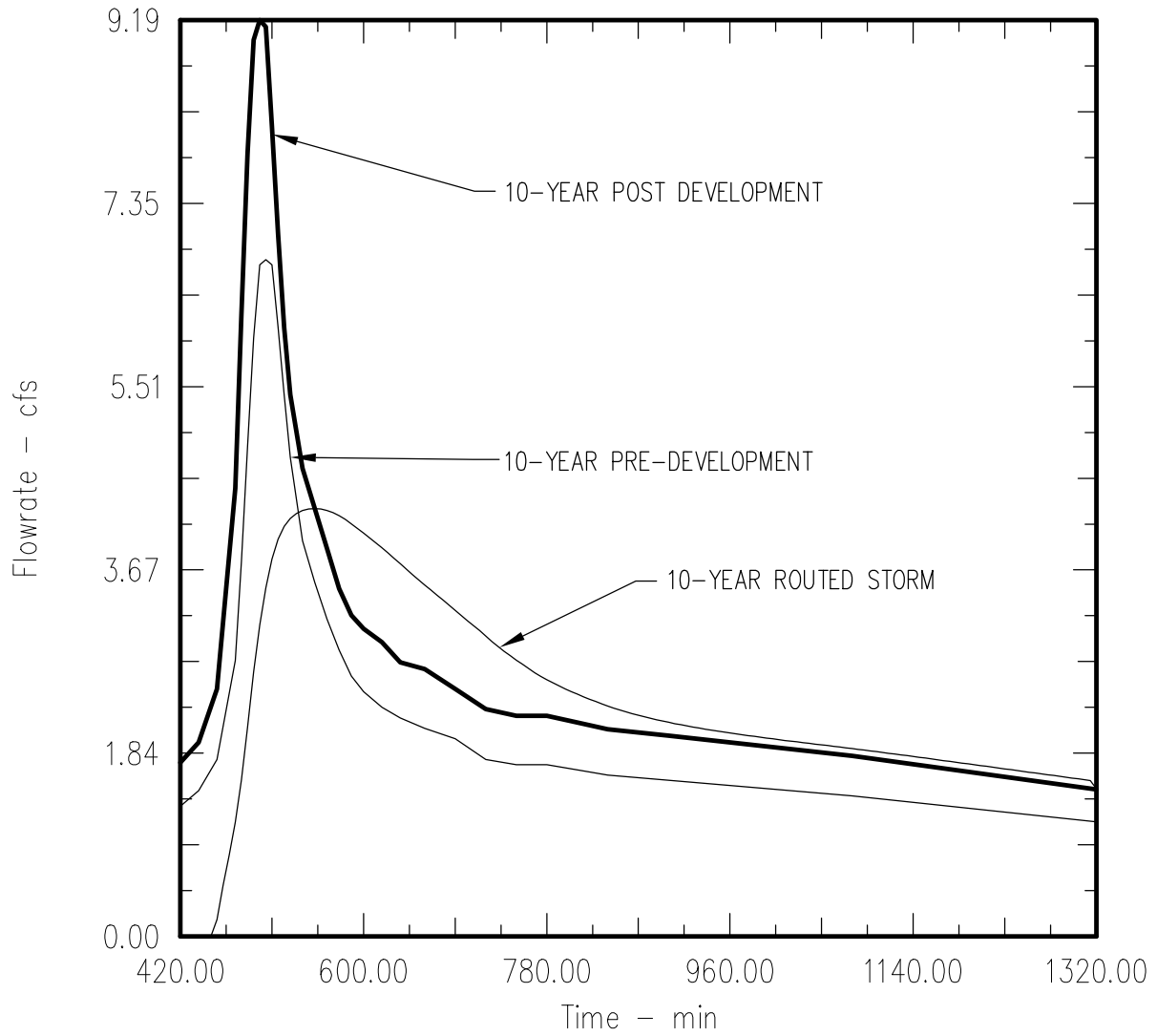
Peak Discharge 3.9238 cfs - Peak Time 32760.0000 min



Stage-Storage Curve
Peak Discharge 3.9238 cfs - Peak Time 32760.0000 min



Multiple Hydrographs
Peak Flow 9.1870 cfs – Time 29880 min



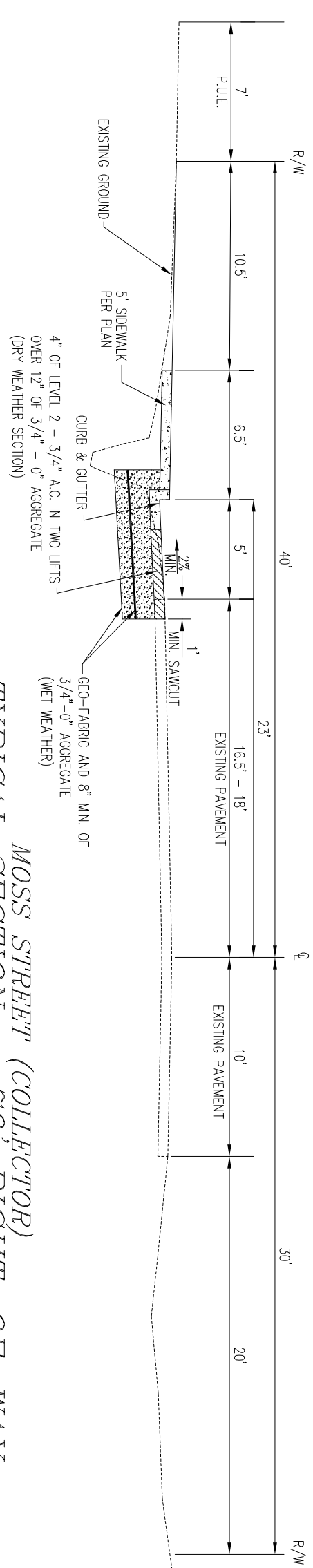
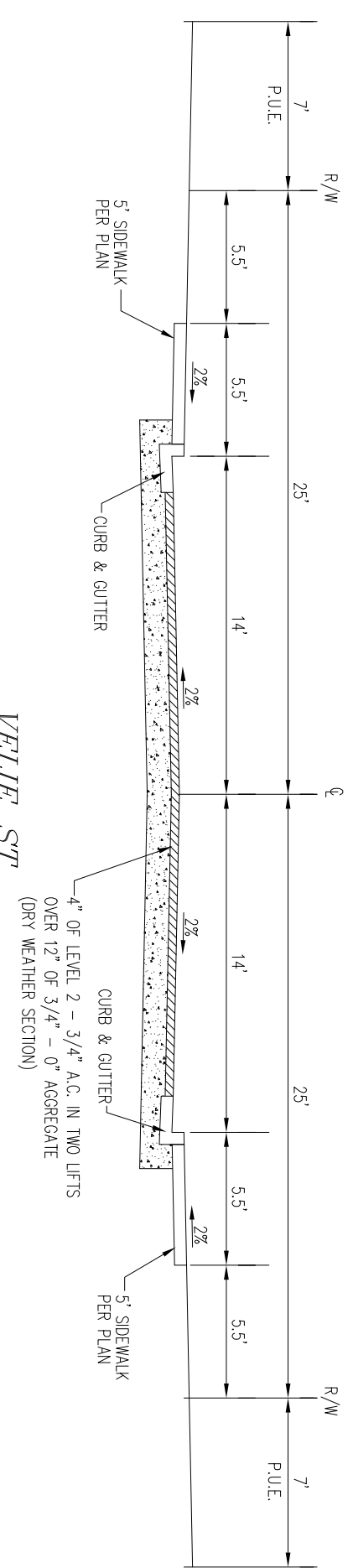
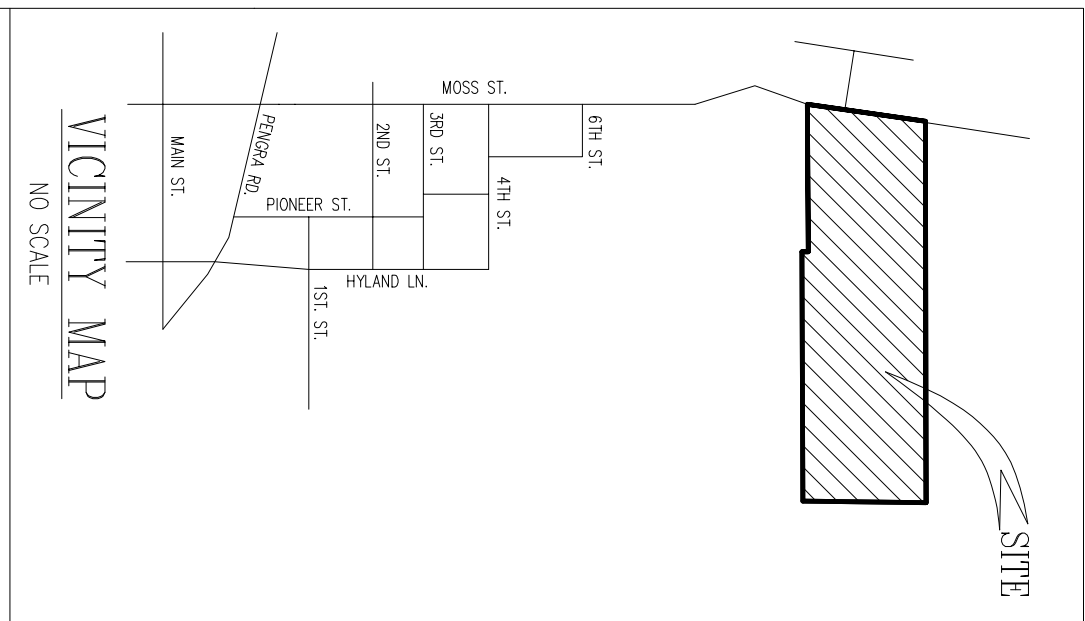
Manning Pipe Calculator

Given Input Data:

Shape	Circular
Solving for	Depth of Flow
Diameter	1.5000 ft
Flowrate	4.2900 cfs
Slope	0.0050 ft/ft
Manning's n	0.0130

Computed Results:

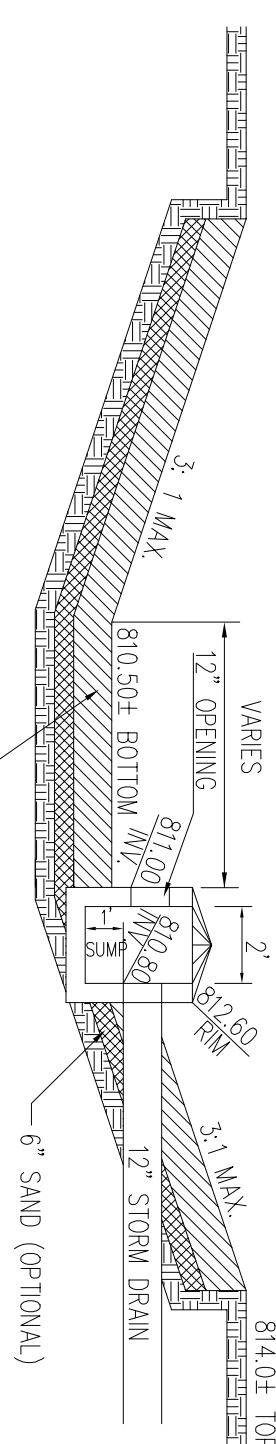
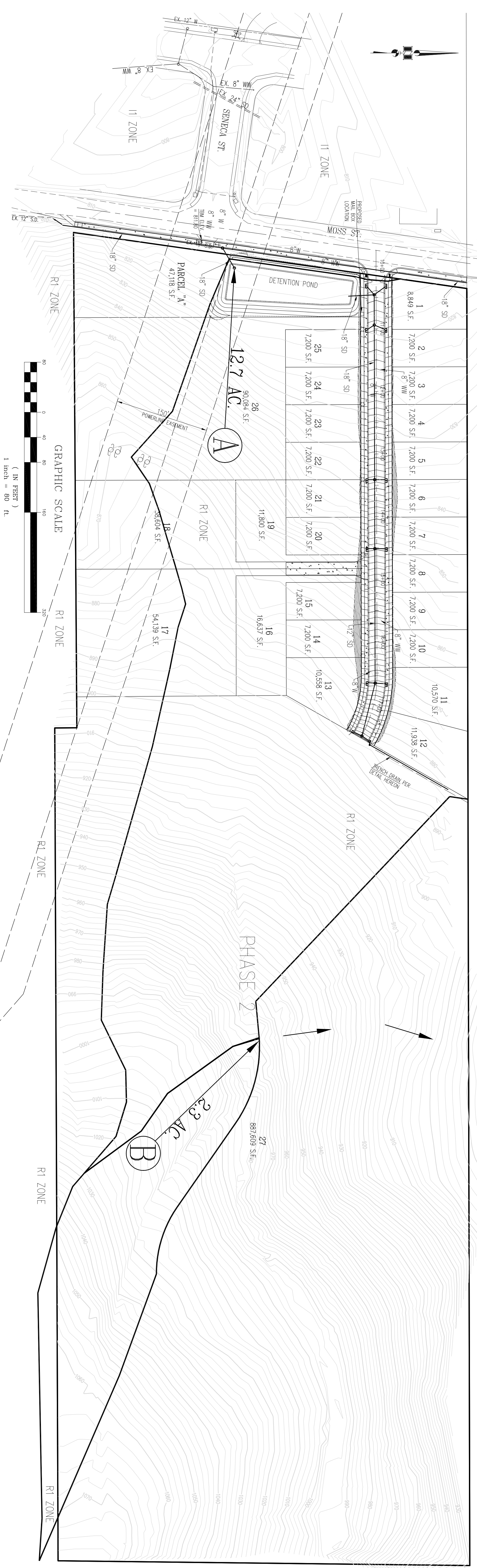
Depth	0.8179 ft
Area	1.7671 ft ²
Wetted Area	0.9853 ft ²
Wetted Perimeter	2.4922 ft
Perimeter	4.7124 ft
Velocity	4.3540 fps
Hydraulic Radius	0.3954 ft
Percent Full	54.5278 %
Full flow Flowrate	7.4277 cfs
Full flow velocity	4.2032 fps



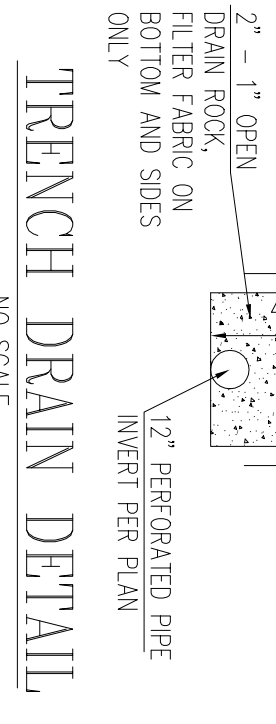
F2 ZONE

F2 ZONE

F2 ZONE



1. THE THICKNESS OF THE CONSTRUCTED MEDIUM INCLUDING OR IN ADDITION TO THE GROWING MEDIUM AT THE BASE OF THE POND SHALL BE A MINIMUM OF 12 INCHES THICK.
2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPPOSED A MIXTURE OF SAND, NATIVE SOIL, LOAM AND COMPOST. FERTILIZER OR ORGANIC GROWING MEDIUM (FOOD) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 30 LBS. OF ORGANIC MATTER PER TON OF GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOR REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.
3. ALL SILT INTRUSION FROM THE STORM DRAIN FACILITY SHALL BE REMOVED PRIOR TO PLACEMENT OF THE CONSTRUCTED MEDIUM.

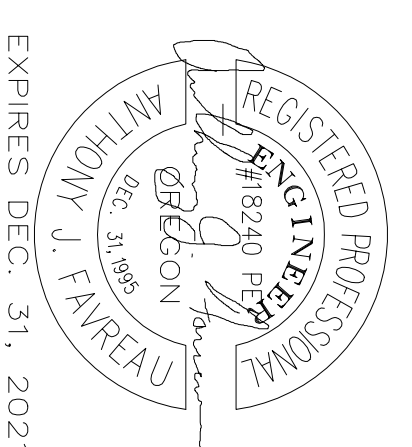


EQUAL NUMBER OF PLANTS FOR EACH ZONE SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

- | | |
|-------------------------------------|--|
| ZONE A (AT AND BELOW R/W ELEVATION) | ZONE B (ABOVE R/W ELEVATION) |
| CAREX GENUPITA 4" POTS 754 EACH | CAMASSIA QUAMASH 4" POTS 232 EACH |
| JUNCUS PATENS 4" POTS 754 EACH | DESCHAMPSIA CACIPISTOSA 4" POTS 232 EACH |

RAIN GARDEN DETAIL

NO SCALE



THE FAVREAU GROUP
CIVIL ENGINEERING

3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

PLANS PREPARED BY:		APPROVED:	
DATE	BY	DATE	
REVISIONS		DRAWN	
DESCRIPTION	APP.	DATE	
		12-30-19	

HYDROLOGY MAP
MCDUGAL PROPERTY

CITY OF LOWELL
PUBLIC WORKS DEPARTMENT

TR-55 Tabular Hydrograph Method
Input Summary

Description
 BASIN B 10-YEAR PRE-DEV
 Rainfall Distribution Type IA
 Ia/P Interpolation Off
 Total Area 2.3000 ac

 Peak Time 492 min
 Peak Flow 1.3706 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
B		2.3000	79	20	0	4.8000

Support Data:

TR-55 Tabular Hydrograph Method
Input Summary

Description
 BASIN B 10-YEAR POST-DEV
 Rainfall Distribution Type IA
 Ia/P Interpolation Off
 Total Area 2.3000 ac

 Peak Time 492 min
 Peak Flow 1.7609 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
B		2.3000	87	20	0	4.8000

Support Data:

**TABLE 5-1
RUNOFF CURVE NUMBERS
ANTECEDENT RUNOFF CONDITION (ARC) II**

<i>Cover Type And Hydrologic Condition</i>	<i>Hydrologic Soil Group: A B C D</i>			
Open Space (lawns, parks, golf courses, cemeteries, landscaping, etc.): ¹				
Poor condition (grass cover <50% of the area)	68	79	86	89
Fair condition (grass cover on 50% to 75% of the area)	49	69	79	84
Good condition (grass cover on >75% of the area)	39	61	74	80
Impervious Areas:				
Open water bodies: lakes, wetlands, ponds, etc.	100	100	100	100
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/swales (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	89
Porous Pavers and Permeable Interlocking Concrete (assume 85% impervious and 15% fair condition lawn):	91	94	95	96
Urban Districts:				
Commercial and Business (average 85% impervious)	89	92	94	95
Industrial (average 72% impervious)	81	88	91	93
Residential Districts By Average Lot Size:				
1/8 acre or less or townhouses (average 65% impervious)	77	85	90	92
1/4 acre (average 38% impervious)	61	75	83	87
1/3 acre (average 30 % impervious)	57	72	81	86
1/2 acre (average 25% impervious)	54	70	80	85
1 acre (average 20% impervious)	51	68	79	84
2 acres (average 12% impervious)	46	65	77	82
Newly graded areas (pervious areas only, no vegetation)	77	86	91	94
Farmsteads – buildings, lanes, driveways, and surrounding lots	59	74	82	86
Pasture, Grassland, or Range-Continuous Forage for Grazing:				
Poor condition (ground cover <50% or heavily grazed with no mulch)	68	79	86	89
Fair condition (ground cover 50% to 75% and not heavily grazed)	49	69	79	84
Good condition (ground cover >75% and lightly or only occasionally grazed)	39	61	74	80
Meadow (continuous grass, protected from grazing and generally mowed for hay)	30	58	71	78
Cultivated Agricultural Lands:				
Row Crops (good) e.g. corn, sugar beets, soy beans	64	75	82	85
Small Grain (good) e.g. wheat, barley, flax	60	72	80	84
Brush-Weed-Grass Mixture (with brush the major element):				
Poor (<50% ground cover)	48	67	77	83
Fair (50% to 75% ground cover)	35	56	70	77
Good (>75% ground cover) ²	30	48	65	73
Woods:				
Poor (Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning)	45	66	77	83
Fair (Woods are grazed but not burned, and some forest litter covers the soil)	36	60	73	79
Good (Woods are protected from grazing, and litter and brush adequately cover the soil)	30	55	70	77

Attachment S

HEARLEY Henry O

From: STANKA Danielle E <danielle.stanka@lanecountyor.gov>
Sent: April 6, 2020 10:54 AM
To: 'ANTHONY J FAVREAU'; HEARLEY Henry O
Cc: philvelie@aol.com; LEMHOUSE Brad; VARTANIAN Sasha L; BAJRACHARYA Shashi;
DARNIELLE Gary L; WALTERS Denise
Subject: RE: Conceptual sketch

The sketch is prepared relative to the centerline of ROW. It is the applicant's responsibility to verify the centerlines and develop their striping plan accordingly. If the applicant has confirmed the centerlines and matched exactly, there will be zero offset.

Hope this helps,
Danielle

From: ANTHONY J FAVREAU [mailto:favreagroup@msn.com]
Sent: Monday, April 6, 2020 10:34 AM
To: STANKA Danielle E <danielle.stanka@lanecountyor.gov>; HEARLEY Henry <HHEARLEY@lcog.org>
Cc: philvelie@aol.com; LEMHOUSE Brad <brad.lemhouse@lanecountyor.gov>; VARTANIAN Sasha L <sasha.vartanian@lanecountyor.gov>; BAJRACHARYA Shashi <shashi.bajracharya@lanecountyor.gov>; DARNIELLE Gary <GDARNIELLE@lcog.org>; WALTERS Denise <DWALTERS@lcog.org>
Subject: RE: Conceptual sketch

Henry,

After reviewing the sketch, I found some issues. Danielle's shows the existing centerline of the paved portion of Moss Street offset to the west several feet. That is not the case, centerline of the road is the centerline of R/W per our surveyor. Please see the attached plan. Please redraw the sketch with the correct existing pavement information.

Thanks,

Tony Favreau
541-683-7048

From: STANKA Danielle E
Sent: Monday, April 6, 2020 9:15 AM
To: HEARLEY Henry; ANTHONY J FAVREAU
Cc: philvelie@aol.com; LEMHOUSE Brad; VARTANIAN Sasha L; BAJRACHARYA Shashi; DARNIELLE Gary; WALTERS Denise
Subject: RE: Conceptual sketch

Henry,

I've attached a more clear exhibit of the conceptual plan for N. Moss Street. I hope this clarifies things. Please let us know if you have any more questions.

Danielle

From: HEARLEY Henry O [<mailto:HHEARLEY@Lcog.org>]
Sent: Thursday, April 2, 2020 2:22 PM
To: ANTHONY J FAVREAU <favreaugroup@msn.com>
Cc: philvelie@aol.com; LEMHOUSE Brad <brad.lemhouse@lanecountyor.gov>; VARTANIAN Sasha L <sasha.vartanian@lanecountyor.gov>; BAJRACHARYA Shashi <shashi.bajracharya@lanecountyor.gov>; DARNIELLE Gary L <GARY.DARNIELLE@lanecountyor.gov>; STANKA Danielle E <danielle.stanka@lanecountyor.gov>; WALTERS Denise <Denise.WALTERS@lanecountyor.gov>
Subject: RE: Conceptual sketch

INTERNAL

Hi Tony,

Thanks for the message.

I'm adding Brad here to provide clarification. I've also requested to Lane County Transportation to have a representative on the line at the hearing to field and questions/discussion relating to transportation.

Henry

From: ANTHONY J FAVREAU <favreaugroup@msn.com>
Sent: April 2, 2020 2:18 PM
To: HEARLEY Henry O <HHEARLEY@Lcog.org>
Cc: philvelie@aol.com
Subject: RE: Conceptual sketch

Henry,

The County first asked us for 23' from centerline. Now it looks like 20' with the right turn lane. The sketch makes no sense! I need a distance from centerline RW to curb face. Brad Lemhouse should be in on this too.

Thanks,

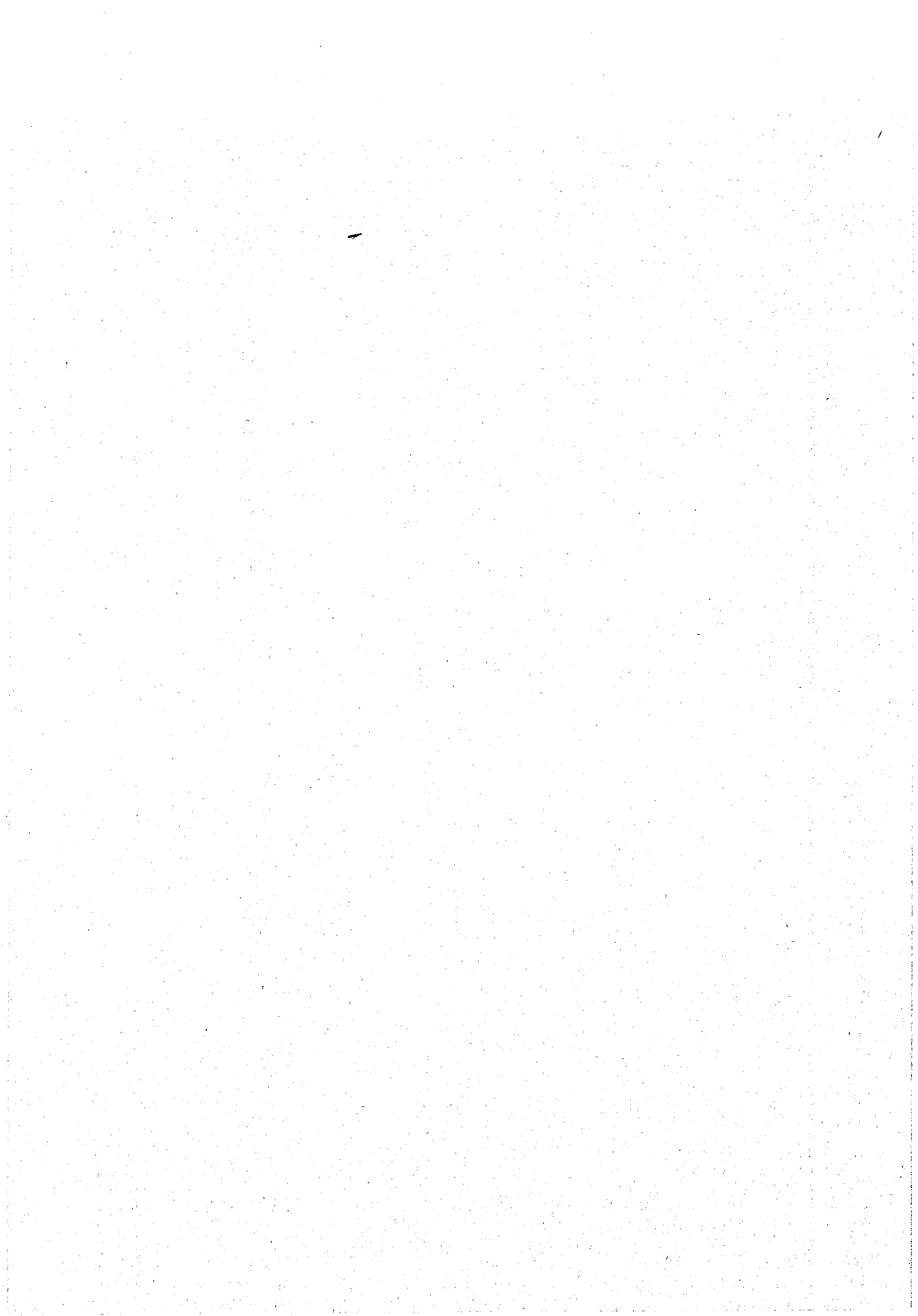
Tony Favreau
541-683-7048

From: HEARLEY Henry O
Sent: Thursday, April 2, 2020 1:26 PM
To: ANTHONY J FAVREAU
Subject: FW: Conceptual sketch

Here's a concept.. hope you're able to see this.

From: BAJRACHARYA Shashi <shashi.bajracharya@lanecountyor.gov>
Sent: April 2, 2020 1:24 PM
To: STANKA Danielle E <danielle.stanka@lanecountyor.gov>; HEARLEY Henry O <Henry.HEARLEY2@lanecountyor.gov>; LEMHOUSE Brad <brad.lemhouse@lanecountyor.gov>; VARTANIAN Sasha L <sasha.vartanian@lanecountyor.gov>
Subject: Conceptual sketch

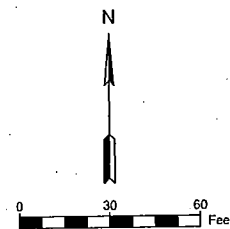
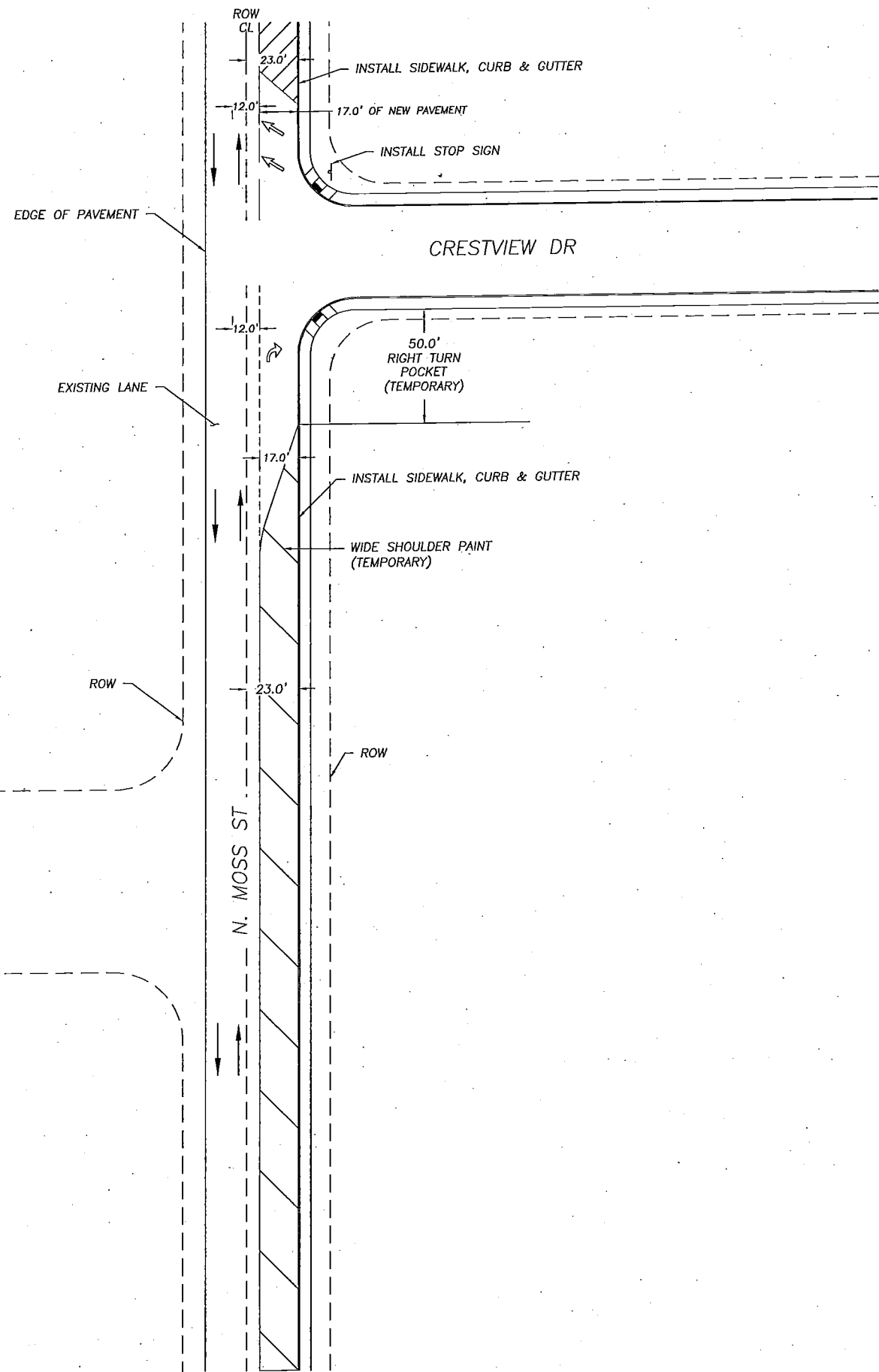
Danielle,
Here is a concept i tried to describe in my earlier response. Please let me know if you have questions. Thanks,



Sent from my iPhone

Sent from my iPhone

- NOTES**
1. REQUIRE 23' IMPROVEMENTS AS SHOWN ON LANE CODE TYPICAL SECTION.
 2. DO NOT CREATE CENTER LANE OR BIKE LANE UNTIL FUTURE DEVELOPMENT IS COMPLETED.
 3. CREATE A TEMPORARY RIGHT TURN LANE AS SHOWN.



LANE COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DANIEL M. HURLEY, P.E.
 PUBLIC WORKS DIRECTOR

PEGGY A. KEPLER, PE, PLS.
 COUNTY ENGINEER

DATE	REVISION	APPROD

RECOMMENDED CONCEPTUAL PLAN FOR CRESTVIEW DEVELOPMENT

DATE: 4/8/20

PROJECT NO. ###

ROAD NO. ###

SHEET NO.
EXHIBIT

Functional Class:
URBAN COLLECTOR and ARTERIAL
(Three - Lane)

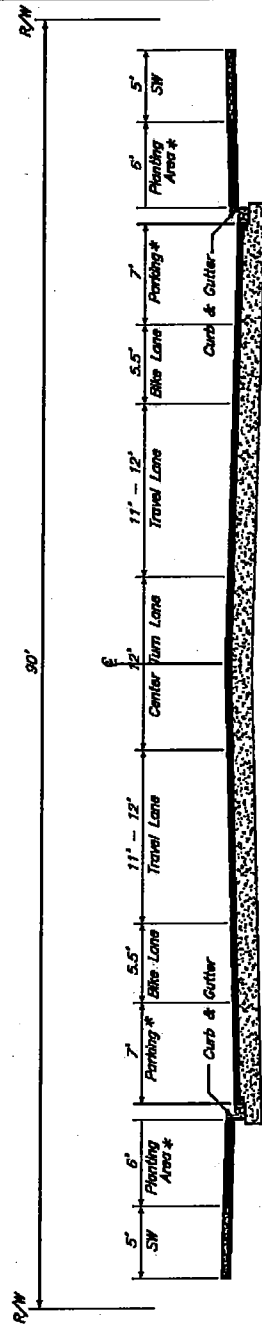


Diagram 2

** Optional, not a required design element.*

Attachment T

After Recording Return to:

Grantor's Full Name & Address:

FARM USE AND FOREST MANAGEMENT EASEMENT

Grantor(s) _____

print name(s)

is/are the owner(s) of real property as described on Exhibit "A", attached hereto. In accordance with the conditions set forth in the decision of the Lane County Land Management Division dated _____ approving Planning Action PA # _____, for Assessor's Map and Tax Lot _____ **Grantor(s)** hereby grant(s) to the owner(s), (**Grantees**), of all property zoned for farm or forest use, a perpetual non-exclusive farm use and forest practices management easement as follows:

1. The Grantor(s), the heirs, successors, and assignees acknowledge by the granting of this easement that the above described property is situated in a farm or forest zone in Lane County, Oregon, and may be subjected to conditions resulting from farm use or commercial forests operations on lands zoned for farm or forest use. Such operations may include farm use as defined in ORS 215.203 and management and harvesting of timber, disposal of slash, reforestation, application of chemicals, road construction and maintenance, and other accepted and customary forest management activities conducted in accordance with Federal and State Laws. Said farm use and forest management activities ordinarily and necessarily produce noise, dust, odors, smoke and other conditions, which may conflict with Grantor's use of Grantor's property for residential purposes, and Grantor(s) hereby give(s) an easement to the property owners of lands zoned for farm or forest use for the resultant impact on Grantors property caused by the farm use or forest management activities on such lands.
2. Grantor(s) shall comply with all restrictions and conditions for maintaining residences in farm and forest zones that may be required by State, Federal, and local land use laws and regulations. Grantor(s) will comply with all fire safety regulations developed by the Oregon Department of Forestry for residential development within a forest zone.

This easement is appurtenant to all property zoned for farm or forest use, and shall bind the heirs, successors, and assignees of Grantor(s), and shall endure for the benefit of the owners of lands zoned for farm or forest use, their heirs, successors, and assignees. The grantees, their heirs, successors, and assignees are hereby expressly granted the right of third party enforcement of this easement.

Grantor Signature

Grantor Signature

IN WITNESS WHEREOF, the Grantor(s) has/have executed this easement on _____
(date)

State of OREGON
County of _____

Signed or attested before me on _____, 20____

by _____
(Name of Grantor)

Signature of Notary

Recording Label Here

My commission expires: _____

Attachment U

February 25, 2020

McDougal Bros Investments
600 Dale Kuni Road
Creswell, OR, 97426

Anthony Favreau
The Favreau Group
3750 Norwich Ave
Eugene, OR, 97408

RE: Application for Subdivision – Additional information

SECTION 9.517 STREETS

- (a) Urban public street improvements including curbs, gutters and storm drainage are required for all land divisions and property development in the City of Lowell. Urban street improvements may be deferred by the City if there is not existing sidewalk or storm drain system to which connection can be made, conditional upon the responsible party agreeing to an irrevocable waiver of remonstrance to a future assessment at the time of construction of a sidewalk which is otherwise required to be constructed.

Response: The applicant intends to construct all required public improvements.

- (b) The location and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and to the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. The arrangement of streets shall either:
- (1) Provide for the continuation or appropriate extension of existing principal streets in the surrounding area; or
 - (2) Conform to a plan for the neighborhood approved or adopted by the City to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical.

Response: The proposed subdivision will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. The submitted shadow plat shows how the proposed street alignment will provide for future extensions to service adjacent properties.

- (c) Minimum right-of-way and roadway widths. Right-of-way widths and the paved width of streets and sidewalks shall be as prescribed in the City's most current Standards for Public Improvements. Right-of-way widths may be reduced to that needed only for construction of streets and sidewalks if a minimum of a five foot utility easement is dedicated on both sides of the right-of-way.

Response: The proposed subdivision will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. This proposal meets the City of Lowell's minimum standards.

- (d) Where conditions, particularly topography or the size and shape of the tract make strict

adherence to the standards difficult, narrower developed streets may be approved by elimination of parking on one or both sides of the street and/or elimination of sidewalks on one side of the street.

Response: The proposed subdivision will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. Sidewalk is proposed for both sides of the street.

- (e) Where topographical conditions necessitate cuts or fills for proper grading of streets, additional right-of-ways or slope easements may be required.

Response: Some slope easements will be required and will be determined at the time of construction drawings.

- (f) Reserve Strips: A reserve strip is a 1 foot strip of land at the end of a right-of-way extending the full width of the right-of-way used to control access to the street. Reserve strips will not be approved unless necessary for the protection of the public welfare or of substantial property rights. The control of the land comprising such strips shall be placed within the jurisdiction of the City by deed under conditions approved by the City. In addition, a barricade shall be constructed at the end of the street by the land divider which shall not be removed until authorized by the City. The cost shall be included in the street construction costs by the land divider.

Response: A reserve strip will be placed at the east end of the proposed street.

- (g) Alignment: As far as is practicable, streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T"intersections shall, wherever practical, leave a minimum distance of 260 feet between the center lines of streets having approximately the same direction.

Response: The proposed centerline of the new street is over 260 feet north of Seneca St. to the south.

- (h) Future Extensions of Streets: Where necessary to give access to or permit a satisfactory future division of adjoining land, streets shall be extended to the boundary of the subdivisions or partition and the resulting dead-end streets may be approved with a turn-around instead of a cul-de-sac. Reserve strips and street plugs may be required to preserve the objectives of street extensions.

Response: A turnaround is proposed at the end of the new street. A reserve strip will be placed at the end of the street.

- (i) Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical except where topography require a lesser angle, but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design.

Response: The proposed street intersects Moss St. at 82 degrees.

- (j) Existing Streets: Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of approval of the land division or land use approval.

Response: Moss St. currently has a half right-of-way width of 35 feet which is acceptable to Lane County. No additional right-of-way is proposed to be dedicated.

- (k) Half Street: Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision or partition when in conformity with the other requirements of these regulations and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is divided. Whenever a half street is adjacent to a tract to be divided, the other half of the street shall be provided within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.

Response: No half streets are proposed.

- (l) Cul-de-sacs: A cul-de-sac should have a maximum length of 500 feet but may be longer

where unusual circumstances exist. A cul-de-sac shall terminate with a circular or hammerhead turn-around.

Response: The proposed street will be about 750 feet long with a turnaround at the end. Because of the topography, and no other existing streets in the area, the length exceeds 500 feet. A future extension of the proposed street will connect to the property to the south and eliminate the dead end.

- (m) Street Names: Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names and numbers shall conform to the established pattern in the City and shall be subject to the approval of the City.

Response: A new street name will be proposed.

- (n) Street Name Signs: Street name signs shall be installed at all street intersections to City standards.

Response: Street name signs will be installed per the approved construction drawings.

- (o) Street Lights: Street lights shall be installed to City standards and shall be served from an underground utility.

Response: Street lights will be installed per the approved construction drawings.

- (p) Traffic Signs/Signals: Where a proposed intersection will result in the need for street signals to serve the increased traffic generated by the proposed development, they shall be provided by the developer or land divider and the costs shall be born by the developer or land divider unless an equitable means of cost distribution is approved by the City.

Response: No traffic signals are proposed.

(q) Private Streets: Private streets are permitted within Planned Developments, Manufactured Home Parks, singularly owned developments of sufficient size to warrant interior circulation on private streets or on small developments where integration into the public road system is impractical. Design standards shall be the same as those required for public streets unless approved otherwise by the City. The City shall require verification of legal requirements for the continued maintenance of private streets.

Response: No private streets are proposed.

- (r) Mail Boxes: Provisions for mail boxes shall be provided in all residential developments where mail service is provided. Mail box structures shall be placed as recommended by the Post Office having jurisdiction and shall be noted on the plan.

Response: Mail boxes will be installed per the approved construction drawings.

- (s) **Clear Vision Areas:** In all districts a clear vision area shall be maintained at the corners of all property located at the intersection of two streets or a street-alley. A clear vision area shall also be maintained at all driveways intersecting a street. **See Figure 9.5-2**

(1) All properties shall maintain a clear triangular area at street intersections, alley-street intersections and driveway-street intersections for safety vision purposes. The two sides of the triangular area shall be 15 feet in length along the edge of roadway at all street intersections and 10 feet in length at all alley-street intersections and driveway-street intersections. Where streets intersect at less than 30 degrees, the triangular sides shall be increased to 25 feet in length. The third side of the triangle shall be a line connecting the two exterior sides.

(2) A clear vision area shall contain no plantings, fences, walls, structures, or temporary or permanent obstruction exceeding 3 feet in height, measured from the top of the curb, or, where no curb exists, from the established street

center line grade. Trees exceeding this height may be located in this area, provided all branches or foliage are removed to a height of 8 feet above grade.

Response: Vision Clearance areas will be addressed at the building permit process.

SECTION 9.518 SIDEWALKS

Public sidewalk improvements are required for all land divisions and property development in the City of Lowell. Sidewalks may be deferred by the City where future road or utility improvements will occur and on property in the rural fringe of the City where urban construction standards have not yet occurred. The property owner is obligated to provide the sidewalk when requested by the City or is obligated to pay their fair share if sidewalks are installed by the City at a later date. An irrevocable Waiver of Remonstrance shall be recorded with the property to guarantee compliance with this requirement.

- (a) Sidewalks shall be constructed within the street right-of-way. Sidewalk easements shall only be accepted where the City determines that full right-of-way acquisition is impractical.

Response: Curbside sidewalks are proposed for both sides of the proposed street and along the east side of Moss St.

- (b) Sidewalks shall connect to and align with existing sidewalks. Sidewalks may transition to another alignment as part of the approval process.

Response: There are no existing sidewalks adjacent to the site.

- (c) The City may approve alternate sidewalk alignments and widths to accommodate obstructions that cannot be altered.

Response: No alternate sidewalk alignment is proposed.

- (d) Sidewalks in residential areas shall be a minimum of five (5) feet in width and shall be installed adjacent to the curb unless a planter strip of at least four (4) feet in width is approved adjacent to the curb where sufficient right-of-way is available.

Response: The proposed curbside sidewalks are 5 feet wide.

- (e) Sidewalks adjacent to Major Collector or Arterial Streets are required and shall be a minimum of five (5) feet in width separated by a planter strip of five (5) feet in width adjacent to the curb. Sidewalks may be approved adjacent to the curb where direct access is required. Sidewalks adjacent to the curb shall be a minimum of seven (7) feet in width or a minimum of ten (10) feet in width adjacent to Commercial properties. Planter openings adjacent to the curb are encouraged within the ten (10) foot wide walks.

Response: The proposed curbside sidewalks to Moss Street are 5 feet wide.

- (f) Planter strips and the remaining right-of-way shall be landscaped and incorporated as part of the front yard of adjacent property.

Response: The proposed curbside sidewalks will not have planter strips.

- (g) Mid-block Sidewalks. The City may require mid-block sidewalks for long blocks or to provide access to schools, parks shopping centers, public transportation stops or other community services. Mid-block sidewalks shall be raised and shall be 6 feet in width.

Response: N/A

- (h) Internal pedestrian circulation shall be provided within new office parks and commercial developments by clustering buildings and construction of accessways.

Response: N/A

SECTION 9.519**BIKEWAYS**

Bikeways are required along Arterial and Major Collector streets. Currently the only Bikeway requirements are those required by the County as a part of the County owned Major Collector streets within the City. Future requirements for Bikeways may be addressed at such time that a Transportation System Plan (TTSP) is completed for the City., but until specific Bikeway requirements are adopted, travel lanes of all streets that do not require Bikeways are approved for joint use with bicycles.

Response: The width of the proposed widening of Moss Street was determined by Lane County Staff, which includes a bike lane.

Attachment V

SECTION 9.228 DECISION CRITERIA

A Partition Tentative Plan may be approved by the Planning Commission and a Subdivision Tentative Plan may be approved by the City Council. Approval shall be based upon compliance with the submittal requirements specified above and the following findings

- (a) That the proposed land division complies with applicable provisions of City Codes and Ordinances, including zoning district standards.

Response: The applicant is proposing to create a 27-lot subdivision, wit 26-lots being a part of Phase 1 for eventual development of single-family homes. The underlying zoning classification is Single-Family residential and is consistent with the proposal. As seen on Sheet 1, all lots are above the minimum lot size, and lot width. The proposal includes five lots (lots 26, 18,19, 16 and 17) that are panhandle (or “flag lots”). Lot 26 will have 20-feet of frontage on the newly created Crestview Drive and lots 16-19 will share access and have 11-feet of frontage on the newly created Crestview Drive. LDC Section 9.516 Access calls for every property to abut a street for a minimum of 16-feet, of which 12-foot must be paved, unless where the City approved an access to multiple lots sharing the same access in which case the total width must be at least 16-feet. This is why the applicant has requested a variance to access – four lots will share the same access, with each having 11-feet of frontage on a street, but the total width of the access will be greater than 16-feet. Further consideration of the requested variance will be addressed in Section 9.252. With the exception of the requested variance to access requirements, the proposal complies with the applicable provision of City Codes and Ordinances, including zoning district standards.

- (b) Where the proposed land division results in any lots or parcels that are at least two and one half times the allowed minimum lot size, the applicant has demonstrated that all such lots or parcels may be re-divided in the future to at least 80% of maximum density possible within current minimum lot sizes, existing site constraints, and requirements of this Code.

Response: The proposed property division will result in four lots (lots 17, 18, 26, 27), that are larger than 2.5 times the minimum lot size. The applicant did provide a shadow plat, as seen on Sheet 5, to show how Lot 27 could be further subdivided in the future. Further division on lots 17, 18 and 26 are not practicable due to a 150-foot BPA easement that runs through the lots and access is already an issue with the applicant requesting a variance to allow four lots to utilize the same access point.

- (c) The applicant has demonstrated that the proposed land division does not preclude development on properties in the vicinity to at least 80% of maximum density possible within current minimum lot sizes, existing site conditions and the requirements of this Code.

Response: The proposed shadow plat stubs streets to the east and south per the Master Road Plan.

(d) The proposed street plan:

(1) Is in conformance with City standards and with the Master Road Plan or other transportation planning document.

Response: The proposed shadow plat stubs streets to the east and south per the Master Road Plan.

(2) Provides for adequate and safe traffic and pedestrian circulation both internally and in relation to the existing City street system.

Response: The proposed shadow plat stubs streets to the east and south per the Master Road Plan.

(3) Will not preclude the orderly extension of streets and utilities on undeveloped and underdeveloped portions of the subject property or on surrounding properties.

Response: The proposed shadow plat stubs streets to the east and south per the Master Road Plan.

(e) Adequate public facilities and services are available to the site, or if public services and facilities are not presently available, the applicant has demonstrated that the services and facilities will be available prior to need, by providing at least one of the following:

(1) Prior written commitment of public funds by the appropriate public agency.

Response: No public funds are requested.

(2) Prior acceptance by the appropriate public agency of a written commitment by the applicant or other party to provide private services and facilities.

Response: No private services are proposed.

(3) A written commitment by the applicant or other party to provide for offsetting all added public costs or early commitment of public funds made necessary by development, submitted on a form acceptable to the City.

Response: No public funds are requested

(f) That proposed public utilities can be extended to accommodate future growth beyond the proposed land division.

Response: The proposed shadow plat stubs streets to the east and south per the Master Road Plan.

(g) Stormwater runoff from the proposed land division will not create significant and unreasonable negative impacts on natural drainage courses either on-site or downstream, including, but not limited to erosion, scouring, turbidity, or transport of sediment due to increased peak flows and velocity.

Response: A detention pond is proposed to limit the post-development runoff to pre-development conditions, therefore not creating unreasonable negative impacts on natural drainage courses.

(h) The proposed land division does not pose a significant and unreasonable risk to public health and safety, including but not limited to fire, slope failure, flood hazard, impaired emergency response or other impacts identified in Section 9.204 (u).

Response: The proposed land division will be designed per the city code which was established to address the above mentioned risks.

Attachment W



134 E. 13th Ave .Suite 2

Eugene, Oregon 97401

Phone & Fax

541-485-3215

accesseng.com

Crestview Development Traffic Impact Analysis

**City of Lowell, Oregon
Lane County, Oregon**

Transportation Engineering

Traffic Signal Design

Street Lighting Design

Trip Generation

Access Management

Traffic Impact Studies

February 5, 2020

Crestview Development Traffic Impact Analysis

City of Lowell, Oregon
Lane County, Oregon



February 5, 2020

Table of Contents

I. Executive Summary	1
II. Background	2
1. Introduction, Location and Vicinity Map	2
2. Description of Development Site	2
3. Existing Study Area Conditions	2
4. Crash History	3
5. Existing Traffic Volumes and Speeds	3
6. Trip Generation	3
7. Trip Distribution	4
III. Traffic Analysis	4
1. Intersection Operations - General Procedures	4
2. 2021 Future Traffic	5
3. Year of Opening, 2021, Operational Analysis	5
4. Year of Opening, 2021, Queuing Analysis	5
5. Future Year, 2026, Operations and Queuing Analyses	6
6. Sight Distance Standards	6
IV. Conclusions and Recommendations	7

Tables

Table 1: Existing Study Area Road Conditions	3
Table 2: Trip Generation, Weekday, AM and PM Peak Hours	4
Table 3: Moss Street Existing Conditions - 2020	4
Table 4: 2021 Design Hour Operational Analysis	5
Table 5: 2021 Design Hour Queuing Analysis	5
Table 6: 2026 Design Hour Operational Analysis	6
Table 7: 2026 Design Hour Queuing Analysis	6

Appendices

Appendix A:	Figures
Appendix B:	Crashes, Traffic Volume & Speed Data, & Calculations
Appendix C:	Synchro & SimTraffic Reports

I. Executive Summary

A residential development consisting of 26 single-family homes is proposed for the western portion of tax lot 501 on Assessor's Map 19011100 in the City of Lowell, Oregon. The development site contains 9.66 acres on the east side of Moss Street (Jasper-Lowell Road) along the north city limit line of Lowell. The remaining 20.93 acres to the east will not be developed at this time. The entire tax lot is zoned R-1, Single-Family Residential, by the City of Lowell. A single street, Crestview Street serving all 26 residences, intersects Moss Street approximately 275 feet north Seneca Street and approximately 140 feet south of the north city limits.

Crestview Street will run 710 feet east of Moss Street. In place of a cul-de-sac at the east end, the developer is proposing an emergency turnaround easement with 20 feet wide pavement running south of Crestview 500 feet east of Moss Street. This easement will also serve as access for four flag lots. The 10th Edition of the ITE Trip Generation Manual finds that the 26 residential units will generate 301 daily trips, 24 trips in the AM peak hour and 28 trips in the PM peak hour.

Traffic volume and speed data was collected for Moss Street at the approximate location of the proposed Crestview Drive on Thursday and Friday January 30 and 31, 2020. The AADT calculated by the Jamar counter was 860 vehicles per day. The AM peak volume on Moss Street was 44 vehicles; the PM peak was 100 vehicles. The 85th percentile speed northbound was 52 MPH while the southbound speed was 51 MPH.

A 5-year crash history found only five single vehicle crashes, four to the north on Jasper-Lowell Road and one near Pengra Road in Lowell. All drivers were cited for reckless driving.

The operational analysis of the new Moss Street at Crestview Street intersection found that the intersection will operate at LOS=A when opened in 2021 as well as 5 years afterward. The queuing analysis found a 95th percentile queue of two vehicles on Crestview Street during both peak hours of 2021 and 2026.

Sight Distance at the new intersection meets AASHTO standards in both directions.

Based on the above analysis, we recommend approval of the proposed Crestview Development with no off-site mitigation required.

II. Background

1. Introduction, Location and Vicinity Map

Crestview is a residential development consisting of 26 single-family residential lots proposed along the north boundary of the City of Lowell in Lane County, Oregon. The site is on the east side of Moss Street (Jasper-Lowell Road) (See Figure 1 in Appendix A). The purpose of this study is to document and analyze the potential traffic impacts of trips generated by the development.

2. Description of Development Site

The Crestview development site is the western portion of tax lot 501 on Assessor's Map 19011100. Tax lot 501 contains 30.86 acres and is zoned R-1 - Single-Family Residential by the City of Lowell. The proposed 26 - single-family lots will be built on the western 9.66 acre portion of tax lot 501 adjacent to Moss Street. A Site Plan is provided on Figure 2 in Appendix A. The eastern portion of the tax lot (shown on the shadow plat) can not be developed as shown and will not be analyzed.

Access to the development will be via a new street, Crestview Street, which runs east from Moss Street approximately 275 feet north Seneca Street and approximately 140 feet south of the north city limits. Crestview Street will be curbed, 28 feet in width on a 50 feet right-of-way, and extends approximately 710 feet due east from Moss Street. The intersection of Crestview Street with Moss Street will be controlled by a STOP sign for Crestview Street. Curbside sidewalks are proposed along the entire length of Crestview Street. The east side of Moss Street is shown to be widened by 5 feet with curb and gutter and a 5-foot wide sidewalk along the entire frontage of the street.

Twelve single-family lots take access off the north side of the street while fourteen lots, five of which are flag lots, take access off the south side of the street. A 20-foot wide "emergency turnaround easement" runs south from Crestview Street approximately 480 feet east of the Moss Street right-of-way and provides access to four of the five flag lots. This "emergency turnaround easement" is meant to replace the Land Development Code required cul-de-sac. The 44-foot wide easement will have concrete pavement 20-foot wide for 120 feet south of Crestview Street. There is a 150-foot wide powerline easement that cuts diagonally across the site from Moss Street at Seneca Street along the west property line to the southeast corner of the development site.

3. Existing Study Area Conditions

As stated above, the north property line of the site straddles the north city limit line. To the north are Lane County properties zoned F-1 and F-2, forest lands. Immediately to the north the site is bordered by two large parcels in the county both with existing residences. To the west across Moss Street are City properties zoned I-1 Light Industrial with two developed sites along the north property/city limits line. Immediately south of the development site are large developed properties with residences zoned R-1 in the City of Lowell.

Table 1: Existing Study Area Road Conditions

Street Segment	Jurisdiction-Classification	Posted Speed	Road Width - Shoulders - ROW (ft)	Travel Lanes*	Bike Lanes	Sidewalks Sides	On-Street Parking
Moss Street (Jasper-Lowell Road)	Lane County & City Major Collector	45	22' - 2'- 40' (exist)	2	None	None	None
Crestview Street (new)	City - Local	25**	28' - curbs - 50'	2	None	Both Sides	Both Sides

* - Through lanes only ** - not posted - basic rule

4. Crash History

Five-year crash records for the one-mile section of Jasper-Lowell Road (Moss Street) from mile point 9.15 to 10.15, centered on the proposed new street, were obtained from ODOT’s Crash Analysis and Reporting Unit. For the five-year period, 2014 through 2018 there were five reported crashes - all were single-vehicle fixed-object crashes. Four of the crashes occurred on Jasper-Lowell Road north of the site. One crash occurred in the City of Lowell near Pengra Road (Shore Line Drive). All drivers were cited for reckless driving. Three crashes resulted in injuries. The crash details are in Appendix B.

5. Existing Traffic Volumes and Speeds

Road tube traffic counts were obtained for Moss Street at the proposed Crestview Street intersection. The counter was set out at ~1:45 PM on Thursday, January 30th and picked up at ~1:45 PM on Friday, January 31st. The data collected includes traffic volumes, and speeds. The proposed development is residential, so the peak traffic from the site will occur between 4 to 6 PM. A secondary peak usually occurs between 7 and 9 AM

The traffic counts were taken in January. In order to assess the worst case traffic impacts these counts should be translated to the highest traffic month of the year. Design hour volumes are the 30th highest hour volume for a given year. The commuter seasonal trend is used to estimate design hour traffic using ODOT’s 2019 Seasonal Trend Table. The resulting seasonal factor of 1.17 and is applied to all existing movements in the study area during both peak hours. The calculations are shown in Appendix B and the 2020 DHV’s in the study area are shown on Figure 3 in Appendix A.

Speed data was tabulated hourly for each direction of travel on Moss Street. The 85th percentile speed for both directions on Moss Street was found to be 51 MPH. Northbound the 85th percentile speed was 52 MPH with a 10-MPH pace of 41 to 50 MPH. Southbound the 85th percentile speed was 51 MPH with a 10-MPH pace of 41 to 50 MPH. 48 to 49 percent of all traffic in both directions was traveling at speeds greater than the posted 45 MPH limit. The speed data can be found in Appendix B.

6. Trip Generation

The development proposes 26 single-family home sites. The Tenth Edition of the ITE Trip Generation Manual was consulted to determine the expected weekday trips generated by the proposed development using land use code 210 (single-family detached housing). Table 2 below presents the trips generated by Crestview Subdivision.

Table 2: Trip Generation, Weekday, AM and PM Peak Hours

Land Use (ITE Code)	Size	Units	Weekday		AM Peak Hour			PM Peak Hour				
			Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single-family Detached (210)	26	Dwelling Units	curve*	301	curve*	24	6	18	curve*	28	18	10

* - Rates are based on fitted curve equations

7. Trip Distribution

Due to its location at the north end of the City of Lowell, the distribution of new trips will be primarily to and from the City of Lowell and the fastest route to Oregon 58 to the south. We assume the distribution of new trips will be 90% south and 10% north. Table 3 shows the trips generated by the development during the peak hours. The trip assignment is shown on Figure 3 in Appendix A.

Table 3: Moss Street Existing Conditions - 2020

Location	Daily (ADT)	AM Peak Hour			PM Peak Hour		
		Total	NB	SB	Total	NB	SB
Moss Street n/o Seneca Street	1006	80	42	38	117	56	61

III. Traffic Analysis

1. Intersection Operations - General Procedures

A traffic impact analysis is required by Lane County under Lane Code 15.697 (1) (g): *project development would increase intersection or driveway volumes by 25 peak hour trips or greater on roadways classified as minor collector, major collector, minor arterial, or principal arterial.*

Crestview development will generate 28 PM peak hour trips at the Crestview Street intersection with Moss Street, a major collector. As shown on the bottom of Figure 3 no other intersection will receive 25 or more new trips.

For Lane County intersections, Lane Code 15.696 Roadway Performance Standards provides the following standards: (1) All roadways and intersections owned by Lane County must operate at or below the following standards...(b) Two-way Stop and Yield Controlled Intersections: All public street intersection approaches serving more than 20 vehicles during the highest one hour period on an average weekday (typically, but not always the evening peak period between 4 p.m. and 6 p.m. during the spring or fall) must operate with a LOS “E” or better and a v/c ratio not higher than 0.95 if inside and UGB, or with a LOS “D” or better and a v/c ratio not higher than 0.80 outside the UGB. Operational standards do not apply to approaches at intersections serving 20 vehicles or fewer during the peak hour or private driveways.

2. 2021 Future Traffic

The Lane County website was consulted to find recent traffic counts for Moss Street and Jasper-Lowell Road. Lane County Maps provided two locations with 2018 ADT data for the roadway, one to the north and one to the south. To the north, 0.03 miles south of Big Fall Creek Road the ADT was 1050. To the south, 0.03 miles north of Pengra Road (downtown Lowell) the ADT was 2000. The same locations had higher ADT's in 2001 according to the 2003 "Traffic Volume Tables" published by Lane County: 1150 in 2001 south of Big Fall Creek Road and 2200 in 2001 north of Pengra Road. Rather than use this historic data that show no traffic growth, we have assumed a 2% per year growth in traffic for Moss Street (Jasper-Lowell Road) for future years analyses.

3. Year of Opening, 2021, Operational Analysis

The Synchro program is used to evaluate the operation of the study area intersection. The peak hour traffic volumes analyzed are shown on the bottom of Figure 3. For the Stop controlled intersection, the v/c and LOS for all movements are shown. The saturation flow rate was set to 1750 vehicles per hour and the existing Peak Hour Factors (PHF's) from the traffic count were used. The Synchro reports are in Appendix C. For the No Build scenario the Table 4 shows the results of the intersection operational analysis for the AM and PM peak hours.

Table 4: 2021 Design Hour Operational Analysis

Intersection Movement	Mobility Standard	AM Peak Hour			PM Peak Hour		
		V/C	Delay (sec.)	LOS	V/C	Delay (sec.)	LOS
Crestview @ Moss Street							
Northbound Movements	LOS = E	---	---	A	---	---	A
Southbound Movements		0.00	7.3	A	0.00	7.3	A
Westbound Movements		0.03	9.0	A	0.02	9.2	A

4. Year of Opening, 2021, Queuing Analysis

SimTraffic was used to evaluate the queue lengths at the study area intersections following the guidelines in Chapter 8 of ODOT's "Analysis Procedures Manual" (APM). Five runs with a random seed were averaged. The 95th percentile queues are reported and are rounded to the next nearest 25-foot increment. Table 5 shows the results of the simulations. The SimTraffic reports are in Appendix C.

Table 5: 2021 Design Hour Queuing Analysis

Intersection Movement	Available Storage (ft.)	Noon Peak Hour	PM Peak Hour
Crestview @ Moss Street			
Northbound Movements	225	---	---
Southbound Movements	350	---	---
Westbound Movements	400	50	50

5. Future Year, 2026, Operations and Queuing Analyses

Synchro and SimTraffic were again used to estimate operations and queuing at the new intersection. No changes were made to the saturation flow rate, and peak hour factors. Traffic on Moss Street was increased by 10% for the 5 year period. Tables 6 and 7 show the results of the analyses. The Synchro and SimTRaffic reports are in Appendix C.

Table 6: 2026 Design Hour Operational Analysis

Intersection Movement	Mobility Standard	Noon Peak Hour			PM Peak Hour		
		V/C	Delay (sec.)	LOS	V/C	Delay (sec.)	LOS
Crestview @ Moss Street							
Northbound Movements	LOS = E	---	---	A	---	---	A
Southbound Movements		0.00	7.3	A	0.00	7.3	A
Westbound Movements		0.03	9.0	A	0.02	9.2	A

Table 7: 2026 Design Hour Queuing Analysis

Intersection Movement	Available Storage (ft.)	Noon Peak Hour	PM Peak Hour
Crestview @ Moss Street			
Northbound Movements	225	---	---
Southbound Movements	350	---	---
Westbound Movements	400	50	50

The results of the analyses indicate that there will be no operational or queuing issues at the new intersection.

6. Sight Distance Standards

Sight distance at the proposed Crestview Street intersection with Moss Street is excellent in both directions. Intersection Sight Distance (ISD) standards are provided by AASHTO’s A Policy on Geometric Design of Highways and Streets and are based on the 85th percentile speed of traffic. The data collection found that the 85th percentile speeds at the new intersection were 52 MPH northbound and 51 MPH southbound. The required ISD for left turns from Stop are found in Exhibit 9-55. For 51 MPH southbound traffic, 565 feet of sight distance is required. The required ISD for right turns from Stop are found in Exhibit 9-58. For 52 MPH northbound traffic the required sight distance is 500 feet. Figure 4 in Appendix A shows that those distance are available before the curves north and south of the intersection.

IV. Conclusions and Recommendations

- The proposed Crestview development consisting of 26 single-family residences will generate 301 daily trips; 24 trips during the AM peak hour and 28 trips during the PM peak hour.
- The development is required to provide a traffic impact analysis per Lane Code 15.697 (1) (g) as it will create a new intersection, Moss Street at Crestview Street, that will have an increase of more than 25 vehicles during a peak hour.
- The 5-year crash records for a one-mile section of Moss Street (Jasper-Lowell Road) centered on Crestview Street found 5 crashes. All were single-vehicle run off the road crashes, four north of Crestview Drive and one in downtown Lowell. All drivers were cited for reckless driving.
- The operational analysis of the new Moss Street at Crestview Street intersection found that the intersection will operate at LOS=A when opened in 2021 as well as 5 years afterward.
- The queuing analysis found a 95th percentile queue of two vehicles on Crestview Street during both peak hours of 2021 and 2026..
- Sight Distance at the new intersection meets AASHTO standards in both directions.

Based on the above analysis, we recommend approval of the proposed Crestview Development with no off-site mitigation required.

Appendix A

Figures

Figure 1

Crestview Development Traffic Impact Study Vicinity Map

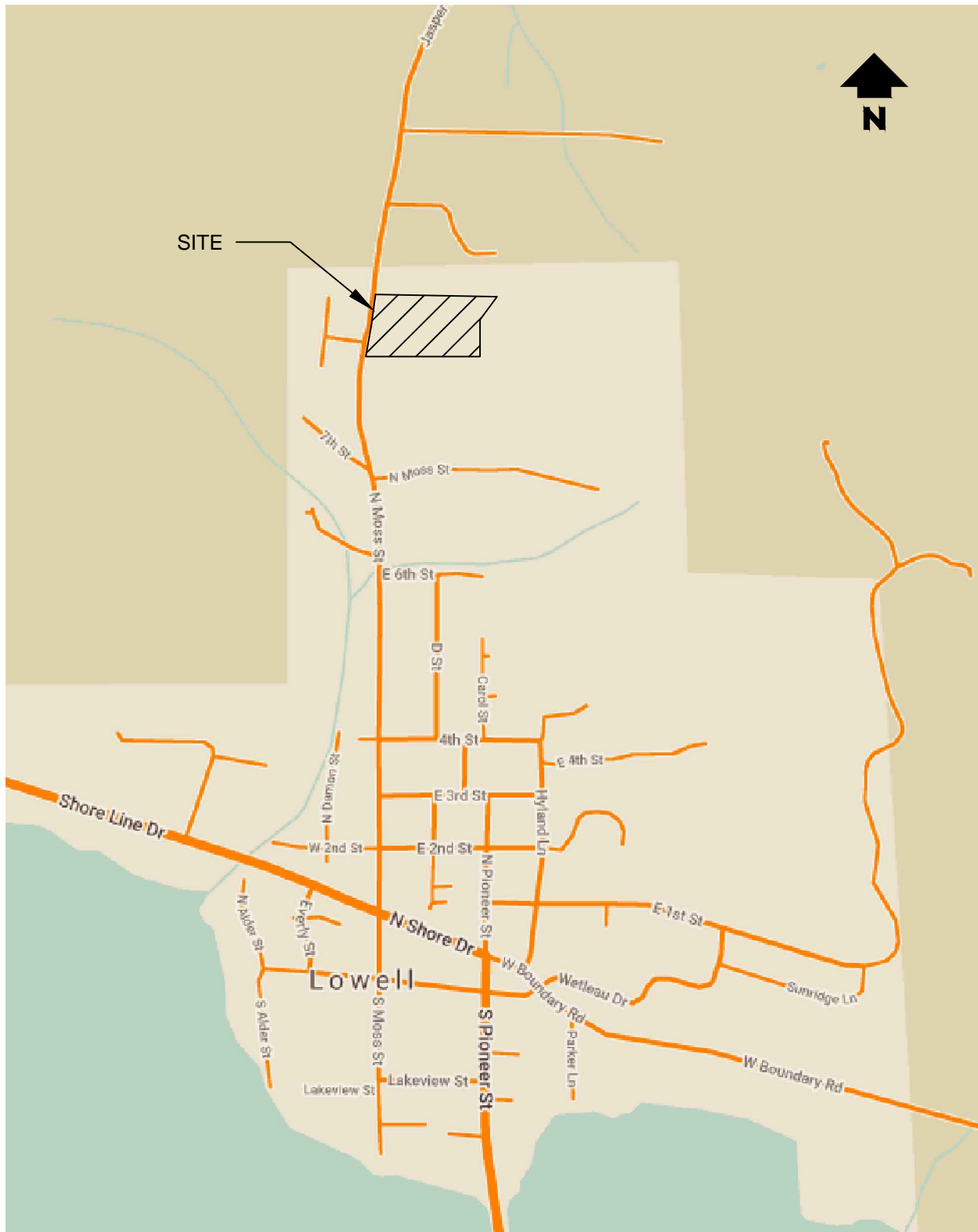


Figure 2

Crestview Development Traffic Impact Study Site Plan

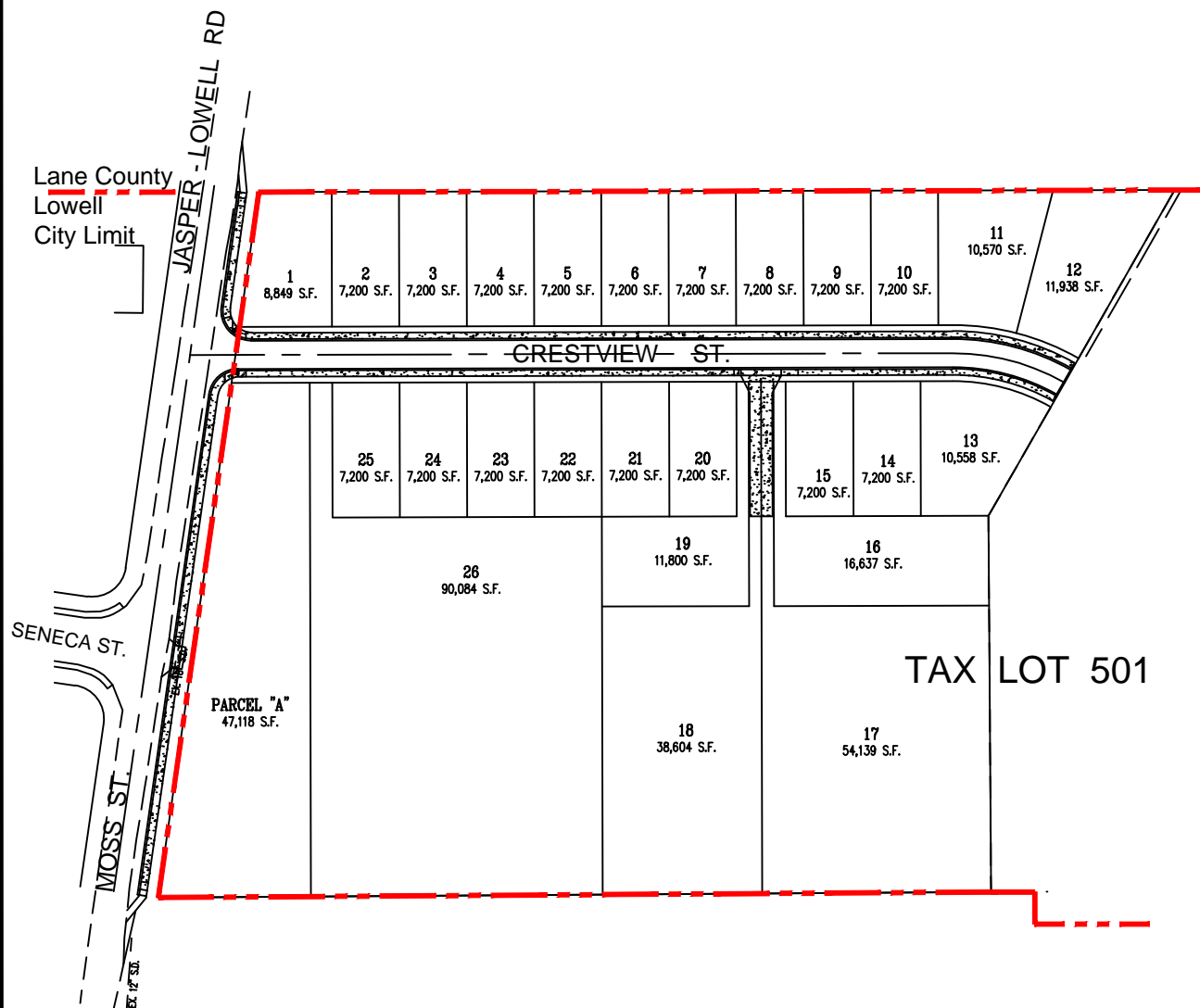


Figure 3

Crestview Development Traffic Impact Study Study Area Traffic

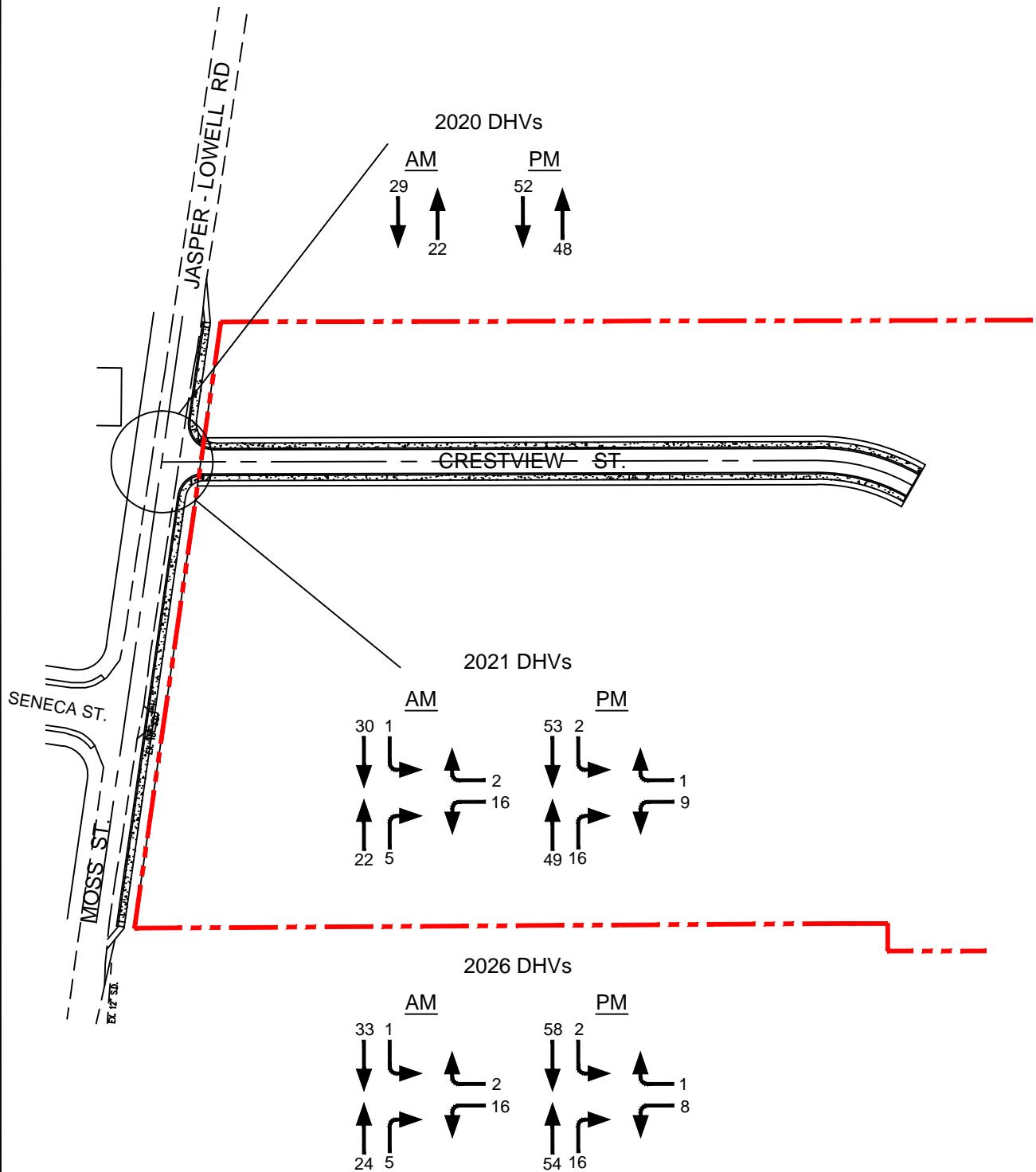
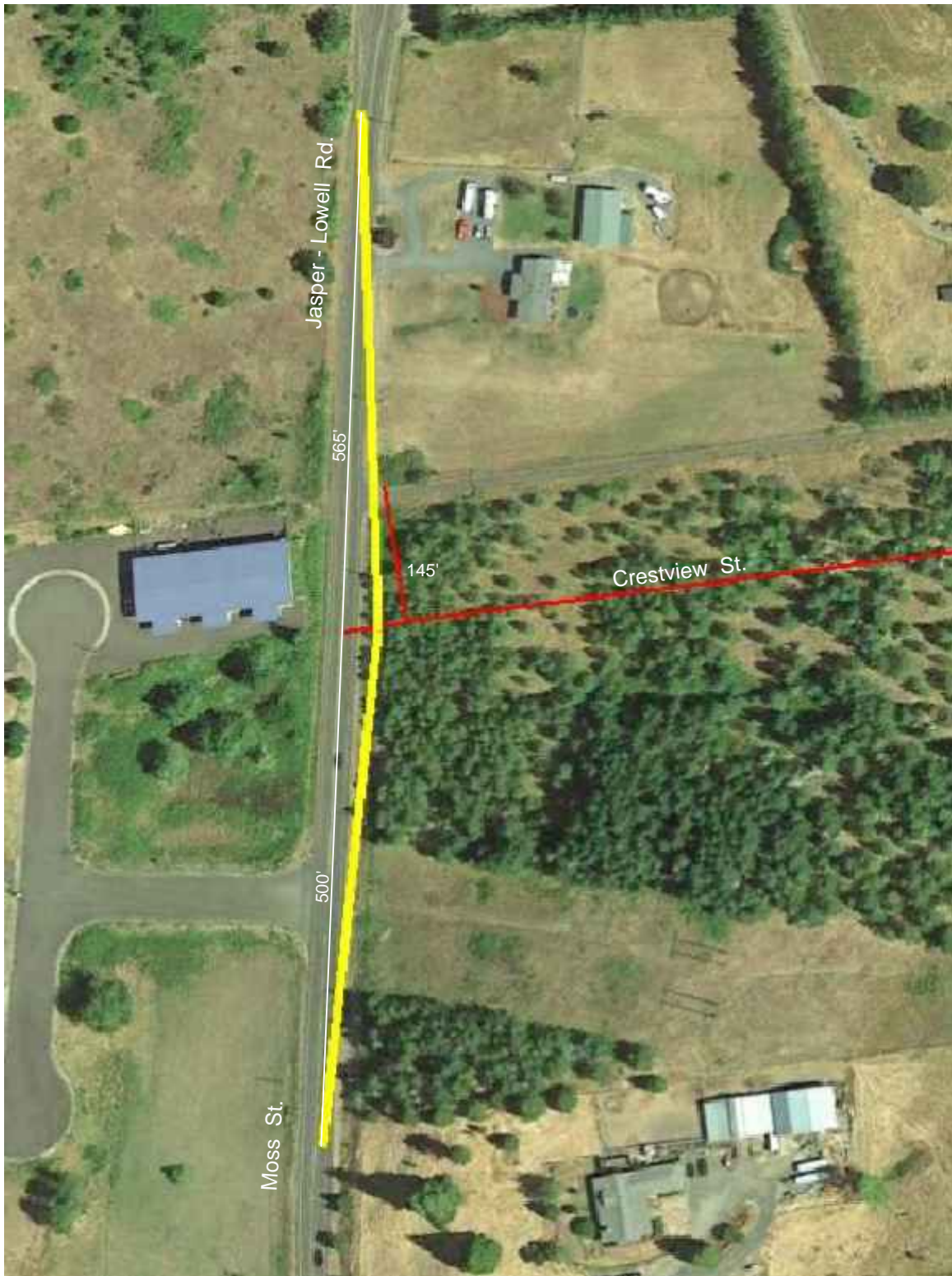


Figure 4
Crestview Development Traffic Impact Study
Sight Distance



Appendix B

Traffic Volume & Crash Data

Data For Station: Lowell

Moss Street n/o Seneca Street

Date	Time	NB	SB	Total	/Hr	Date	Time	NB	SB	Total	/Hr
01/30/20	13:45	0	0	0		01/31/20	02:00 AM	0	0	0	2
01/30/20	14:00	1	1	2		01/31/20	02:15 AM	0	0	0	1
01/30/20	14:15	8	5	13		01/31/20	02:30 AM	1	0	1	1
01/30/20	14:30	7	12	19	34	01/31/20	02:45 AM	1	0	1	2
01/30/20	14:45	4	17	21	55	01/31/20	03:00 AM	0	0	0	2
01/30/20	15:00	18	9	27	80	01/31/20	03:15 AM	0	0	0	2
01/30/20	15:15	19	6	25	92	01/31/20	03:30 AM	0	0	0	1
01/30/20	15:30	12	14	26	99	01/31/20	03:45 AM	0	0	0	0
01/30/20	15:45	7	9	16	94	01/31/20	04:00 AM	0	0	0	0
01/30/20	16:00	16	13	29	96	01/31/20	04:15 AM	1	0	1	1
01/30/20	16:15	7	9	16	87	01/31/20	04:30 AM	0	1	1	2
01/30/20	16:30	8	3	11	72	01/31/20	04:45 AM	0	0	0	2
01/30/20	16:45	10	9	19	75	01/31/20	05:00 AM	0	1	1	3
01/30/20	17:00	13	15	28	74	01/31/20	05:15 AM	1	2	3	5
01/30/20	17:15	11	14	25	83	01/31/20	05:30 AM	1	3	4	8
01/30/20	17:30	14	14	28	100	01/31/20	05:45 AM	2	4	6	14
01/30/20	17:45	9	6	15	96	01/31/20	06:00 AM	2	1	3	16
01/30/20	18:00	6	4	10	78	01/31/20	06:15 AM	3	6	9	22
01/30/20	18:15	9	7	16	69	01/31/20	06:30 AM	2	3	5	23
01/30/20	18:30	10	3	13	54	01/31/20	06:45 AM	2	5	7	24
01/30/20	18:45	4	3	7	46	01/31/20	07:00 AM	2	5	7	28
01/30/20	19:00	4	6	10	46	01/31/20	07:15 AM	6	9	15	34
01/30/20	19:15	5	3	8	38	01/31/20	07:30 AM	3	2	5	34
01/30/20	19:30	9	0	9	34	01/31/20	07:45 AM	4	10	14	41
01/30/20	19:45	11	2	13	40	01/31/20	08:00 AM	6	4	10	44
01/30/20	20:00	4	4	8	38	01/31/20	08:15 AM	5	3	8	37
01/30/20	20:15	4	1	5	35	01/31/20	08:30 AM	1	6	7	39
01/30/20	20:30	8	3	11	37	01/31/20	08:45 AM	6	4	10	35
01/30/20	20:45	5	3	8	32	01/31/20	09:00 AM	8	6	14	39
01/30/20	21:00	2	3	5	29	01/31/20	09:15 AM	6	5	11	42
01/30/20	21:15	2	1	3	27	01/31/20	09:30 AM	6	4	10	45
01/30/20	21:30	4	1	5	21	01/31/20	09:45 AM	8	7	15	50
01/30/20	21:45	3	0	3	16	01/31/20	10:00 AM	4	7	11	47
01/30/20	22:00	4	3	7	18	01/31/20	10:15 AM	4	10	14	50
01/30/20	22:15	0	1	1	16	01/31/20	10:30 AM	11	3	14	54
01/30/20	22:30	1	0	1	12	01/31/20	10:45 AM	4	9	13	52
01/30/20	22:45	3	0	3	12	01/31/20	11:00 AM	6	6	12	53
01/30/20	23:00	1	0	1	6	01/31/20	11:15 AM	7	9	16	55
01/30/20	23:15	0	0	0	5	01/31/20	11:30 AM	9	8	17	58
01/30/20	23:30	0	0	0	4	01/31/20	11:45 AM	12	8	20	65
01/30/20	23:45	1	2	3	4	01/31/20	12:00 PM	4	3	7	60
01/31/20	00:00	3	1	4	7	01/31/20	12:15 PM	10	6	16	60
01/31/20	00:15	0	0	0	7	01/31/20	12:30 PM	11	7	18	61
01/31/20	00:30	0	0	0	7	01/31/20	12:45 PM	6	5	11	52
01/31/20	00:45	2	0	2	6	01/31/20	01:00 PM	9	14	23	68
01/31/20	01:00	0	0	0	2	01/31/20	01:15 PM	10	3	13	65
01/31/20	01:15	1	0	1	3	01/31/20	01:30 PM	4	5	9	56
01/31/20	01:30	1	0	1	4						
01/31/20	01:45	0	0	0	2						
						24 Hour Total		459	401	860	

by: Garys Traffic Data

Moss Street (Jasper-Lowell Road) north of Seneca Street

Date: Thursday January 30 & 31, 2020

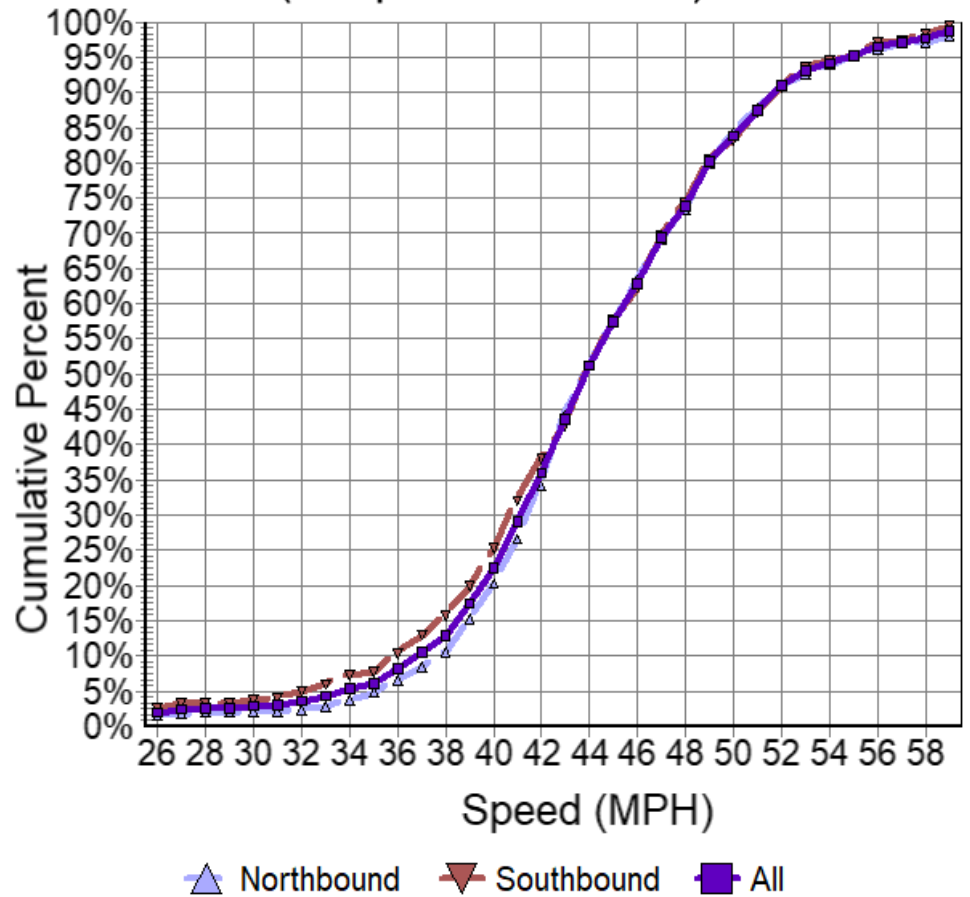
Time: 24 Hours

Speed MPH	# of Vehicles		
	NB	SB	All
25-	6	7	13
26	1	2	3
27	0	1	1
28	1	3	4
29	1	0	1
30	0	0	0
31	1	2	3
32	0	1	1
33	1	4	5
34	2	4	6
35	4	5	9
36	5	2	7
37	8	10	18
38	9	11	20
39	9	11	20
40	22	17	39
41	23	21	44
42	29	27	56
43	35	24	59
44	46	19	65
45	33	33	66
46	27	27	54
47	28	18	46
48	26	30	56
49	20	18	38
50	30	25	55
51	20	11	31
52	16	16	32
53	15	14	29
54	7	11	18
55	6	4	10
56	6	3	9
57	4	7	11
58	4	1	5
59	1	4	5
60	4	5	9
61	3	1	4
62	2	0	2
63	4	0	4
64	0	1	1
65	0	0	0
66	0	0	0
	459	400	859

Statistics

	NB	SB	All
# of Vehicles	459	400	859
85th %-tile Speed	52	51	51
Pace Limits	41-50	41-50	41-50
% in Pace	64.7%	60.5%	67.3%
Mean Speed	35.8	35.3	35.2
Median Speed	44	44	44
Posted Speed	45	45	45
% Exceeding Posted	48.6%	49.0%	48.8%

Speed Study
Moss Street (Jasper-Lowell Rd) n/o Seneca



Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

Date	Time	Dir	NB	Date	Time	Dir	SB
01/30/20	2:13:48 PM	1	35.2	01/30/20	2:14:45 PM	2	41.6
01/30/20	2:15:23 PM	1	42.8	01/30/20	2:16:29 PM	2	46.3
01/30/20	2:17:59 PM	1	47.2	01/30/20	2:18:01 PM	2	42.2
01/30/20	2:19:07 PM	1	53.8	01/30/20	2:19:05 PM	2	50.9
01/30/20	2:21:29 PM	1	45	01/30/20	2:23:46 PM	2	42.8
01/30/20	2:24:41 PM	1	46	01/30/20	2:26:45 PM	2	53.3
01/30/20	2:26:59 PM	1	51.9	01/30/20	2:30:13 PM	2	57
01/30/20	2:28:45 PM	1	44.2	01/30/20	2:30:37 PM	2	47.5
01/30/20	2:29:28 PM	1	53.9	01/30/20	2:30:58 PM	2	53.6
01/30/20	2:33:08 PM	1	53.1	01/30/20	2:32:12 PM	2	49
01/30/20	2:37:24 PM	1	47.7	01/30/20	2:33:27 PM	2	46.9
01/30/20	2:39:08 PM	1	49.7	01/30/20	2:36:03 PM	2	50.7
01/30/20	2:40:57 PM	1	40.2	01/30/20	2:36:24 PM	2	35.9
01/30/20	2:41:37 PM	1	51	01/30/20	2:38:04 PM	2	45.2
01/30/20	2:41:55 PM	1	43.7	01/30/20	2:39:48 PM	2	53.1
01/30/20	2:42:14 PM	1	36.8	01/30/20	2:40:55 PM	2	51.4
01/30/20	2:51:38 PM	1	44.1	01/30/20	2:43:01 PM	2	39.2
01/30/20	2:55:35 PM	1	47.1	01/30/20	2:44:13 PM	2	44.6
01/30/20	2:57:19 PM	1	41.8	01/30/20	2:46:00 PM	2	46.6
01/30/20	2:58:36 PM	1	44.9	01/30/20	2:47:38 PM	2	46.6
01/30/20	3:02:44 PM	1	44.5	01/30/20	2:47:40 PM	2	42.8
01/30/20	3:03:08 PM	1	51.9	01/30/20	2:48:26 PM	2	40.4
01/30/20	3:03:47 PM	1	48.6	01/30/20	2:53:17 PM	2	46.9
01/30/20	3:04:29 PM	1	51.8	01/30/20	2:53:45 PM	2	53.3
01/30/20	3:06:09 PM	1	47.8	01/30/20	2:54:28 PM	2	48.8
01/30/20	3:06:45 PM	1	48.3	01/30/20	2:55:20 PM	2	51.6
01/30/20	3:06:47 PM	1	54.1	01/30/20	2:55:21 PM	2	54.4
01/30/20	3:07:29 PM	1	40.4	01/30/20	2:55:37 PM	2	50.2
01/30/20	3:08:12 PM	1	46.8	01/30/20	2:55:41 PM	2	49.2
01/30/20	3:08:26 PM	1	46.7	01/30/20	2:57:47 PM	2	28.5
01/30/20	3:08:35 PM	1	42.1	01/30/20	2:57:51 PM	2	28.2
01/30/20	3:09:14 PM	1	42.3	01/30/20	2:57:54 PM	2	25
01/30/20	3:09:59 PM	1	52.5	01/30/20	2:57:58 PM	2	37.8
01/30/20	3:10:45 PM	1	48.1	01/30/20	2:58:17 PM	2	46.2
01/30/20	3:11:49 PM	1	47.9	01/30/20	2:58:26 PM	2	47.3
01/30/20	3:12:00 PM	1	44.9	01/30/20	3:01:20 PM	2	33.3
01/30/20	3:12:24 PM	1	47.9	01/30/20	3:01:25 PM	2	40.2
01/30/20	3:13:19 PM	1	56.8	01/30/20	3:05:00 PM	2	42.6
01/30/20	3:15:25 PM	1	55.6	01/30/20	3:06:03 PM	2	41.7
01/30/20	3:15:44 PM	1	48.4	01/30/20	3:06:57 PM	2	46.9
01/30/20	3:16:14 PM	1	63.1	01/30/20	3:07:37 PM	2	49.3
01/30/20	3:16:27 PM	1	53.7	01/30/20	3:12:13 PM	2	47.9
01/30/20	3:17:29 PM	1	48.5	01/30/20	3:13:16 PM	2	59.2
01/30/20	3:17:39 PM	1	45.9	01/30/20	3:14:24 PM	2	53.3
01/30/20	3:18:46 PM	1	51	01/30/20	3:15:13 PM	2	46.8
01/30/20	3:20:41 PM	1	45	01/30/20	3:17:54 PM	2	46.9
01/30/20	3:20:43 PM	1	46.7	01/30/20	3:18:01 PM	2	44.2
01/30/20	3:21:00 PM	1	50.3	01/30/20	3:18:35 PM	2	41.4
01/30/20	3:21:14 PM	1	49.3	01/30/20	3:20:36 PM	2	59.7
01/30/20	3:22:09 PM	1	38.7	01/30/20	3:25:47 PM	2	51.8
01/30/20	3:25:12 PM	1	39.9	01/30/20	3:30:58 PM	2	40.8
01/30/20	3:25:37 PM	1	43.1	01/30/20	3:31:41 PM	2	48.3
01/30/20	3:27:23 PM	1	44.6	01/30/20	3:31:45 PM	2	44.7
01/30/20	3:27:56 PM	1	42	01/30/20	3:31:58 PM	2	45.9

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/30/20	3:28:26 PM	1	48.8	01/30/20	3:33:18 PM	2	34.8
01/30/20	3:28:54 PM	1	41.1	01/30/20	3:36:25 PM	2	37.2
01/30/20	3:29:44 PM	1	50	01/30/20	3:38:10 PM	2	49.8
01/30/20	3:30:23 PM	1	49.3	01/30/20	3:38:46 PM	2	45.9
01/30/20	3:30:45 PM	1	47.7	01/30/20	3:39:38 PM	2	45.6
01/30/20	3:30:48 PM	1	45	01/30/20	3:40:57 PM	2	42.5
01/30/20	3:31:58 PM	1	43.3	01/30/20	3:41:00 PM	2	44.4
01/30/20	3:32:04 PM	1	41.6	01/30/20	3:41:36 PM	2	52.8
01/30/20	3:32:11 PM	1	50.3	01/30/20	3:43:12 PM	2	40.6
01/30/20	3:32:25 PM	1	44.8	01/30/20	3:43:15 PM	2	42
01/30/20	3:33:25 PM	1	61.5	01/30/20	3:46:42 PM	2	38.5
01/30/20	3:34:15 PM	1	49.7	01/30/20	3:46:47 PM	2	40.9
01/30/20	3:35:25 PM	1	54.7	01/30/20	3:50:15 PM	2	43.3
01/30/20	3:38:28 PM	1	40.6	01/30/20	3:52:21 PM	2	37.2
01/30/20	3:40:55 PM	1	50	01/30/20	3:52:26 PM	2	44.6
01/30/20	3:46:59 PM	1	49.5	01/30/20	3:52:41 PM	2	43.3
01/30/20	3:48:24 PM	1	44.1	01/30/20	3:53:41 PM	2	34.5
01/30/20	3:53:04 PM	1	41.9	01/30/20	3:53:59 PM	2	42.1
01/30/20	3:55:36 PM	1	44.2	01/30/20	3:54:01 PM	2	40
01/30/20	3:56:17 PM	1	45.5	01/30/20	4:02:15 PM	2	38.2
01/30/20	3:59:02 PM	1	41.4	01/30/20	4:06:29 PM	2	48.4
01/30/20	3:59:44 PM	1	42.2	01/30/20	4:07:15 PM	2	45.1
01/30/20	4:01:29 PM	1	46.4	01/30/20	4:07:37 PM	2	46.4
01/30/20	4:01:56 PM	1	48.3	01/30/20	4:07:53 PM	2	51
01/30/20	4:02:05 PM	1	49.2	01/30/20	4:07:56 PM	2	45.4
01/30/20	4:04:40 PM	1	60.1	01/30/20	4:09:08 PM	2	40.1
01/30/20	4:05:35 PM	1	55.4	01/30/20	4:09:10 PM	2	41.6
01/30/20	4:05:44 PM	1	44.6	01/30/20	4:10:31 PM	2	45.9
01/30/20	4:06:13 PM	1	48.1	01/30/20	4:10:35 PM	2	50.6
01/30/20	4:07:08 PM	1	43.6	01/30/20	4:11:29 PM	2	41.8
01/30/20	4:08:03 PM	1	38.2	01/30/20	4:11:31 PM	2	42.2
01/30/20	4:09:51 PM	1	38.4	01/30/20	4:12:13 PM	2	43.7
01/30/20	4:11:50 PM	1	50.5	01/30/20	4:15:21 PM	2	52.6
01/30/20	4:11:56 PM	1	63.6	01/30/20	4:15:28 PM	2	52.4
01/30/20	4:12:30 PM	1	37	01/30/20	4:15:47 PM	2	48.3
01/30/20	4:12:59 PM	1	48.1	01/30/20	4:17:10 PM	2	37.2
01/30/20	4:13:02 PM	1	52.3	01/30/20	4:17:46 PM	2	45.9
01/30/20	4:14:47 PM	1	38.9	01/30/20	4:21:13 PM	2	45.5
01/30/20	4:15:20 PM	1	45.2	01/30/20	4:22:08 PM	2	50.5
01/30/20	4:16:14 PM	1	44.4	01/30/20	4:24:58 PM	2	31.3
01/30/20	4:21:30 PM	1	40.5	01/30/20	4:27:58 PM	2	48
01/30/20	4:22:39 PM	1	48.4	01/30/20	4:34:02 PM	2	35.2
01/30/20	4:25:28 PM	1	46.4	01/30/20	4:34:41 PM	2	53.1
01/30/20	4:28:15 PM	1	53.8	01/30/20	4:42:53 PM	2	48.5
01/30/20	4:29:38 PM	1	42.3	01/30/20	4:45:02 PM	2	51.3
01/30/20	4:34:10 PM	1	44.2	01/30/20	4:45:51 PM	2	44.7
01/30/20	4:34:35 PM	1	47.7	01/30/20	4:49:24 PM	2	54.8
01/30/20	4:35:01 PM	1	20.3	01/30/20	4:51:16 PM	2	38
01/30/20	4:35:52 PM	1	45.9	01/30/20	4:51:28 PM	2	47.4
01/30/20	4:37:43 PM	1	52	01/30/20	4:53:54 PM	2	44.1
01/30/20	4:41:39 PM	1	38.6	01/30/20	4:55:48 PM	2	45.2
01/30/20	4:42:24 PM	1	60.1	01/30/20	4:56:03 PM	2	48.4
01/30/20	4:43:59 PM	1	46.3	01/30/20	4:58:38 PM	2	35.8
01/30/20	4:45:36 PM	1	43.8	01/30/20	5:00:00 PM	2	54.6
01/30/20	4:45:40 PM	1	44.3	01/30/20	5:01:21 PM	2	39.5

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/30/20	4:51:33 PM	1	43.9	01/30/20	5:01:23 PM	2	41.5
01/30/20	4:52:03 PM	1	44.1	01/30/20	5:03:39 PM	2	50.3
01/30/20	4:52:17 PM	1	43	01/30/20	5:05:11 PM	2	52.3
01/30/20	4:53:09 PM	1	44.2	01/30/20	5:05:46 PM	2	47.8
01/30/20	4:55:54 PM	1	41.9	01/30/20	5:06:56 PM	2	48.4
01/30/20	4:58:05 PM	1	45.5	01/30/20	5:07:41 PM	2	42
01/30/20	4:58:07 PM	1	40.8	01/30/20	5:08:40 PM	2	41.7
01/30/20	4:58:09 PM	1	43	01/30/20	5:09:44 PM	2	57.8
01/30/20	5:00:10 PM	1	49.6	01/30/20	5:11:03 PM	2	49.4
01/30/20	5:00:38 PM	1	40.8	01/30/20	5:12:01 PM	2	45.9
01/30/20	5:03:03 PM	1	44.2	01/30/20	5:12:31 PM	2	42.9
01/30/20	5:03:25 PM	1	42.6	01/30/20	5:13:53 PM	2	49.1
01/30/20	5:04:45 PM	1	49.3	01/30/20	5:14:48 PM	2	45.3
01/30/20	5:04:57 PM	1	44	01/30/20	5:16:02 PM	2	37.5
01/30/20	5:06:17 PM	1	50.4	01/30/20	5:16:05 PM	2	41.7
01/30/20	5:08:58 PM	1	47.5	01/30/20	5:17:05 PM	2	43.1
01/30/20	5:09:18 PM	1	48	01/30/20	5:17:44 PM	2	50.1
01/30/20	5:10:24 PM	1	46.1	01/30/20	5:18:21 PM	2	48.3
01/30/20	5:10:51 PM	1	52.5	01/30/20	5:20:55 PM	2	49.3
01/30/20	5:12:26 PM	1	58.3	01/30/20	5:23:00 PM	2	52.3
01/30/20	5:14:08 PM	1	42.2	01/30/20	5:25:47 PM	2	45
01/30/20	5:17:37 PM	1	40.6	01/30/20	5:26:18 PM	2	41.1
01/30/20	5:19:33 PM	1	39.2	01/30/20	5:27:14 PM	2	44.2
01/30/20	5:21:17 PM	1	49.4	01/30/20	5:27:18 PM	2	46.4
01/30/20	5:21:27 PM	1	48.5	01/30/20	5:27:41 PM	2	46.8
01/30/20	5:21:32 PM	1	51.4	01/30/20	5:29:19 PM	2	51.2
01/30/20	5:22:42 PM	1	43.6	01/30/20	5:29:23 PM	2	48.9
01/30/20	5:24:28 PM	1	40.6	01/30/20	5:31:15 PM	2	49.5
01/30/20	5:24:35 PM	1	24.6	01/30/20	5:31:32 PM	2	52.1
01/30/20	5:25:45 PM	1	47.2	01/30/20	5:32:33 PM	2	39.1
01/30/20	5:26:35 PM	1	41.8	01/30/20	5:33:38 PM	2	41.1
01/30/20	5:29:54 PM	1	44.2	01/30/20	5:34:31 PM	2	38.3
01/30/20	5:30:06 PM	1	42.1	01/30/20	5:37:57 PM	2	45.9
01/30/20	5:30:46 PM	1	50.8	01/30/20	5:40:11 PM	2	53.7
01/30/20	5:30:56 PM	1	50	01/30/20	5:41:05 PM	2	45.7
01/30/20	5:31:29 PM	1	47.2	01/30/20	5:41:15 PM	2	51.6
01/30/20	5:34:09 PM	1	43.4	01/30/20	5:41:27 PM	2	48.5
01/30/20	5:34:43 PM	1	59.7	01/30/20	5:41:41 PM	2	59.2
01/30/20	5:34:56 PM	1	43.2	01/30/20	5:42:44 PM	2	50
01/30/20	5:37:32 PM	1	46.7	01/30/20	5:42:46 PM	2	57.8
01/30/20	5:38:09 PM	1	48.4	01/30/20	5:43:12 PM	2	52.9
01/30/20	5:38:58 PM	1	44.4	01/30/20	5:47:58 PM	2	47.8
01/30/20	5:39:40 PM	1	46.7	01/30/20	5:51:11 PM	2	42.1
01/30/20	5:40:35 PM	1	47.5	01/30/20	5:51:42 PM	2	45.3
01/30/20	5:40:41 PM	1	45.9	01/30/20	5:55:12 PM	2	45.4
01/30/20	5:42:08 PM	1	58	01/30/20	5:56:01 PM	2	40.9
01/30/20	5:47:09 PM	1	60.8	01/30/20	5:56:08 PM	2	54.2
01/30/20	5:47:51 PM	1	46.6	01/30/20	6:01:24 PM	2	45.7
01/30/20	5:49:13 PM	1	35.2	01/30/20	6:02:22 PM	2	49.5
01/30/20	5:53:54 PM	1	44.6	01/30/20	6:05:23 PM	2	53.6
01/30/20	5:54:45 PM	1	44.4	01/30/20	6:14:11 PM	2	43.8
01/30/20	5:55:59 PM	1	48.5	01/30/20	6:17:43 PM	2	53.8
01/30/20	5:56:23 PM	1	42.3	01/30/20	6:21:35 PM	2	44.7
01/30/20	5:56:59 PM	1	44.4	01/30/20	6:23:11 PM	2	41.9
01/30/20	5:59:38 PM	1	46.9	01/30/20	6:23:17 PM	2	43.1

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/30/20	6:00:36 PM	1	42.5	01/30/20	6:24:54 PM	2	50.8
01/30/20	6:00:39 PM	1	42.3	01/30/20	6:25:00 PM	2	50
01/30/20	6:02:26 PM	1	42.6	01/30/20	6:26:21 PM	2	51.2
01/30/20	6:08:59 PM	1	48.3	01/30/20	6:35:06 PM	2	59.3
01/30/20	6:09:04 PM	1	47.8	01/30/20	6:41:15 PM	2	45
01/30/20	6:09:33 PM	1	52.8	01/30/20	6:41:17 PM	2	48.3
01/30/20	6:15:12 PM	1	56.2	01/30/20	6:48:50 PM	2	43.9
01/30/20	6:15:18 PM	1	52.4	01/30/20	6:55:24 PM	2	33.4
01/30/20	6:15:36 PM	1	43.1	01/30/20	6:59:28 PM	2	49
01/30/20	6:22:04 PM	1	49.5	01/30/20	7:07:12 PM	2	48.6
01/30/20	6:22:41 PM	1	57.6	01/30/20	7:07:35 PM	2	60.3
01/30/20	6:23:07 PM	1	50.1	01/30/20	7:07:50 PM	2	58
01/30/20	6:26:02 PM	1	50.4	01/30/20	7:08:41 PM	2	43
01/30/20	6:28:00 PM	1	54.2	01/30/20	7:10:37 PM	2	46.4
01/30/20	6:28:37 PM	1	57.8	01/30/20	7:14:53 PM	2	53.6
01/30/20	6:32:13 PM	1	45.5	01/30/20	7:18:28 PM	2	55.1
01/30/20	6:37:47 PM	1	40.5	01/30/20	7:25:07 PM	2	55.7
01/30/20	6:37:54 PM	1	45.2	01/30/20	7:28:54 PM	2	55.4
01/30/20	6:38:34 PM	1	41.6	01/30/20	7:48:21 PM	2	48.9
01/30/20	6:39:21 PM	1	52.8	01/30/20	7:54:38 PM	2	54.6
01/30/20	6:39:39 PM	1	50.6	01/30/20	8:01:04 PM	2	50.2
01/30/20	6:39:48 PM	1	47.9	01/30/20	8:02:59 PM	2	48.4
01/30/20	6:40:43 PM	1	48.8	01/30/20	8:08:19 PM	2	45.2
01/30/20	6:42:47 PM	1	52.5	01/30/20	8:12:30 PM	2	57
01/30/20	6:42:49 PM	1	51.3	01/30/20	8:16:34 PM	2	57.4
01/30/20	6:46:07 PM	1	47.5	01/30/20	8:39:54 PM	2	39.3
01/30/20	6:48:43 PM	1	53.3	01/30/20	8:43:13 PM	2	41.4
01/30/20	6:54:15 PM	1	41.1	01/30/20	8:43:39 PM	2	48.7
01/30/20	6:54:30 PM	1	50.4	01/30/20	8:46:54 PM	2	36.7
01/30/20	7:00:01 PM	1	47.2	01/30/20	8:47:37 PM	2	38.2
01/30/20	7:03:42 PM	1	47.6	01/30/20	8:51:20 PM	2	53.6
01/30/20	7:07:41 PM	1	41.5	01/30/20	9:00:32 PM	2	48
01/30/20	7:11:09 PM	1	45.4	01/30/20	9:11:20 PM	2	43.6
01/30/20	7:17:37 PM	1	43.4	01/30/20	9:14:10 PM	2	46.9
01/30/20	7:19:56 PM	1	37.8	01/30/20	9:24:33 PM	2	47.3
01/30/20	7:20:59 PM	1	46.2	01/30/20	9:39:53 PM	2	64.3
01/30/20	7:24:36 PM	1	46.7	01/30/20	10:03:38 PM	2	44
01/30/20	7:25:50 PM	1	61.5	01/30/20	10:04:21 PM	2	49.8
01/30/20	7:30:11 PM	1	54.9	01/30/20	10:07:37 PM	2	45.5
01/30/20	7:33:11 PM	1	56.2	01/30/20	10:17:58 PM	2	50
01/30/20	7:33:24 PM	1	48	01/30/20	11:48:13 PM	2	42.4
01/30/20	7:35:10 PM	1	50.7	01/30/20	11:50:19 PM	2	41.9
01/30/20	7:35:27 PM	1	52.6	01/31/20	12:06:11 AM	2	50.8
01/30/20	7:41:21 PM	1	51.6	01/31/20	4:42:39 AM	2	49.5
01/30/20	7:41:23 PM	1	50.7	01/31/20	5:12:41 AM	2	50.3
01/30/20	7:43:43 PM	1	31.5	01/31/20	5:15:50 AM	2	44.9
01/30/20	7:43:49 PM	1	43.3	01/31/20	5:18:59 AM	2	54.8
01/30/20	7:45:26 PM	1	45	01/31/20	5:30:38 AM	2	53.1
01/30/20	7:46:45 PM	1	43.4	01/31/20	5:34:44 AM	2	48.4
01/30/20	7:51:28 PM	1	48.7	01/31/20	5:35:32 AM	2	42.4
01/30/20	7:51:30 PM	1	49.9	01/31/20	5:47:58 AM	2	43.4
01/30/20	7:53:09 PM	1	50.5	01/31/20	5:49:11 AM	2	43.1
01/30/20	7:53:23 PM	1	41.7	01/31/20	5:52:26 AM	2	41.8
01/30/20	7:54:00 PM	1	46.3	01/31/20	5:57:41 AM	2	52.3
01/30/20	7:56:11 PM	1	45.4	01/31/20	6:12:31 AM	2	42.9

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/30/20	7:58:03 PM	1	44.9	01/31/20	6:16:12 AM	2	52.9
01/30/20	7:58:19 PM	1	45.5	01/31/20	6:17:32 AM	2	54.7
01/30/20	7:58:38 PM	1	48.2	01/31/20	6:19:20 AM	2	46.4
01/30/20	8:02:23 PM	1	37.7	01/31/20	6:24:15 AM	2	41.5
01/30/20	8:05:02 PM	1	53.7	01/31/20	6:26:30 AM	2	46.8
01/30/20	8:08:03 PM	1	50.1	01/31/20	6:29:07 AM	2	47.7
01/30/20	8:13:37 PM	1	41.6	01/31/20	6:33:39 AM	2	32.6
01/30/20	8:18:41 PM	1	55.8	01/31/20	6:42:34 AM	2	54.9
01/30/20	8:24:23 PM	1	43.6	01/31/20	6:44:23 AM	2	50.2
01/30/20	8:24:42 PM	1	42.8	01/31/20	6:45:51 AM	2	45.5
01/30/20	8:25:14 PM	1	38.2	01/31/20	6:47:50 AM	2	48.8
01/30/20	8:31:58 PM	1	40.1	01/31/20	6:50:35 AM	2	51.8
01/30/20	8:34:00 PM	1	44.7	01/31/20	6:56:34 AM	2	49.8
01/30/20	8:35:57 PM	1	40	01/31/20	6:59:23 AM	2	52.3
01/30/20	8:36:31 PM	1	60.2	01/31/20	7:00:16 AM	2	61
01/30/20	8:36:45 PM	1	50.7	01/31/20	7:05:03 AM	2	47.6
01/30/20	8:41:41 PM	1	46.7	01/31/20	7:06:46 AM	2	43.6
01/30/20	8:41:44 PM	1	45.1	01/31/20	7:06:48 AM	2	43.8
01/30/20	8:42:51 PM	1	39.6	01/31/20	7:09:36 AM	2	41.1
01/30/20	8:45:35 PM	1	49.8	01/31/20	7:17:08 AM	2	47.7
01/30/20	8:48:14 PM	1	55.8	01/31/20	7:17:49 AM	2	46.2
01/30/20	8:48:51 PM	1	62.9	01/31/20	7:20:40 AM	2	40
01/30/20	8:54:48 PM	1	53.2	01/31/20	7:21:38 AM	2	46.6
01/30/20	8:58:54 PM	1	38.8	01/31/20	7:21:54 AM	2	45.9
01/30/20	9:00:15 PM	1	50.2	01/31/20	7:25:42 AM	2	42.8
01/30/20	9:03:05 PM	1	47.6	01/31/20	7:25:54 AM	2	44.7
01/30/20	9:20:38 PM	1	50	01/31/20	7:27:38 AM	2	42.2
01/30/20	9:29:53 PM	1	41.2	01/31/20	7:27:46 AM	2	42.5
01/30/20	9:32:39 PM	1	40.8	01/31/20	7:33:17 AM	2	46.5
01/30/20	9:37:25 PM	1	40.3	01/31/20	7:42:03 AM	2	40
01/30/20	9:38:33 PM	1	35.2	01/31/20	7:47:15 AM	2	43.2
01/30/20	9:43:35 PM	1	43.7	01/31/20	7:48:35 AM	2	48.3
01/30/20	9:48:47 PM	1	47.7	01/31/20	7:52:09 AM	2	41.1
01/30/20	9:50:22 PM	1	53.6	01/31/20	7:52:43 AM	2	42.8
01/30/20	9:53:13 PM	1	42.8	01/31/20	7:53:09 AM	2	27.4
01/30/20	10:01:07 PM	1	50.7	01/31/20	7:53:33 AM	2	43.9
01/30/20	10:09:35 PM	1	51.4	01/31/20	7:54:09 AM	2	45.5
01/30/20	10:12:04 PM	1	56	01/31/20	7:54:55 AM	2	34.1
01/30/20	10:14:45 PM	1	45.6	01/31/20	7:57:08 AM	2	49.7
01/30/20	10:36:28 PM	1	48.2	01/31/20	7:58:31 AM	2	52.9
01/30/20	10:49:19 PM	1	50.9	01/31/20	8:00:25 AM	2	41.9
01/30/20	10:57:57 PM	1	42.3	01/31/20	8:05:26 AM	2	26.8
01/30/20	10:59:40 PM	1	53.3	01/31/20	8:06:25 AM	2	46.8
01/30/20	11:02:37 PM	1	14.9	01/31/20	8:14:44 AM	2	35.1
01/30/20	11:51:14 PM	1	40.1	01/31/20	8:17:33 AM	2	46.8
01/31/20	12:04:35 AM	1	42.8	01/31/20	8:20:20 AM	2	60.2
01/31/20	12:04:44 AM	1	45.9	01/31/20	8:23:13 AM	2	56.5
01/31/20	12:14:48 AM	1	51.1	01/31/20	8:30:16 AM	2	42.8
01/31/20	12:53:48 AM	1	42.8	01/31/20	8:30:47 AM	2	38.2
01/31/20	12:59:00 AM	1	58.5	01/31/20	8:32:09 AM	2	49.8
01/31/20	1:25:39 AM	1	43.2	01/31/20	8:37:51 AM	2	47.2
01/31/20	1:40:30 AM	1	44.2	01/31/20	8:38:28 AM	2	37
01/31/20	2:43:15 AM	1	42.4	01/31/20	8:40:38 AM	2	38.9
01/31/20	2:56:07 AM	1	63.3	01/31/20	8:49:00 AM	2	46.4
01/31/20	4:25:09 AM	1	44.1	01/31/20	8:49:54 AM	2	45.4

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/31/20	5:22:30 AM	1	44.2	01/31/20	8:53:55 AM	2	50.1
01/31/20	5:37:15 AM	1	54.7	01/31/20	8:58:27 AM	2	20.7
01/31/20	5:47:27 AM	1	52.1	01/31/20	9:01:00 AM	2	39.8
01/31/20	5:54:18 AM	1	45.7	01/31/20	9:02:18 AM	2	42.4
01/31/20	6:08:04 AM	1	43.1	01/31/20	9:10:52 AM	2	57.4
01/31/20	6:13:04 AM	1	51.4	01/31/20	9:11:25 AM	2	45.5
01/31/20	6:17:10 AM	1	43.2	01/31/20	9:11:56 AM	2	19.7
01/31/20	6:20:18 AM	1	56.1	01/31/20	9:13:24 AM	2	46.2
01/31/20	6:29:48 AM	1	44.5	01/31/20	9:17:07 AM	2	45.8
01/31/20	6:35:41 AM	1	49	01/31/20	9:20:21 AM	2	37.4
01/31/20	6:37:11 AM	1	54.1	01/31/20	9:23:21 AM	2	50
01/31/20	6:53:48 AM	1	38.4	01/31/20	9:23:33 AM	2	60.8
01/31/20	6:55:18 AM	1	51.4	01/31/20	9:24:23 AM	2	48.4
01/31/20	7:05:40 AM	1	38.4	01/31/20	9:30:37 AM	2	47.3
01/31/20	7:12:24 AM	1	42.9	01/31/20	9:34:59 AM	2	39.6
01/31/20	7:17:17 AM	1	44.9	01/31/20	9:36:13 AM	2	46.6
01/31/20	7:17:39 AM	1	45.7	01/31/20	9:43:47 AM	2	53.9
01/31/20	7:20:06 AM	1	45.7	01/31/20	9:45:22 AM	2	24.7
01/31/20	7:20:32 AM	1	46.4	01/31/20	9:48:44 AM	2	24.9
01/31/20	7:23:28 AM	1	43.3	01/31/20	9:48:58 AM	2	50.6
01/31/20	7:24:20 AM	1	44.1	01/31/20	9:49:08 AM	2	46
01/31/20	7:32:55 AM	1	40	01/31/20	9:49:49 AM	2	42.5
01/31/20	7:36:33 AM	1	49	01/31/20	9:56:31 AM	2	33.6
01/31/20	7:38:58 AM	1	47.8	01/31/20	9:56:47 AM	2	44.8
01/31/20	7:47:32 AM	1	51	01/31/20	10:03:00 AM	2	43.2
01/31/20	7:52:15 AM	1	28.8	01/31/20	10:05:06 AM	2	60.5
01/31/20	7:57:16 AM	1	61	01/31/20	10:06:21 AM	2	47
01/31/20	7:59:07 AM	1	44.2	01/31/20	10:11:13 AM	2	44.7
01/31/20	8:04:21 AM	1	50.1	01/31/20	10:12:56 AM	2	43.2
01/31/20	8:05:22 AM	1	50.7	01/31/20	10:13:03 AM	2	50.5
01/31/20	8:06:39 AM	1	50.7	01/31/20	10:13:16 AM	2	50
01/31/20	8:08:02 AM	1	58	01/31/20	10:15:07 AM	2	35.9
01/31/20	8:09:56 AM	1	48.5	01/31/20	10:18:03 AM	2	49.8
01/31/20	8:11:52 AM	1	40	01/31/20	10:19:29 AM	2	45.5
01/31/20	8:16:39 AM	1	40.3	01/31/20	10:19:49 AM	2	51
01/31/20	8:19:36 AM	1	36.5	01/31/20	10:20:05 AM	2	42.1
01/31/20	8:19:54 AM	1	47	01/31/20	10:22:06 AM	2	45
01/31/20	8:19:55 AM	1	48.3	01/31/20	10:22:49 AM	2	40.5
01/31/20	8:25:33 AM	1	43.5	01/31/20	10:24:08 AM	2	39
01/31/20	8:41:01 AM	1	55.9	01/31/20	10:27:50 AM	2	50.5
01/31/20	8:48:25 AM	1	44.1	01/31/20	10:29:30 AM	2	39.7
01/31/20	8:48:39 AM	1	45.9	01/31/20	10:30:42 AM	2	40.8
01/31/20	8:49:24 AM	1	53.8	01/31/20	10:37:50 AM	2	52.4
01/31/20	8:50:15 AM	1	43.4	01/31/20	10:41:18 AM	2	37.2
01/31/20	8:57:12 AM	1	43	01/31/20	10:45:26 AM	2	47.1
01/31/20	8:58:53 AM	1	34.2	01/31/20	10:46:51 AM	2	48.5
01/31/20	9:01:09 AM	1	39.6	01/31/20	10:48:19 AM	2	38
01/31/20	9:03:25 AM	1	42.6	01/31/20	10:49:03 AM	2	43.1
01/31/20	9:03:27 AM	1	44.2	01/31/20	10:49:23 AM	2	44.6
01/31/20	9:04:10 AM	1	50.2	01/31/20	10:50:40 AM	2	43.6
01/31/20	9:08:09 AM	1	46.2	01/31/20	10:52:59 AM	2	55.6
01/31/20	9:08:11 AM	1	46.4	01/31/20	10:54:34 AM	2	52
01/31/20	9:09:55 AM	1	45.7	01/31/20	10:55:16 AM	2	40.7
01/31/20	9:12:08 AM	1	45.1	01/31/20	11:01:27 AM	2	54.4
01/31/20	9:15:41 AM	1	53.5	01/31/20	11:01:45 AM	2	26.9

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/31/20	9:15:52 AM	1	47.8	01/31/20	11:07:08 AM	2	44.8
01/31/20	9:16:37 AM	1	45.9	01/31/20	11:07:52 AM	2	39.5
01/31/20	9:17:11 AM	1	50.9	01/31/20	11:08:06 AM	2	51.7
01/31/20	9:17:46 AM	1	44.1	01/31/20	11:13:52 AM	2	48.2
01/31/20	9:28:40 AM	1	48.6	01/31/20	11:16:23 AM	2	39.1
01/31/20	9:31:26 AM	1	40	01/31/20	11:16:27 AM	2	186.3
01/31/20	9:32:36 AM	1	62.3	01/31/20	11:17:22 AM	2	52.8
01/31/20	9:33:06 AM	1	43.1	01/31/20	11:21:04 AM	2	40.8
01/31/20	9:35:14 AM	1	45.2	01/31/20	11:21:09 AM	2	46.5
01/31/20	9:35:44 AM	1	47.5	01/31/20	11:25:09 AM	2	42
01/31/20	9:38:23 AM	1	49.9	01/31/20	11:27:41 AM	2	57.4
01/31/20	9:45:34 AM	1	43.5	01/31/20	11:27:58 AM	2	43.3
01/31/20	9:45:56 AM	1	45.4	01/31/20	11:29:58 AM	2	50
01/31/20	9:47:07 AM	1	41.4	01/31/20	11:31:13 AM	2	42.1
01/31/20	9:47:48 AM	1	39.4	01/31/20	11:33:17 AM	2	54.9
01/31/20	9:49:27 AM	1	49.4	01/31/20	11:33:41 AM	2	56.3
01/31/20	9:49:38 AM	1	44.1	01/31/20	11:36:14 AM	2	48.8
01/31/20	9:55:09 AM	1	45.4	01/31/20	11:36:19 AM	2	45.9
01/31/20	9:59:32 AM	1	52.1	01/31/20	11:38:57 AM	2	45.9
01/31/20	10:01:34 AM	1	42.8	01/31/20	11:40:26 AM	2	52.1
01/31/20	10:06:02 AM	1	43.4	01/31/20	11:41:55 AM	2	49.6
01/31/20	10:07:12 AM	1	39	01/31/20	11:47:54 AM	2	44.5
01/31/20	10:09:27 AM	1	41.1	01/31/20	11:50:21 AM	2	52.3
01/31/20	10:17:28 AM	1	37.9	01/31/20	11:51:55 AM	2	48.3
01/31/20	10:23:13 AM	1	36.2	01/31/20	11:52:34 AM	2	39.1
01/31/20	10:27:15 AM	1	41.6	01/31/20	11:53:14 AM	2	38.2
01/31/20	10:28:12 AM	1	23.4	01/31/20	11:54:35 AM	2	42.4
01/31/20	10:30:46 AM	1	46.4	01/31/20	11:56:50 AM	2	43
01/31/20	10:33:12 AM	1	44.1	01/31/20	11:59:33 AM	2	20.4
01/31/20	10:33:41 AM	1	35.4	01/31/20	12:02:15 PM	2	50.8
01/31/20	10:33:43 AM	1	37.2	01/31/20	12:11:08 PM	2	45.2
01/31/20	10:34:37 AM	1	49.7	01/31/20	12:14:07 PM	2	43.6
01/31/20	10:36:23 AM	1	36.7	01/31/20	12:15:28 PM	2	43.6
01/31/20	10:36:32 AM	1	44.2	01/31/20	12:23:18 PM	2	31.4
01/31/20	10:38:15 AM	1	41.1	01/31/20	12:24:19 PM	2	46.9
01/31/20	10:40:16 AM	1	41.3	01/31/20	12:25:25 PM	2	47.2
01/31/20	10:42:56 AM	1	43.4	01/31/20	12:25:49 PM	2	47.2
01/31/20	10:44:29 AM	1	51.1	01/31/20	12:29:23 PM	2	60.5
01/31/20	10:55:35 AM	1	50.2	01/31/20	12:33:06 PM	2	40.9
01/31/20	10:55:45 AM	1	42.6	01/31/20	12:36:18 PM	2	43.1
01/31/20	10:59:33 AM	1	42.4	01/31/20	12:39:55 PM	2	25.3
01/31/20	10:59:58 AM	1	43.2	01/31/20	12:41:50 PM	2	44.9
01/31/20	11:01:12 AM	1	40.8	01/31/20	12:42:31 PM	2	33
01/31/20	11:03:01 AM	1	56.5	01/31/20	12:42:33 PM	2	28.6
01/31/20	11:05:22 AM	1	46.9	01/31/20	12:43:49 PM	2	49.5
01/31/20	11:09:22 AM	1	46.3	01/31/20	12:50:39 PM	2	48.9
01/31/20	11:12:34 AM	1	53.6	01/31/20	12:51:47 PM	2	48
01/31/20	11:13:23 AM	1	50.1	01/31/20	12:53:46 PM	2	48.5
01/31/20	11:15:04 AM	1	40.5	01/31/20	12:57:09 PM	2	34.2
01/31/20	11:16:49 AM	1	45.9	01/31/20	12:58:09 PM	2	47
01/31/20	11:19:23 AM	1	44	01/31/20	1:01:49 PM	2	41.9
01/31/20	11:20:59 AM	1	34.3	01/31/20	1:02:41 PM	2	44.1
01/31/20	11:22:59 AM	1	50.3	01/31/20	1:02:42 PM	2	42.4
01/31/20	11:25:39 AM	1	53	01/31/20	1:03:43 PM	2	45.7
01/31/20	11:26:11 AM	1	45.2	01/31/20	1:04:55 PM	2	41.5

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/31/20	11:31:04 AM	1	41.1	01/31/20	1:05:33 PM	2	50.1
01/31/20	11:31:11 AM	1	51.1	01/31/20	1:06:42 PM	2	56.1
01/31/20	11:35:16 AM	1	55.4	01/31/20	1:09:59 PM	2	50.1
01/31/20	11:36:57 AM	1	40.8	01/31/20	1:10:13 PM	2	40
01/31/20	11:39:56 AM	1	43.4	01/31/20	1:10:54 PM	2	38.3
01/31/20	11:40:27 AM	1	52	01/31/20	1:11:14 PM	2	37.8
01/31/20	11:40:43 AM	1	46.6	01/31/20	1:11:59 PM	2	38.8
01/31/20	11:40:56 AM	1	57	01/31/20	1:12:45 PM	2	41
01/31/20	11:44:40 AM	1	37.8	01/31/20	1:14:54 PM	2	42
01/31/20	11:45:36 AM	1	47.2	01/31/20	1:16:29 PM	2	36
01/31/20	11:47:11 AM	1	39.7	01/31/20	1:18:43 PM	2	54.2
01/31/20	11:48:15 AM	1	51.6	01/31/20	1:19:09 PM	2	47.1
01/31/20	11:48:22 AM	1	45.9	01/31/20	1:30:10 PM	2	37.7
01/31/20	11:48:40 AM	1	47.3	01/31/20	1:35:04 PM	2	53
01/31/20	11:50:40 AM	1	44.9	01/31/20	1:35:13 PM	2	48.3
01/31/20	11:52:40 AM	1	37.9	01/31/20	1:35:41 PM	2	48.2
01/31/20	11:56:33 AM	1	41.5	01/31/20	1:36:04 PM	2	40.4
01/31/20	11:57:26 AM	1	47.3				
01/31/20	11:58:36 AM	1	21.7				
01/31/20	11:58:47 AM	1	43.1				
01/31/20	11:59:11 AM	1	45.9				
01/31/20	12:02:56 PM	1	42.2				
01/31/20	12:06:50 PM	1	36.8				
01/31/20	12:09:45 PM	1	42.7				
01/31/20	12:11:51 PM	1	52.5				
01/31/20	12:15:44 PM	1	63				
01/31/20	12:18:12 PM	1	43.6				
01/31/20	12:19:38 PM	1	57.5				
01/31/20	12:20:11 PM	1	44.2				
01/31/20	12:20:22 PM	1	46				
01/31/20	12:21:19 PM	1	53.1				
01/31/20	12:22:26 PM	1	43.3				
01/31/20	12:24:52 PM	1	49.8				
01/31/20	12:25:30 PM	1	44.6				
01/31/20	12:27:29 PM	1	47.5				
01/31/20	12:30:36 PM	1	52.4				
01/31/20	12:31:52 PM	1	42.4				
01/31/20	12:35:38 PM	1	18.8				
01/31/20	12:35:46 PM	1	41.1				
01/31/20	12:36:42 PM	1	42.9				
01/31/20	12:37:16 PM	1	39.7				
01/31/20	12:37:34 PM	1	37.6				
01/31/20	12:37:37 PM	1	39.1				
01/31/20	12:40:11 PM	1	44.3				
01/31/20	12:40:43 PM	1	48.5				
01/31/20	12:42:00 PM	1	43.1				
01/31/20	12:52:54 PM	1	44.4				
01/31/20	12:52:57 PM	1	45.1				
01/31/20	12:56:27 PM	1	46.7				
01/31/20	12:57:25 PM	1	49.6				
01/31/20	12:57:33 PM	1	50.2				
01/31/20	12:59:44 PM	1	51.8				
01/31/20	1:00:21 PM	1	47.5				
01/31/20	1:00:56 PM	1	44.9				
01/31/20	1:03:34 PM	1	29				

Speed Study Data

Moss Street ~ 200 feet north of Seneca Street

01/31/20	1:07:31 PM	1	44.6
01/31/20	1:08:46 PM	1	51.8
01/31/20	1:09:46 PM	1	54
01/31/20	1:10:26 PM	1	42.4
01/31/20	1:11:53 PM	1	46.2
01/31/20	1:13:09 PM	1	52.5
01/31/20	1:15:39 PM	1	41.8
01/31/20	1:17:05 PM	1	33.7
01/31/20	1:17:27 PM	1	40.3
01/31/20	1:18:37 PM	1	48.6
01/31/20	1:23:11 PM	1	51.3
01/31/20	1:23:22 PM	1	43.9
01/31/20	1:25:44 PM	1	46.2
01/31/20	1:27:01 PM	1	48.5
01/31/20	1:27:38 PM	1	44.7
01/31/20	1:29:18 PM	1	49.5
01/31/20	1:32:02 PM	1	52.8
01/31/20	1:32:21 PM	1	41.1
01/31/20	1:37:05 PM	1	51.1
01/31/20	1:37:42 PM	1	26

Min	14.9
Max	63.6

Min	19.7
Max	64.3

Crestview Subdivision - Lowell, Oregon

Seasonal Factor Calculation

Seasonal Trend Table 2019

	Count	Date	Trend	Jan 15	Feb 1	Jan 30	Peak	Factor
Moss Street (Jasper-Lowell Road)		01/30/20	Commuter	1.1050	1.0844	1.0857	0.9438	1.1708

Source: 2019 Seasonal Trend Table, ODOT Transportation Development



Graph Look Up

Technical Support

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 10th Ed

SEARCH BY LAND USE CODE:

210 

LAND USE CATEGORY:

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

SETTING/LOCATION:

General Urban/Suburban

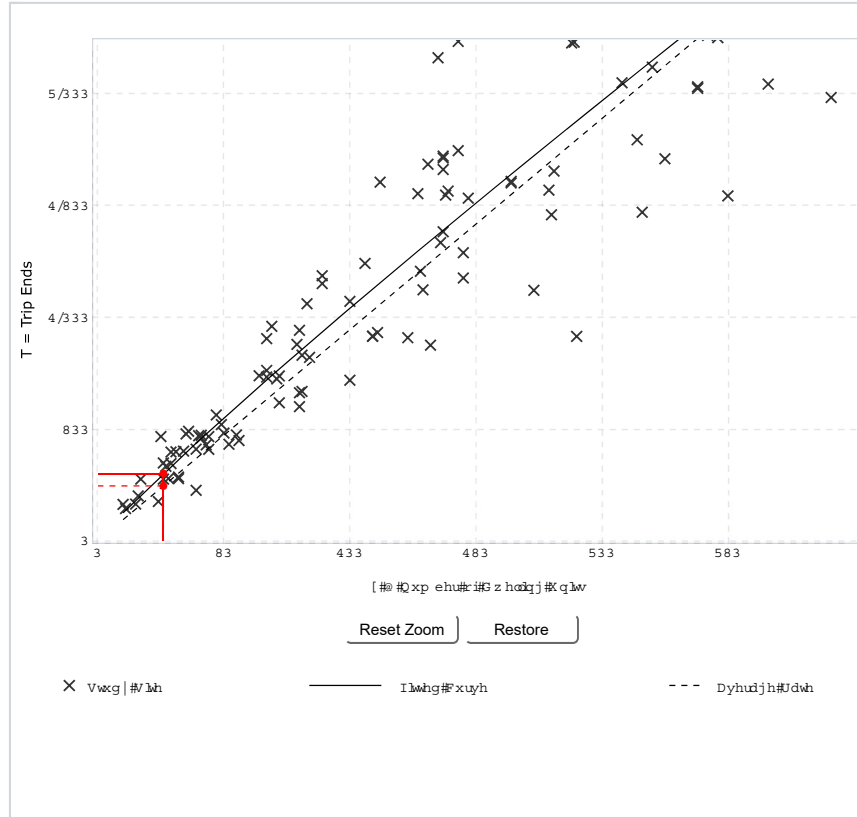
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

26

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210 [more details](#))

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
159

Avg. Num. of Dwelling Units:
264

Average Rate:
9.44

Range of Rates:
4.81 - 19.39

Standard Deviation:
2.10

Fitted Curve Equation:
 $\ln(T) = 0.92 \ln(X) + 2.71$

R²:
0.95

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 245 (Total), 122 (Entry),
Fitted Curve: 301 (Total), 150 (Entry),

ADD-ONS

Try OTISS Pro

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

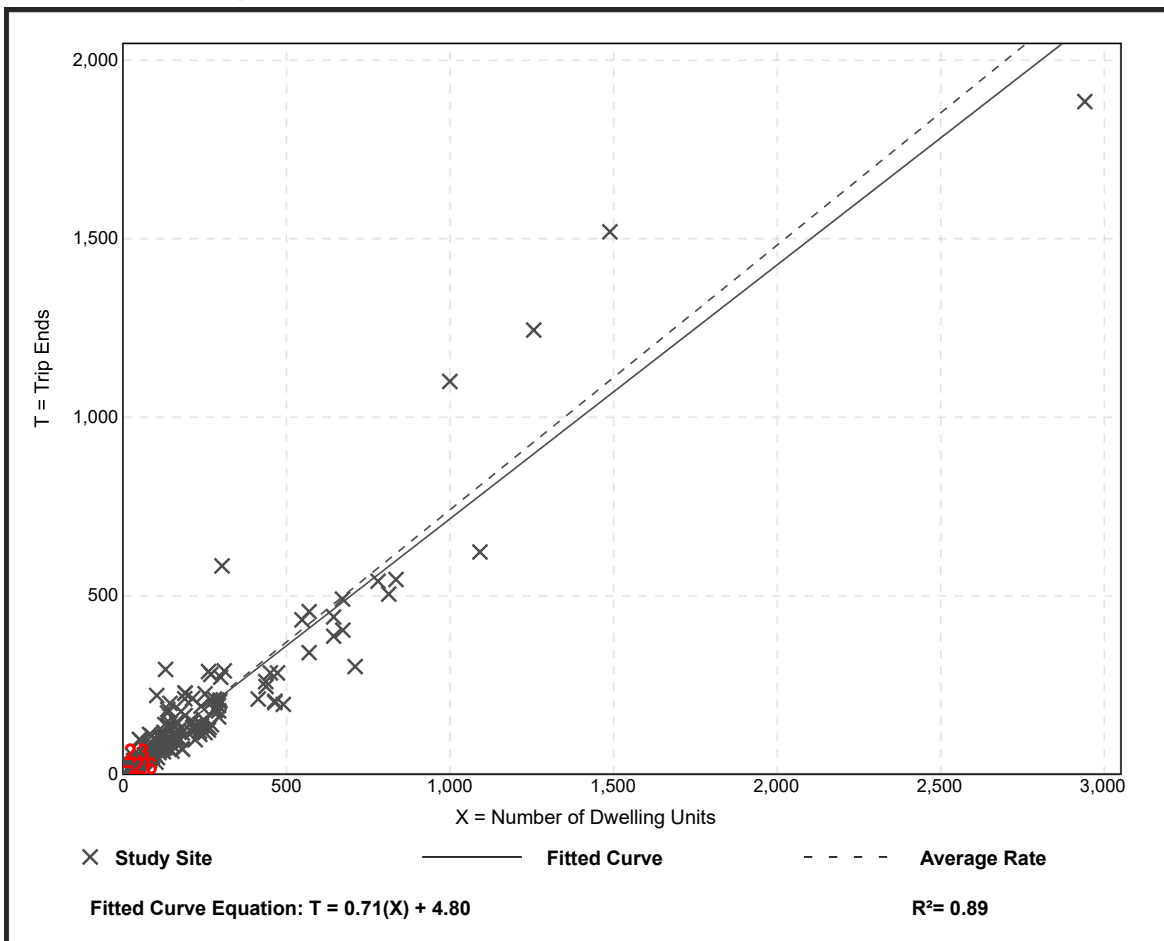
Setting/Location: General Urban/Suburban

Number of Studies: 173
 Avg. Num. of Dwelling Units: 219
 Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

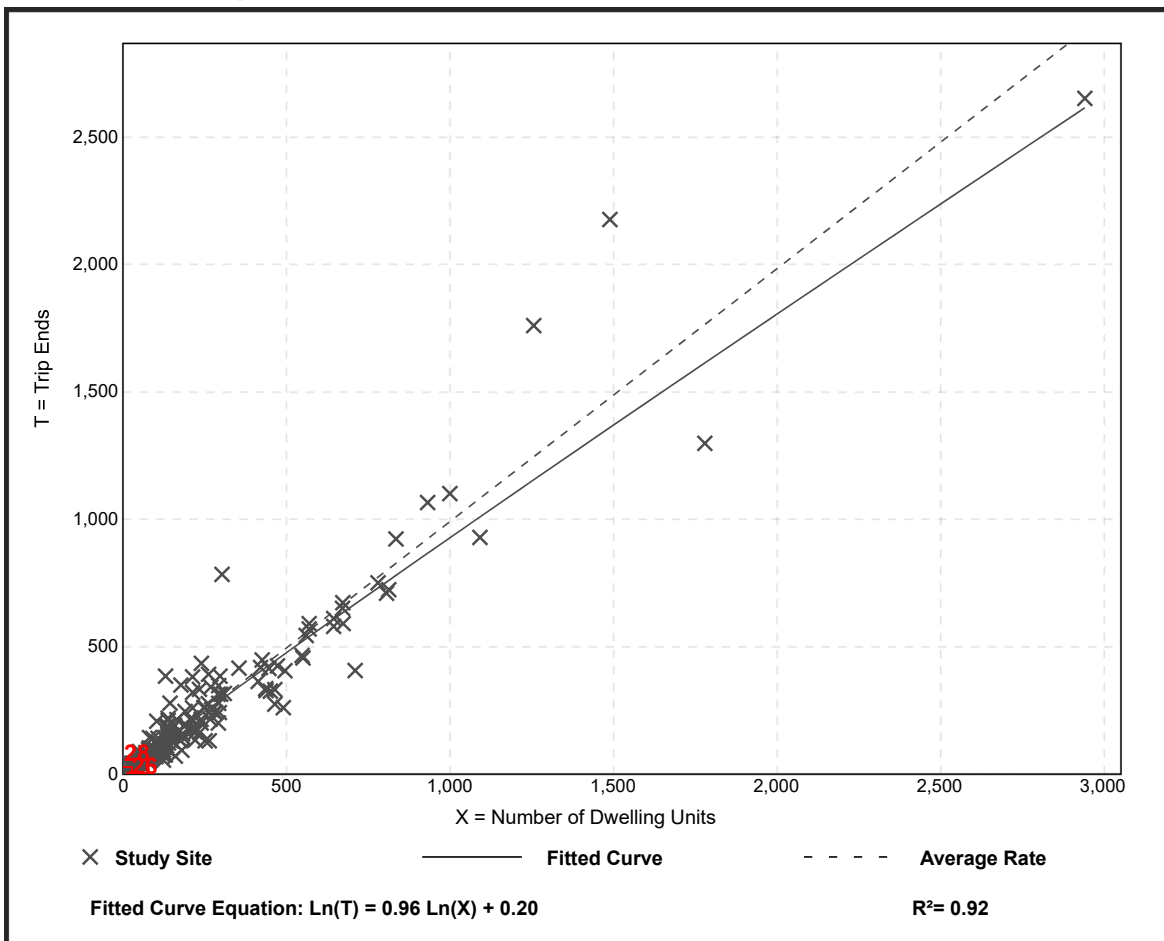
Setting/Location: General Urban/Suburban

Number of Studies: 190
 Avg. Num. of Dwelling Units: 242
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF LOWELL, LANE COUNTY

MOSS ST and SENECA ST, City of Lowell, Lane County, 01/01/2014 to 12/31/2018

1 - 1 of 1 Crash records shown.

SER#	P	S	D	M	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	A	S	G	E	LICNS	PED	ACT	EVENT	CAUSE								
INVEST	E	A	U	I	C	O	D	AY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE													
RD DPT	E	L	G	N	H	R	T	IME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED							
UNLOC?	D	C	S	V	L	K	L	AT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
02921	N	Y	N	N	N	N	08/30/2015		07	MOSS ST	STRGHT		N	Y	CLD	FIX OBJ	01	NONE	0	STRGHT										079,010	10
COUNTY							SU		355	SENECA ST	N	(NONE)	NONE	N	WET	FIX		PRVTE		S	-N							001	079,010	00	
Y							1A				07			Y	DARK	INJ		PSNGR	CAR		01	DRVR	INJB	19	M	OR-Y		080,081	017	10	
N							43 55 52.47		-122 47				(02)																		










CITY OF LOWELL, LANE COUNTY

Appendix C

Synchro & Sim Traffic Reports

Lanes, Volumes, Timings
4: Moss Street & Crestview

Crestview Subdivision TIA
2021 - Build - AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	2	22	5	1	30
Future Volume (vph)	16	2	22	5	1	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983		0.976			
Flt Protected	0.958					0.998
Satd. Flow (prot)	1648	0	1694	0	0	1730
Flt Permitted	0.958					0.998
Satd. Flow (perm)	1648	0	1694	0	0	1730
Link Speed (mph)	25		45			45
Link Distance (ft)	776		264			704
Travel Time (s)	21.2		4.0			10.7
Peak Hour Factor	0.75	0.75	0.79	0.79	0.63	0.63
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	21	3	28	6	2	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	34	0	0	50
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	10		10			10
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	2	22	5	1	30
Future Vol, veh/h	16	2	22	5	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	79	79	63	63
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	21	3	28	6	2	48

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	83	31	0	0	34
Stage 1	31	-	-	-	-
Stage 2	52	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	924	1049	-	-	1591
Stage 1	997	-	-	-	-
Stage 2	976	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	923	1049	-	-	1591
Mov Cap-2 Maneuver	923	-	-	-	-
Stage 1	997	-	-	-	-
Stage 2	975	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	935	1591
HCM Lane V/C Ratio	-	-	0.026	0.001
HCM Control Delay (s)	-	-	9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection: 4: Moss Street & Crestview










Movement	WB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	750
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Lanes, Volumes, Timings
4: Moss Street & Crestview

Crestview Subdivision TIA
2021 - Build - PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	49	16	2	53
Future Volume (vph)	9	1	49	16	2	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990		0.966			
Flt Protected	0.956					0.998
Satd. Flow (prot)	1656	0	1678	0	0	1730
Flt Permitted	0.956					0.998
Satd. Flow (perm)	1656	0	1678	0	0	1730
Link Speed (mph)	25		45			45
Link Distance (ft)	776		264			704
Travel Time (s)	21.2		4.0			10.7
Peak Hour Factor	0.75	0.75	0.86	0.86	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	12	1	57	19	2	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	76	0	0	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	10		10			10
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.8%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	9	1	49	16	2	53
Future Vol, veh/h	9	1	49	16	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	86	86	88	88
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	12	1	57	19	2	60

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	131	67	0	0	76
Stage 1	67	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	868	1002	-	-	1536
Stage 1	961	-	-	-	-
Stage 2	964	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	867	1002	-	-	1536
Mov Cap-2 Maneuver	867	-	-	-	-
Stage 1	961	-	-	-	-
Stage 2	963	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	879	1536
HCM Lane V/C Ratio	-	-	0.015	0.001
HCM Control Delay (s)	-	-	9.2	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection: 4: Moss Street & Crestview










Movement	WB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	7
95th Queue (ft)	29
Link Distance (ft)	750
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Lanes, Volumes, Timings
4: Moss Street & Crestview

Crestview Subdivision TIA
2026 - Build - AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	2	24	5	1	33
Future Volume (vph)	16	2	24	5	1	33
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983		0.977			
Flt Protected	0.958					0.998
Satd. Flow (prot)	1648	0	1696	0	0	1730
Flt Permitted	0.958					0.998
Satd. Flow (perm)	1648	0	1696	0	0	1730
Link Speed (mph)	25		45			45
Link Distance (ft)	776		264			704
Travel Time (s)	21.2		4.0			10.7
Peak Hour Factor	0.75	0.75	0.79	0.79	0.63	0.63
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	21	3	30	6	2	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	36	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	10		10			10
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	2	24	5	1	33
Future Vol, veh/h	16	2	24	5	1	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	79	79	63	63
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	21	3	30	6	2	52

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	89	33	0	0	36
Stage 1	33	-	-	-	-
Stage 2	56	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	917	1046	-	-	1588
Stage 1	995	-	-	-	-
Stage 2	972	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	916	1046	-	-	1588
Mov Cap-2 Maneuver	916	-	-	-	-
Stage 1	995	-	-	-	-
Stage 2	971	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	929	1588
HCM Lane V/C Ratio	-	-	0.026	0.001
HCM Control Delay (s)	-	-	9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection: 4: Moss Street & Crestview










Movement	WB
Directions Served	LR
Maximum Queue (ft)	60
Average Queue (ft)	19
95th Queue (ft)	48
Link Distance (ft)	750
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Lanes, Volumes, Timings
4: Moss Street & Crestview

Crestview Subdivision TIA
2026 - Build - PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	1	54	16	2	58
Future Volume (vph)	8	1	54	16	2	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989		0.969			
Flt Protected	0.956					0.999
Satd. Flow (prot)	1655	0	1683	0	0	1731
Flt Permitted	0.956					0.999
Satd. Flow (perm)	1655	0	1683	0	0	1731
Link Speed (mph)	25		45			45
Link Distance (ft)	776		264			704
Travel Time (s)	21.2		4.0			10.7
Peak Hour Factor	0.75	0.75	0.86	0.86	0.87	0.87
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	11	1	63	19	2	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	82	0	0	69
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	10		10			10
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	15.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	1	54	16	2	58
Future Vol, veh/h	8	1	54	16	2	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	86	86	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	1	63	19	2	67

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	144	73	0	0	82
Stage 1	73	-	-	-	-
Stage 2	71	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	853	995	-	-	1528
Stage 1	955	-	-	-	-
Stage 2	957	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	852	995	-	-	1528
Mov Cap-2 Maneuver	852	-	-	-	-
Stage 1	955	-	-	-	-
Stage 2	956	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	866	1528
HCM Lane V/C Ratio	-	-	0.014	0.002
HCM Control Delay (s)	-	-	9.2	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection: 4: Moss Street & Crestview

Movement	WB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	8
95th Queue (ft)	30
Link Distance (ft)	750
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Attachment X

HEARLEY Henry O

From: HEARLEY Henry O
Sent: November 12, 2019 7:32 AM
To: PHILIP VELIE
Cc: Tony Favreau; DAVIES Anne C; CALLISTER Jacob (LCOG); COBB Jared; Max Baker; STANKA Danielle E; Matt Wadlington; WALTERS Denise; BAUMGARTNER Douglas G
Subject: RE: Lowell Subdivision McDougal Bro's.

Dear Mr. Velie,

We've received your request dated November 8 for a 90-day extension to the McDougal Bros subdivision. The new date in which the City must issue a final decision on your application is April 29, 2020. Staff will send notice of cancelled hearing for the public hearing that was scheduled to take place on December 3.

Thank you,

Henry

From: PHILIP VELIE <philvelie@aol.com>
Sent: November 8, 2019 11:12 AM
To: HEARLEY Henry O <HHEARLEY@Lcog.org>
Cc: Tony Favreau <favreaugroup@msn.com>
Subject: Lowell Subdivision McDougal Bro's.

Dear Mr Hearley,

McDougal is requesting a 90day extension on our Lowell project. Please process the extension. If there questions please call me at 542-915-8483.

Phil Velie
McDougal Bro's
541-915-8483

Sent from my iPhone