AGENDA
PLANNING COMMISSION MEETING
Wednesday, January 6, 2021
7:00 P.M.
Maggie Osgood Library
70 N. Pioneer Street

This meeting will be held electronically through Zoom. Limited seating is available at the Library. Members of the public are encouraged to provide comment or testimony through the following:

- Joining by phone, tablet, or PC. For details, click on the event at www.ci.lowell.or.us.
- In writing, by using the drop box at Lowell City Hall, 107 East Third Street, Lowell, OR 97452
- By email to: mmiller@ci.lowell.or.us

1. **Call to Order/Roll Call**

Commissioners: Dragt ____ Kintzley ____ Wallace ____

2. **Administer Oath of Office**

3. **Approval of Agenda**

4. **Selection of Planning Commission Chair and Vice-Chair**

5. **Approval of Minutes**
   a. March 18, 2020
   b. April 14, 2020

6. **Old Business**

7. **New Business**

a. Land Use File 2019-04 – Sunset Hills Subdivision (Map 19-01-14-21, Tax Lot 05000)
   - Public Hearing
   - Commission Deliberation
   - Commission Decision

b. Land Use File 2020-02 Property Line Adjustment – Map 19-01-14-24, Tax Lots 02200 and 02100
   - Public Hearing
   - Commission Deliberation
   - Commission Decision

8. **Other Business**

9. **Adjourn**

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to the City Clerk, Joyce Donnell, at 541-937-2157.

P.O. Box 490 Lowell, OR 97452
Phone: 541-937-2157
Fax: 541-937-2936

Oath of Office

I, Mary Wallace, do solemnly swear that I will support the Constitution and Laws of the United States of America, the Constitution and Laws of the State of Oregon, the Ordinances and Resolutions of the City of Lowell, Oregon, and that I will faithfully and impartially discharge the duties of the office of Planning Commission for the City of Lowell, Oregon, according to the best of my ability, so help me God.

DATED this 6th day of January 2021.

_____

SWORN before me this 6th day of January 2021.

ATTEST:

_____
Jeremy Caudle - City Recorder

P.O. Box 490 Lowell, OR 97452
Phone: 541-937-2157
Fax: 541-937-2936

Oath of Office

I, Suzanne Kintzley, do solemnly swear that I will support the Constitution and Laws of the United States of America, the Constitution and Laws of the State of Oregon, the Ordinances and Resolutions of the City of Lowell, Oregon, and that I will faithfully and impartially discharge the duties of the office of Planning Commission for the City of Lowell, Oregon, according to the best of my ability, so help me God.

DATED this 6th day of January 2021.

_____

SWORN before me this 6th day of January 2021.

ATTEST:

_____
Jeremy Caudle - City Recorder

City of Lowell, Oregon
Minutes of the Planning Commission Meeting
March 18, 2020

The meeting was called to order at 7:41 PM by Commissioner Chair Dragt.

Members Present: Lon Dragt, Mary Wallace, Suzanne Kintzley
Member Absent: John Myers
Staff Present: CA Cobb, Henry Hearley – City Planner, LCOG

Approval of Planning Commission Minutes: Commissioner Kintzley moved to approve the minutes of January 15, 2020, second by Commissioner Wallace. PASS 3:0

Old Business: None
New Business:

a. **Land Use File 2019-08 – Partition for Gerald Franklin (Map 19-01-11-33, Tax Lot 6703)**

Close Public Meeting: 7:45 PM
Open Public Hearing: 7:45 PM

b. **Land Use File 2019-08 – Partition for Gerald Franklin (Map 19-01-11-33, Tax Lot 6703)**

- **Staff Report** – Henry Hearley-City Planner with LCOG, presented report.
- **Applicant Comments** – Jim McLaughlin representing applicant had no comments.
- **Public Comments** – Clarke Davidson 97 E. 6th Street asked about infrastructure that would be required, including stormwater. Mr. Hearley explained that water, sewer, and access are required as part of the approval.

Public Hearing Closed: 8:11 PM
Reconvene Public Meeting: 8:11 PM

- **Commission Deliberation -** None
- **Commission Decision – Commissioner Kintzley moved to approve application for a partition based on the standards, findings, conclusions and recommendation stated in the staff report with the addition of Condition #4 - Upon building permit submittal, the City Engineer shall review the proposed development plans for conformance with Section 9.520 Storm Drainage, of the Lowell Development Code. The City Engineer will determine which actions, if any, are required for conformance with Section 9.520, prior to the issuance of building permits, second by Commissioner Wallace. PASS 3:0**

Other Business: None
Adjourn: 8:22 PM

Approved: _____ Date:_____
Lon Dragt - Chair

Attest: _____ Date:_____
Jared Cobb, City Recorder

City of Lowell, Oregon
Minutes of the Planning Commission Meeting
April 14, 2020

The meeting was called to order at 7:03 PM by Commissioner Chair Dragt.

Members Present: Lon Dragt, John Myers, Suzanne Kintzley
Member Absent: Mary Wallace
Staff Present: CA Cobb, Henry Hearley – City Planner, LCOG

Approval of Planning Commission Minutes: None
Old Business: None

New Business:

a. **Land Use File 2019-06 – Crestview Subdivision (Map 19-01-11-00, Tax Lot 501)**

Close Public Meeting: 7:05 PM
Open Public Hearing: 7:05 PM

a. **Land Use File 2019-06 – Crestview Subdivision (Map 19-01-11-00, Tax Lot 501)**

- **Staff Report** – Henry Hearley-City Planner with LCOG, presented report.

Commissioner Wallace joined the meeting at 7:10 PM.

- **Applicant Comments** – Philip Velie representing applicant had no comments.
- **Public Comments** – Mia Nelson, 40160 E 1st St. Lowell, spoke in favor of project.

Public Hearing Closed: 7:27 PM
Reconvene Public Meeting: 7:27 PM

- **Commission Deliberation -** None
- **Commission Decision – Commissioner Myers moved that the Planning Commission approve recommendation to the City Council, this application for a subdivision based on the standards, findings, conclusions and recommendation stated in the staff report, second by Commissioner Kintzley. PASS 4:0**

Other Business: None
Adjourn: 7:32 PM

Approved: _____ Date:_____
Lon Dragt - Chair

Attest: _____ Date:_____
Jared Cobb, City Recorder

Staff Report
Subdivision
Assessor's Map 19-01-14-21, Tax Lots 05000
Sunset Hills Subdivision
LU 2019-04
Staff Report Date: December 30, 2020

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

Mailed Notice: December 16, 2020

Staff Report Date: December 30, 2020

Planning Commission
Public Hearing: January 6, 2020

City Council
Public Hearing: January 19, 2020

BASIC DATA

Application Request: Subdivision to create 16 lots for homes

Agent: Engineer and Planning: Boeger & Associates
1011 S. Bertelsen Rd.
Eugene, OR 97402
Surveyor: Tolbert and Associates
PO BOX 22603
Eugene, OR 97405

Property Owner: Bahen Investment Group, LCC Investments
195 Melton Road
Creswell, OR 97426

Location: East of Fourth Street. No Addresses Assigned

Assessors map: 19–01–14-21

Tax lot: 05000

Area: 3.26 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 16-lot subdivision for property located at Assessor's Map 19-01-14-021, Tax Lot 05000. The subject property is owned by Bahen Investment Group, LCC Investments. The surveyor for the project is Lloyd Tolbert of Tolbert Associates, LCC and the engineer is Dennis Boeger of Boeger Associates, LCC. The subject property is zoned R-1 Single Family Residential. The subject property currently is vacant but cleared of most trees and brush. An adjacent residential development is immediately west of the subject property. The applicant is proposing to create 16-lots as shown on the tentative map and are intended to have single-family homes built on them. The applicant has provided The City presently has an extension to the 120-day rule to allow the application to be taken through City Council. The extensions granted to the City are included in this staff report as **Attachment G**.

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.

    - Lots 23, 25 and 26 contain slopes of 15 percent or greater. A Geotech report has been completed. Hillside Development Standards will apply on those lots.

    - Drainage will largely be handled by existing infrastructure. Development may require some minor additions of culverts, but those would occur on site. Extensive conservations between applicant's engineer and City Engineer have occurred this past springtime to get drainage in an acceptable place for the City and the subdivision. A final drainage plan and details will be required following tentative approval. The final drainage plan shall be substantially the same as the drainage plan as approved with tentative approval.

    - Turnaround for fire access will be required at dead-ends. Gravel turnarounds are acceptable, provided they can support at least 60,000 pounds. The proposed turnarounds are seen on the tentative subdivision map.

    - Applicant has hired a Wetland Consultant and completed a Delineation Report. Wetland Delineation Report currently being reviewed by DSL.

    - The applicant's civil engineer submitted a letter dated November 3, 2020 addressing some public comments received and the feasibility of constructing a full ROW between proposed lots 25 and 26. The letter is included in this staff report at **Attachment P**. The letter states a street constructed in area that contains slopes between 15% and 20% is not practical and potentially hazardous. The requirement for a future public street between proposed lots 25 and 26 was previously called for as a condition of approval when the adjacent subdivision was developed in 2006.

- The applicant submitted a revised Tentative Map to the City on December 7, 2020 (**Attachment B**). This revised map shows the applicant satisfying the previous condition of approval #2 as contained in the findings from the adjacent subdivision. This condition requires the future subdivider of the subject property to preserve future right of way access to lot 200. As seen on the new tentative map, the applicant has preserved 50-feet of ROW on the southern proportion of the property, abutting proposed Lot 26 and Tax Lot 403, for future public right of way. Public comment submitted by Ms. Mia Nelson on December 28, 2020 argues this section of preserved ROW must be improved to city standards by the applicant.

- The issue of whether or not to require improvements to this preserved ROW as contemplated in the previous condition of approval #2, is something City decision makers will have to decide. Staff has previously looked at the wording of the condition and it did not state the preserved ROW had to be improved and thus were not likely to recommend it be required of the applicant. *However*, after further research into the matter, staff believe improving the preserved ROW is the intent of the subdivision ordinances, as dictated by the LDC. The City could still find the applicant is not required to improve this section based on its own reasoning, which staff would support, <u>but staff recommend the City require the improvements based on the standards, approval criteria and code language as contained in the LDC.</u>

- The City Engineer has reviewed the revised tentative map, dated December 3, 2020. The City Engineer does not have any specific comments or concerns regarding the tentative map that need to be addressed by the applicant prior to tentative approval. However, the City Engineer's comments from July 2019 and December 29, 2020 remain and will be addressed between the City Engineer and the applicant's engineer, after tentative approval. The City Engineer will require detailed construction plans to be submitted and reviewed before any construction occurs.

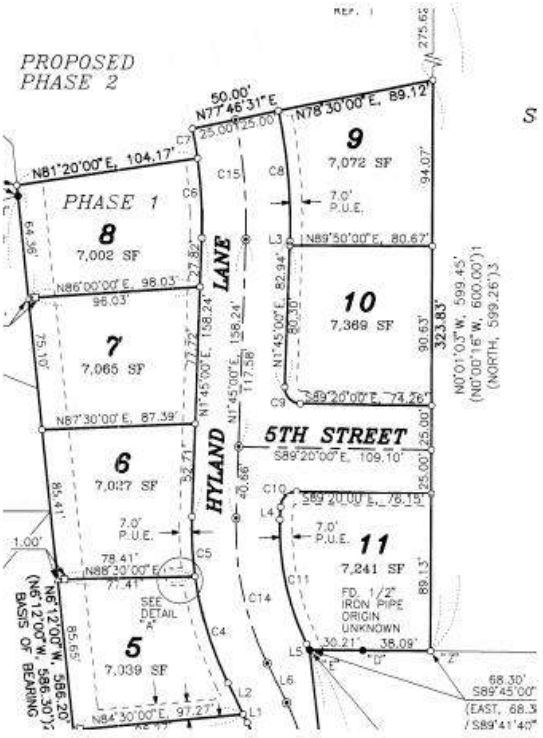
- **Phase Three power conduits**. Ms. Nelson submitted comment relating to the need for the applicant to install phase three power conduits to build an eventual pump station which would assist in providing water service to higher elevations in Lowell. Ms. Nelson contends the City cannot make an affirmative finding for LDC 9.228(f), which states "*the proposed public utilities can be extended to accommodate future growth beyond the proposed land division,"* without requiring this of the applicant. Staff tend to agree with Ms. Nelson on this matter. Now, since the phase three power conduits would be supply city water service, there is an opportunity for the City to reimburse or waive a portion of the SDC fees for providing this infrastructure. Without knowing the details of such an agreement or an actual cost, staff lean towards obtaining a commitment from the applicant in the form of a condition of approval, with the costs and details of being addressed between the City and the applicant in the development agreement. The applicant is not opposed to providing phase three power conduits which can be located in easements, but the applicant strongly feels the City needs to providing some cost offsets for these improvements and staff agrees.

3. **Public comments.** Ms. Mia Nelson of Lookout Point LLC has submitted official comments on the proposal, dated December 28, 2020 (included as **Attachment M**). Previously, before the public hearings were cancelled in September 2020, Ms. Nelson has also submitted comments for the record, which are included in this staff report as **Attachment M**. For the comments submitted on December 28, 2020, one of Ms. Nelson's main arguments is the lack of public street improvements proposed to the 50-foot of preserved ROW as required in the previous condition of approval #2 for Sunset View Ranch Subdivision. Ms. Nelson contends the applicant should at a minimum be required to improve the street to a width of 21-feet with curb and gutter, plus sidewalks on one side, provide storm sewer sized for uphill property, a sanitary sewer mainline extension, extension of electric, TV and television conduits and planning and adequate room provided for a future high-level water main to come from the south. Ms. Nelson explains, the lack of the improved extension of 4th street is in violation of Sections 9.521(c) (water), 9.517(h) (streets), 9.522(c) (sanitary sewer), and several sections of the Standards for Public Improvements relating to storm and sanitary sewer and streets and water of the LDC. Further, Ms. Nelson explains, if the City does not require the applicant to improve the 50-foot preserved ROW, as she describes in her comment, it will have two major negative effects:

> 1) It will burden the future developer of the property to the east with costs that are properly the applicant's to bear. Not only are there fairness concerns, but the extra costs could cause the future hillside project to become unprofitable. This is not in the City's long-term best interests; and
>
> 2) If and when these utilities are finally extended, the cost will be dramatically higher than it would have been to do it right the first time, and substantial pavement damage will occur since the street will have to be torn up. Again, this is not in the City's best interest.

Additionally, as Ms. Nelson lays out in her comment, if the City does not require the improvements on the 50-foot section of preserved ROW, it will be going against established precedent for this type of situation. In 2009, the city approved a nearby subdivision called Stoneridge Estates, which had a similar situation: a short street stub leading to undeveloped property to the east. Initially, the developer had not proposed to develop this small street stub, as the developer thought it was unnecessary to the subdivision. The city compelled the developer to fully improve the street, along with utilities stubbed all the way to the property line (see **Exhibit A** below, as submitted by Ms. Nelson). If an adjacent property is not yet ready to develop, that is not a valid reason to excuse the improvements.

Exhibit A.



Furthermore, Ms. Nelson explains that proposed lot 26 is above the minimum lot size required for the placement of a duplex housing development and this must be acknowledged as the creation and improvement of the adjacent ROW confers extra development rights and value to the applicant's property. Per ORS 93.277, this duplex entitlement cannot be restricted by the Sunset Hills development covenants; the city should expect a duplex in this location. The required street improvements will be clearly beneficial to lot 26 and are wholly appropriate given the level of use that should be expected. One of the duplex unit may likely take access from the improved 4th Street ROW.

And lastly, infrastructure for future high-level water system must be put in place by the applicant. Ms. Nelson explains that LDC 9.228(f) requires a finding that the "*proposed public utilities can be extended to accommodate future growth beyond the proposed land division*." In Ms. Nelson's September 14, 2020 submittal she explains the city has an adopted Water System Master Plan that anticipates a future booster pump station sending water up the hill to an upper-level reservoir, and that the applicant must provide three phase power connections for this future pump station, to comply with LDC 9.228(f). The city required this with the adjacent development for Sunset View Ranch. Without access to three-phase power, the future pump station cannot be built. As discussed, later in this staff report, the applicant is not opposed to adding these three phase power conduits and staff agrees with Ms. Nelson that these are important conduits to add.

- Ms. Mia Nelson also submitted comments on December 30, 2020 but staff do not have adequate time to review and incorporate those comments into this staff report. However, Ms. Nelson's comments, including the December 30, 2020 submittal are included in this staff report as **Attachment M**.

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 action is a subdivision. 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 a decision and final action.

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 a decision and final action. 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.

Recommended FINDING for approval: The proposed name of the subdivision is "Sunset Hills." The proposed subdivision is the next phase in the Sunset View Ranch. "Sunset Hills" 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.

Recommended FINDING for approval: As seen on the tentative map (**Attachment B**), dated December 3, 2020 and Sheet 2, the utility plan, dated December 28, 2020 (**Attachment Q**) the applicant has identified the required information in order for staff to make an informed recommendation to Planning Commission. The proposal will involve the extension of 4th Street (a road width of 30-feet, with 5-foot-wide sidewalks). The applicant has identified three easements: one being a 10-foot utility/grading easement, centered on the property lines of Lots 19, 20, 17, 21 and 22. The second a 25-foot easement for access and utilities between lots 25 and 26, this access easement will serve Lots 25 and Lots 26 with driveway access and also keep access to Lot 200, located above the subdivision. The third easement is a 20-foot shared access and utility easement for Lots 16 and 17. The proposed extension of 4th Street will extend to the boundary of the subdivision where it meets tax lot 403. Phase three power conduits have the ability to be placed in easements for the eventual construction of a pump station to provide water to higher elevations. It's expected the City will offset some costs associated with this. The proposed tentative plan and associated sheets include the necessary information. Criterion met.

(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.

Recommended FINDING for approval: The necessary information is contained on the tentative map and Sheet 2. Sheet 2 shows public infrastructure being placed in the right-of-way. Septic tanks and drain fields are not proposed as the proposed lots will all be hooked up to city sewer services. The applicant will utilize existing city stormwater infrastructure to handle stormwater and drainage. The applicant proposes to connect to all city services. The applicant has submitted the necessary information as required in Section 9.224 for a subdivision as seen on the tentative map

LCD 9.225 Proposed Plan Information.

…

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

Recommended FINDING for approval: The applicant has identified three easements: one being a 10-foot utility/grading easement, centered on the property lines of Lots 19, 20, 17, 21 and 22. The

second a 25-foot easement for access and utilities between lots 25 and 26, this access easement will serve Lots 25 and Lots 26 with driveway access and also keep access to Lot 200, located above the subdivision. The third easement is a 20-foot shared access and utility easement for Lots 16 and 17. All easements associated with the proposal shall be included on the final plat and recorded and filed in accordance with ORS 92, Lane County, and the Lowell Development Code (LDC). The general requirement for the proper recording of all easements in accordance with ORS 92 and Lane County will be a condition of approval. Criterion met.

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

Recommended FINDING for approval: The total acreage of the subject property is 3.27 acres. The proposed subdivision is the next logical extension of the existing subdivision to the immediate west of the subject property. The extension of 4th Street has already been dedicated as public right of way. The applicant will also be preserving future City ROW for the extension of 4th Street to the east to serve possible future developments on the lands to the east and north of the subject property. The City will require this preserved section of ROW to be improved. The applicant has appropriately represented this information on the tentative map and Sheet 2. Criterion met.

(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.

Recommended FINDING for approval: The proposed subdivision is to create 16 residential lots as seen on the tentative map. The proposed subdivision is the last and final phase of the existing subdivision immediately to the west on 4th Street; all property owned by the applicant/owner will be fully slated for residential development. 4th Street will be extended to serve the proposed 16 lots and will terminate at the boundary of the subdivision and contain turnarounds for fire truck access. A future connection to existing right of way, to the south is anticipated but is not part of this development. The extension and connection of 4th Street to the south is consistent with the Lowell Master Road Map. The applicant does not own any other lands adjacent to the proposed subdivision.

Additionally, the proposed subdivision will not result in any lots being created that are 2 and one-half times the minimum lot size. The applicant's civil engineer has submitted two new maps showing how the streets can be further extended to the north and south and how possible division of land can occur on lots 100 and 200. Per the applicant's civil engineer, a future public right of way placed in between lots 25 and 26 is not practical due to steep slopes and the level of cut slopes that would be required. As such, the applicant is proposing to preserve future right-of-way to tax lot 200, by preserving 50-feet of ROW at the southern portion of the subdivision as an extension of a future 4th Street. The City will require improvement of this small portion of 4th Street. The maps were submitted with the applicant's supplemental submittal on November 4, 2020 and are contained in this staff report as **Attachment P**.

…

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

Recommended FINDING for approval: A general layout of all public utilities and facilities to be installed has been shown on Sheet 2. The applicant proposes to connect to city services for all proposed. Included on Sheet 2 (**Attachment Q**) are proposed connections to utilities along the extended 4th Street. The extensions of future water service to lots 100 and 200 are possible given the applicant's proposal of placing water lines in the northerly and southerly extensions of Wetleau Drive. The applicant has the ability to provide conduits for three phase power within their easements. This will be required of the City, but it's expected the City will provide some cost offsets to the applicant. The three phase power conduits will allow for the eventual placement of a pump station to serve higher elevations with water service. The precise layout and design of site utilities will be drawn during the construction drawing phase of the project, after tentative approval. The applicant's engineers will be working closely with the City Engineer for review and approval of construction level plans. Criterion met.

(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.)

Recommended FINDING for approval: The proposal will largely utilize existing city stormwater infrastructure. There is an existing 18-inch culvert onsite with adequate capacity to handle flows generated by the subdivision. The storm system will include two new storm manholes and several different drains along the curb and gutter. The applicant has completed a drainage report and can be found in **Attachment C**.

(i) Identification of all proposed public dedications including streets, pedestrian or bike ways, parks, or open spaces.

Recommended FINDING for approval: As seen on the tentative map, the proposed subdivision will extend 4Th Street to the boundary of the subdivision. The extension of 4Th Street has already been dedicated but is not presently improved. The applicant will also be installing public sidewalks on both sides of 4th Street. Additionally, the applicant will be preserving and improving a future ROW extension of 4th street that can logically serve tax lot 200 if it becomes developed. Staff note, the existing structure on tax lot 200 will maintain its existing access by the placement of a 25-foot private access easement proposed to be placed between lots 25 and 26. Criterion met.

(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.

Recommended FINDING for approval: 4th Street will be extended and improved to City standards. Upon completion, the street will become public right of way. The future extension of 4th Street to the south is consistent with the Lowell Master Road Map. The applicant will also be

preserving and improving a small section for the future ROW extension of 4th Street to the east and located south of lot 26. Criterion met.

(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.

Recommended FINDING for approval: Staff does not identify any special improvements for tentative approval. The applicant has submitted the necessary information, as seen on the tentative map and related Sheets, for staff to determine and recommend compliance with this provision. However, staff note that during the construction review process between the City Engineer and the applicant's engineer, a need for certain special improvements may be deem necessary, such as signs, lighting, and mailboxes. Improvements related to exterior lighting or signs shall conform to Exterior Lighting, Section 9.529 and Signs, Section 9.530.

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 proposed subdivision is adjacent to an existing residential development. City services are available to each of the proposed lots. 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: 4th Street will be extended and improved to City standards. Upon completion, the street will become public right of way. The future extension of 4th Street, into Wetleau Drive, to the south is consistent with the Lowell Master Road Map. Both newly constructed streets will contain 5-foot sidewalks on both sides. A timeline for the installation of required public improvements will be drafted up between the applicant and City. The preserved 50-feet of ROW to extend 4th Street to the east to serve future properties will be improved.

(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: Prior to issuance of building permits, the property owner shall submit the final plat in accordance with ORS 92.075. A final plat will be prepared with a licensed surveyor in the state of Oregon and in conformance with ORS 92 requirements.

Recommended FINDING for approval (LDC 9.226 ((a)-(e)): The applicant has submitted the necessary information, as seen on the tentative map and associated Sheets 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 is not proposing to mass grade the lots, the applicant will only grade what is required to build the public improvements and infrastructure. Individual lot grading will occur when development occurs on each respective lot. Final grading plans will have to be submitted for review by the City Engineer before any earth moving can commence. Final grading plans can be submitted after tentative approval, but before earth-moving activities commence. LDC has specific grading standards that must be presented here in order for the final grading plan can be delegated to the City Engineer for review and final approval. Section 9.527 outlines grading standards for development in Lowell. A final grading plan shall be prepared by the applicant's civil engineering team that shows cut slopes no exceeded one and one-half feet horizontally to one foot vertically, fill slopes shall not exceed two feet horizontally to one foot vertically, the type and characteristics of imported fill soils shall be the same or compatible with the existing soils on the site, fills for streets and building sites shall be engineered and approved by the City, and lastly, all sits shall be graded to directed storm water to City storm server or to natural drainage ways. Additionally, the provisions of Lowell Ordinance 227, Section 2, Excavation and Grading Building Code, are applicable to grading plans.

Recommended FINDING for approval: Staff find the preliminary grading plans submitted are acceptable for tentative approval, but a final grading plan will need to be submitted in accordance with the Lowell grading standards as contained in Section 9.527 of the LDC, reviewed and approved, by the City Engineer, prior to any earth-moving activities. Staff find this criterion conditionally met.

Condition of Approval #1: A final grading plan shall be submitted to the City Engineer for review and approval, prior to earth-moving activities. The grading plan shall conform to the grading standards are listed in Section 9.527 GRADING and Lowell Ordinance 227, Section 2, Excavation and Grading Building Code.

(e) Specifications and details of all proposed improvements.

Discussion: The applicant has shown all proposed improvements on the tentative map and the associated Sheets, as prepared by the applicant's civil engineering team. The proposed public improvements include the improvement and extension of 4th Street, complete with sidewalks on both sides and northly and southern extension of Wetleau Drive. The applicant will also be preserving and improving a 50-foot future right-of-way access for a future public street to reach tax lot 200, if it ever develops. The City Engineer has reviewed the preliminary plans and has preliminary approved them for tentative approval purposes only, the City Engineer does have comments on the proposal, but those can be handled during the construction drawing plan phase of the project, post tentative approval. The applicant's engineering team is aware of the comments of the City Engineer and can work with the City Engineer to address them during the construction drawing plan phase. Staff include the City Engineer's comments as **Attachment H**. This will be a condition of approval.

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

Recommended FINDING for approval: The proposed subdivision crosses mapped areas indicating wetlands may be present on the subdivision. Staff used the Local Wetlands Inventory Map to gauge the possible presence of wetlands. On October 31, 2019, staff submitted the local wetland land use notification to DSL for comment and review. On November 18, 2019 DSL responded that there may be waters/wetlands that are subject to state-removal fill law; a state permit may be required. The applicant has submitted a Wetland Delineation Report to DSL for review and concurrence. Staff recommend a condition of approval that before any earthmoving activates commence, the applicant receive concurrence from DSL with respect to the presence of wetlands and follow and/or obtain all necessary permits required per DSL's decision. See **Attachment D** Wetland Land Use Notice and initial response from DSL.

On November 11, 2020, the applicant submitted a wetland delineation report completed by Pacific Habitat Services, to DSL for concurrence. The applicant's wetland delineation report is included in this staff report as **Attachment O**. As of the writing of this staff report, staff are not aware of DSL concurrence for the applicant's delineation, as such, the condition to receive DSL concurrence before any earth-moving activities on the subject properties remains.

The proposal is consistent with this criterion with the condition of approval that:

Condition of Approval #2*:* Prior to the commencement of any earth-moving activities on the

subject property, the applicant shall receive DSL concurrence on the wetland delineation report and comply with any requirements of DSL in terms of obtaining a fill-removal permit or appropriate mitigation.

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: Comment submitted by Ms. Nelson contends the applicant's proposal does not meet the applicable approval criteria for a subdivision because the proposal does not comply with City Codes or Ordinances. Specifically, Ms. Nelson points out a violation of LDC 9.228(d) which states the proposal will not "*preclude the orderly extension of streets and utilities on undeveloped and underdeveloped portions of the subject property or on surrounding properties*." and LDC 9.228(f), which states the "*proposed public utilities can be extended to accommodate future growth beyond the proposed land division.*" Staff have looked into Ms. Nelson's concerns and tend to agree with the comments. Staff are recommending the City require the applicant to improve the 50-feet of persevered ROW located south of lot 26 to ensure the orderly extension of streets on undeveloped surrounding properties. Additionally, staff are recommending the applicant place phase three power conduits in its easements to allow for the eventual construction of a pump station to help serve water to higher elevations. The applicant is not expected to bear the costs for the phase three power conduits alone, rather the city is expected to off-set a portion of the costs.

Recommended FINDING for approval: The applicant is proposing to create a 16-lot subdivision as the next phase of the 4th Street development. The underlying zoning classification is Single-Family residential and is consistent with the proposal. As seen on the tentative map (see **Attachment B**), all of the proposed lots are above the minimum lot size of 7,000 square feet. All lots meet the minimum lot depth and width. Staff are recommending the city require the applicant to improve the 50-feet of preserved ROW that is south of lot 26 because not doing so would preclude the orderly extension of streets on undeveloped properties. Additionally, staff is recommending, and the applicant is not opposed to, providing space in its easements for phase three power conduits. It's expected the City will offset some of these costs associated with phase three power conduits. Staff finds the proposal complies with the applicable provision of City Codes and Ordinances. 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 subdivision is the final phase and build out of property owned by the applicant. The proposed subdivision is the next phase of the series of homes immediately adjacent to the existing subdivision development located immediately to the west on 4th Street. There are no

lots involved in the subdivision that are 2.5 times the minimum lot size. Staff find this criterion does not apply.

Recommended FINDING for approval: The proposed subdivision is the final phase and build of the property owner owned by the applicant. The proposed subdivision is the next phase of the series of homes immediately adjacent to the proposed subdivision. There are no lots involved in the subdivision that are 2.5 times the minimum lot size. Staff find this criterion does not apply.

(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.

Recommended FINDING for approval: There are existing site conditions that must be brought up when addressing this criterion. The adjacent properties located above the proposed subdivision are above an elevation in which city water can adequately be provided at about 880 feet. The proposed subdivision will provide water lines in the northly and southerly extensions of Wetleau Drive that can be used for future development above 880 feet, once water service is available above 880 feet. Additionally, the steep slopes located above the proposed subdivision will impact the level of development that can occur on those parcels, this is not to say development is precluded, but is made more difficult when considering the slopes. The applicant has provided a map showing how lots 100 and 200 may be developed in the future, when taking access from the northly extension of Wetleau Drive. The applicant's engineer has concerns related to steep slope development and the level of cuts and fills that would be required to reserving a future full right-of-way in between lots 25 and 26 to serve future development on tax lot 200.

As an alternative, the applicant is proposing to preserve 50-feet of ROW to the south of proposed Lot 26 for a future public right of way (extension of 4th Street) to reach tax lot 100, should it develop in the future. The city will require the applicant improve this 50-feet of preserved ROW to the property boundary, as required in LDC 9.517 (Streets). The northly and southerly extensions of Wetleau Drive are preserved to serve future development to the north and south. As such, staff find the applicant has not precluded the proposed land division does not preclude development on properties in the vicinity to at least 80% of the maximum density, when considering current minimum lot sizes, existing site conditions and site constraints.

(d) The proposed street plan:

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

Recommended FINDING for approval: The proposed extension of 4th Street is in conformance with the Master Road Plan and Map. The extension of 4th Street is currently dedicated right-of-way and will be extended to the boundary of the property of the proposed subdivision and improved to full City standards for the functional class of right of way. The extension of 4th Street will be completed with sidewalks and conform to City standards. To meet the previous condition of approval #2 that was applied to Lot 16 (which is the entire subject property), as part of the previous subdivision development, the applicant will be preserving and improving future right of way to

ensure properties located above the subject property have access when/if they develop in the future (seen on the tentative map, located south of Lot 26).

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

Recommended FINDING for approval: The Fire Chief of the Lowell Rural Fire Protection District (LRFPD) has issued comment that turnarounds are needed at the dead-ends of Wetleau Drive. Lowell Development calls for turnarounds on dead-end streets that are planned to extend in the future. Per the Master Road Map, both the northerly and southerly extensions of Wetleau Drive are planned to extend to connect future rights-of-way. These two dead-ends streets will need fire-department approved turnarounds placed at the terminus to allow for adequate and safe fire and emergency vehicle backing and turnaround. The applicant has shown these two turnarounds on the tentative map.

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

Recommended FINDING for approval: The proposal will not preclude the orderly extension of streets. The applicant's proposal with respect to the placement and location of Wetleau Drive to the north and south of the proposed subdivision, correctly align with the future extension of streets in Lowell, according to the Lowell Master Road Map. Additionally, the applicant is preserving and improving 50-feet of ROW south of Lot 26 to serve future development on tax lot 100 or on properties located above the proposed subdivision. The requirement for a preservation of future ROW to this area was included in the past subdivision that involved Lot 16 (which is the subject property). The City informed the applicant that this condition for the preservation of future ROW to serve this area is a valid and required condition and the applicant presented a plan that satisfies this requirement. The applicant is also not opposed to providing conduits within its easements for phase three power. These conduits will go towards providing power to a pump station in the future, which will be used to supply water to higher elevations. Staff recommend a condition of approval that commits the applicant to supply phase three power conduits within its easements. It's expected the City will offset some of the costs associated with this. Without knowing the precise amount of the construction cost of the phase three power conduits, staff is unable to recommend a dollar amount the city is willing to offset. As such, a recommended condition of approval would only commit the applicant to providing these conduits and the details regarding the reimburses or cost offset would be worked out between the City and the applicant in a development agreement. Criterion met.

(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.

Recommended FINDING for approval: No public funds are requested for the required public facilities required for lots associated with the subdivision. Adequate public city services are available to all lots associated with the proposed subdivision. The applicant, at their own expense, will construct the public facilities in order to provide the city services to all lots seen on the tentative map. Criterion met.

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

Recommended FINDING for approval: All utilities required to serve lots 16-31 will be installed at the expense of the applicant. Adequate public facilities are proposed to be constructed in order to deliver city services to lots 16-31, at the applicant's expense. The proposed subdivision is the next phase of an already developed subdivision, which public infrastructure has been placed and can readily be extended to lots 16-31.

In Lowell, obtaining city water service above ~880 feet is not currently practical, due to elevation and the need for additional pumps and city services above that elevation. The proposed lots can all receive city services. There is no proposed development outside of the subject property, which tops out right near 880 feet. If, in the future, the City invests in further public infrastructure for the ability for water to reach higher elevations, the existing infrastructure that will be in place because of the subdivision will make it more practical, as there are existing pipes and lines to tie into. Public facilities, in the form of a preserved and improved future right of way for 4th Street is provided for by the applicant to serve tax lot 200 and conduits for three phase power to power a pump station to assist in providing water service to higher elevations. The northly and southern extension of Wetleau Drive will have the ability to connect to future streets, should development occur on abutting properties.

(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 engineering team has submitted a drainage study, see **Attachment C**. The applicant is proposing to utilize existing city infrastructure to handle drainage and stormwater and to add minor upgrades, as necessary. The applicant's proposal to utilize mainly existing drainage infrastructure and catch basins, has been preliminary approved by the City Engineer. If during the review of the final drainage plan and details, a need for additional inlets or culverts are required, the City Engineer has indicated those can be placed on-site. However, If after review of the final drainage plan/details, it's discovered off-site culverts or inlets are required to handle the stormwater generated from the proposal, it shall be the applicant's cost to install. The City Engineer, if off-site drainage culvert or inlets are required, the City' existing stormwater system can reasonably be modified to accommodate the improvements. The applicant shall submit final drainage plans and details for review and approval by the City Engineer. Stormwater infrastructure details shall be worked through between the City Engineer and applicant's engineering team and finalized during the construction drawing phase.

Recommended FINDING for approval: The applicant's engineering team has submitted a drainage study. The study has analyzed the runoff coefficient of the subject property's soils and estimated rainfall intensity for a 25–year and a 100–year storm event. Impervious surfaces of roads, driveways, sidewalks and roofs have been included in this analysis. Storm pipes and manholes will be sized to accommodate the anticipated storm runoff from curbs and gutters. The plan calls for the development of a swale and 18" culvert to handle anticipated flows generated by 25– and 100–year storm events. The City Engineer has verified that the proposed drainage system is capable of handling anticipated storm events as well as larger ones. The study's drainage maps show the areas of sheet lows, drainage courses and existing manholes. It divides the subdivision area into sub–basins and indicates the location and size of pipes necessary to handle anticipated sub–basin flows and the location of diversion points, culverts and swales.

The applicant shall submit final drainage plans/details for review and approval by the City Engineer, prior to the commencement of construction of public improvement facilities. These details will be worked through between the City Engineer and applicant's engineering team during the construction drawing phase. The proposal is consistent with this criterion with the condition of approval that:

> **Condition of Approval #3:** The applicant shall submit final drainage plans/details for review and approval by the City Engineer, prior to the commencement of construction of public improvement facilities. The final drainage plan shall be substantially the same as the drainage plan approved with the approval of the tentative subdivision plan. Additional off–site culverts and inlets made necessary by the final drainage plan shall be paid for by the applicant.

(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).

Recommended FINDING for approval: 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. The applicant has shown the required fire-department turnarounds at the terminus of the northly and southerly extensions of Wetleau Drive. Relatedly, the LRFPD indicates a need for an additional fire hydrant to be placed at or near the western edge of the proposed northern extension of Wetleau Drive. This will be a condition of approval and can be addressed between LRFPD, the City Engineer and the applicant's engineering team

Additionally, lots 23,25, and 26 have slopes of 15 percent or greater. Special hillside development standards will apply to these lots.

Conditions of Approval #4: Applicant shall install fire hydrant at or near the western edge of the northerly extension of Wetleau Drive. Details of design and placement to be worked out amongst LRFPD, City Engineer, and the applicant's engineering team, during the construction drawing phase. Prior to final plat approval, evidence of the installation of the fire hydrant shall be shown at or near the western edge of the northerly extension of Wetleau Drive, or as approved by LRFPD and the

City Engineer.

> ***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.***

Recommended FINDING for approval: As per LDC all land divisions in Lowell require public sidewalk improvements to be installed. As such. 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 the extension of 4th Street and both extensions of Wetleau Drive will be a condition of approval. The presence of the required 5-foot sidewalks are shown on the applicant's Tentative Map.

The proposal is consistent with this criterion with the condition of approval that:

Condition of Approval #5: Prior to the issuance of building permits, the applicant/developer shall construct sidewalks, including curb and gutter along both sides of the extension of 4th Street and the northly and southerly extensions of Wetleau Drive. Sidewalks shall be inspected by the City of Lowell before acceptance. Sidewalks shall be constructed to a width of 5-feet and in accordance with Lowell Standards Documents for engineering and construction.

> ***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.***

Recommended FINDING for approval: All lots have legal access onto a right of way. A 20-foot-wide access and utility easement will be placed between lots 16 and 17. Lots 16 and 17 are flag lots but will share access. Per LDC, access to two lots may be approved as part of the tentative map approval process and in which case, the total width of the access easement must be at least 16-feet. In the case of the access easement between lots 16 and 17, the total width is 20-feet, which is above the 16-foot minimum. The access easement between lots 16 and 17 shall include paving to a width of at least 16-feet.

A second access and utility easement is shown in between lots 25 and 26. The proposed width of this easement is 25-feet. The proposed easement is meant to serve the existing home/structure located on tax lot 100, which is above the proposed subdivision and provide driveway access to the future homesites on lots 25 and 26. The access easement between lots 25 and 25 shall be paved to a width of at least 16-feet.

Access criteria are met with the following Conditions of Approval:

Condition of Approval #6: Lots 16 and 17 share a common access and utility easement which has a width of 20-feet, of the 20-feet, 16-feet shall be paved up until at least the crest of the panhandle.

Condition of Approval #7: Lots 25 and 26 are proposed to have a common access and utility easement of 25-feet that will serve the existing home/structure located on tax lot 100, as well as driveway access for lots 25 and 26. This access and utility easement shall be paved to a width of at least 16-feet.

> ***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.***

Recommended FINDING for approval: The applicant will be responsible for all costs and installation of all required urban public street improvements consistent with the standards of the City of Lowell**.** The extension of 4th Street has already been dedicated, but not improved to City standards. The extension of 4th Street will be completed to City standards and shall be inspected by the City of Lowell for compliance, before acceptance of public improvements. Both the northly and southerly extensions of Wetleau Drive will also be improved to City Standards. The preserved 50-feet of ROW (located south of lot 26) for the future extension of 4th Street to serve future development on tax lot 100 will also be required to be improved. Criterion met.

> ***(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 the tentative map and associated Sheets. The tentative map shows the extension of 4th Street and the northern and southern extensions of Wetleau Drive and 50-feet of improved ROW for the future extension of 4th Street to serve tax lot 100, if developed. Final street improvement plans and 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 on the tentative map and on the associated Sheets that urban public street improvements including curbs, gutters and storm drainage can be constructed to City of Lowell standards. Applicant shall submit final street improvement plans to the City Engineer, for review and approval, before street construction commences. 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.

Condition of Approval #8: Applicant shall submit final street improvement plans to the City Engineer, for review and approval, before street construction commences. Prior to final plat approval and acceptance of urban public street improvements, the applicant shall install urban public street improvements to City standards. Street public improvement plans shall include plans for the improvement of the 50-feet of preserved ROW, located south of lot 26, for future access to tax lot 200. Public street improvements will be inspected by Lowell Public Works or the City Engineer for compliance with Lowell 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.

Recommended FINDING for approval: The proposed extension of 4th Street and the northly and southerly extension of Wetleau Drive will both contain 50-feet of right of way and 5-foot sidewalks on both sides. 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. Inspection of urban public street improvements will be inspected for compliance with Lowell Standards by the City Engineer or his or her designee, prior to acceptance.

(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.

Recommended FINDING for approval: Narrower streets are not proposed nor are the elimination of sidewalks on one side of the street. The proposed extension of 4th Street to serve lots 16-31 and the northly and southerly extensions of Wetleau Drive will be designed per the City of Lowell design requirements and reviewed by the City of Lowell for compliance. Sidewalks are proposed for both sides of the street. The preserved 50-foot of ROW located south of lot 26 will be required to be improved by the applicant. Criterion met.

(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. The proposed subdivision does have hillside development conditions located on lots 23, 25 and 26. Slope easements will be determined at the time of construction drawings. If it is determined, between the applicant's engineer and the City Engineer, during the construction drawing phase, that no slope easements are necessary or non-existent, then the final plat shall contain a plat note stating such. This will be a condition of approval to be shown on the final plat.

Recommended FINDING for approval: Due to topographical conditions and hillside development constraints on lots 23, 25 and 26, which contain slopes of 15 percent or greater, slope easements may be required. Slope easements shall 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. If it is determined, between the applicant's engineer and the City Engineer, during the construction drawing phase, that no slope easements are necessary or non-existent, then the final plat shall contain a plat note stating such. Staff find compliance is feasible and this criterion can be met, conditionally.

Condition of Approval #9: 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. If it is determined, between the applicant's engineer and the City Engineer, during the construction drawing phase, that no slope easements are necessary or non-existent, then the final plat shall contain a plat note stating such.

(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.

Recommended FINDING for approval: Reserve strips are not necessary as the extension of 4th Street and the extensions of Wetleau Drive are already dedicated rights-of-way. The previous dedication was part of an agreement made with the original subdivider of this land. Comment has

been received by a neighboring property owner on this matter. Staff looked into the concerns and agree with the commenter. Reserve strips in this situation, over dedicated streets, would be inconsistent with the present situation, in that dedication has already occurred. To see the submitted comments, please refer to **Attachment M**. Reserve strips are not proposed for the proposed development. Criterion not applicable.

> ***(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.***

Recommended FINDING for approval: The extension of 4th Street will be a continuation of the presently dedicated and existing 4th Street located immediately to the west of the proposed subdivision. The proposed intersection will result in a "T-intersection" at the intersection of the extension of Fourth Street and the northerly portion of Wetleau Drive. There are no other existing "T-intersections" to the north or south of the subject property.

The proposed location of the 50-foot preserved future ROW south of lot 26, is proposed in such a manner because there the placement of a street between lots 25 and 26 is not practical due to steep slopes. As such, the applicant's engineer found an alternative location where 50-feet of ROW can be preserved, and that location is south of lot 26. This preserved and improved 50-feet of ROW will ensure the orderly development of streets on adjacent undeveloped properties. Criterion met.

> ***(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.***

Recommended FINDING for approval: The northerly and southerly extensions of Wetleau Drive are planned to extend in the future, as show on the Lowell Master Road Map. The applicant will be required to pave the extension of 4th Street to serve the proposed lots and the two extensions of Wetleau Drive. The city is requiring the preserved 50-feet of ROW located south of lot 26 to be improved because subsection (h) of LDC 9.517 states, streets shall be extended to the boundary of the subdivision. This extension and improved of this section of 4th Street will is necessary to give access or to permit satisfactory division of adjoining land and was also a requirement in the form of a condition of approval placed on Lot 16 (which is the entire subject property) from the Sunset View Ranch subdivision in 2006. The preserved and improved 50-feet of ROW will ensure the orderly development of streets on adjacent undeveloped properties. Criterion met.

> ***(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.***

Recommended FINDING for approval: As shown on the tentative map and new Sheet 2, dated December 28, 2020, the street intersection angels are at right angles or as near as possible. From staff's visual inspection of the intersection at Fourth Street and the northly extension of Welteau

Drive and the small future section of 4th Street with Wetleau, it is right-angle, or as near as is practical. 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.

Recommended FINDING for approval: The only existing adjacent street is 4th Street, which was constructed during the first portion of the subdivision. The newly constructed extension of 4th Street to serve lots 16-31 and the northly and southerly extensions of Wetleau Drive will all be constructed to current Lowell street standards, including the 50-foot portion of reserved ROW, that is located south of lot 26. As discussed in this staff report, the applicant will be improving the 50-feet of ROW south of lot 26 to serve future development on adjacent properties.

(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.

Recommended FINDING for approval: Half streets are not proposed. This criterion is not applicable.

(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.

Recommended FINDING for approval The dead-end extension of Wetleau Drive will terminate with a hammerhead or equivalent turnaround. LDC allows for dead ends to terminate in a hammerhead rather than a cul-de-sac. The presence of two hammerhead turnaround at the northly extension of Wetleau Drive and southerly extension of 4th Street are shown on the tentative map. A "No Parking" sign shall be installed at these two turnarounds. Criterion met conditionally.

Condition of Approval #10: A "No Parking sign shall be installed at the ends of the two turnarounds located at the northly and southerly extensions of Wetleau Drive.

(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.

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 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.

Condition of Approval #12: 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.

(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.

Recommended FINDING for approval: A "No Parking" sign has been identified as being required at the two hammerhead turnarounds at the northly and southerly extensions of Wetleau Drive. This has been appropriately conditioned in this staff report.

(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.

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

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

Discussion: The applicant has not addressed this specific criterion related to mailboxes nor can staff locate any proposed mailboxes or mail structures on the tentative map. As such, evidence of compliance with the criteria for mailboxes shall be shown, prior to final plat approval.

Recommended FINDING for approval: There is no indication how the applicant intends to comply with this specific criterion. Staff will impose a condition of approval, prior to final plat approval.

Condition of Approval #13: Prior to final plat approval, the applicant shall provide evidence, to the City Administrator or his or her designee, that the proposed mailbox structure or provision(s) for handling mail to the proposed lots, 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.***

Recommended FINDING for approval: 4th Street and the northerly extension of Wetleau Drive and the small extension of 4th Street, south of lot 26 and Wetleau 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 permeant obstruction exceeding three feet in height. Trees exceeding this height may be located in this area, provided all branches or foliage are removed to a height of eight feet above grade. The applicant has not specifically addressed how the proposal will comply with Clear Vision Areas, as presented above. 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.

Standards for Clear Vision Areas have not been addressed at time of tentative map submittal. 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.

Condition of Approval #14: 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 extensions of Fourth Street and Wetleau Drive are not Arterials or Major Collectors, as such this criterion does not apply.

> ***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.***

Recommended FINDING for approval: The applicant's engineer team has submitted a drainage study, see **Attachment C**. The applicant is proposing to utilize existing city infrastructure to handle drainage and stormwater and to add minor upgrades, as necessary. The applicant's proposal to utilize mainly existing drainage infrastructure and catch basins, has been preliminary approved by the City Engineer. There may be the need for some additional culverts and inlets (located on-site). The applicant shall submit final drainage plans and details for review and approval by the City Engineer. These details will be worked through between the City Engineer and applicant's engineering team during the construction drawing phase.

(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.

Recommended FINDING for approval: Some minor, urban storm drainage improvements are being proposed by the applicant on site. The site contains some level of existing stormwater infrastructure. There will be a need for some minor site upgrades with respect to stormwater, but by-in-large, the catch basin can accommodate the projected stormwater runoff. Criterion met.

(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.

Recommended FINDING for approval: The applicant's engineering team has indicated there are cases in where they can utilize natural drainageways for water to flow from a point of high elevation to a point of lower elevation. The applicant's engineering team does not have the specific details worked out yet where these natural drainageways can be placed, but a proposal is feasible and would likely include placing a culvert to pick up flows from a high elevation point and direct them into a low elevation point and then onto its respective drainage basin. The City Engineer has issued comment that drainage easements will be required on lots for which water drains onto or across**.** See **Attachment H** for City Engineer's comments, dated July 10, 2019.

While the use of natural drainageways is not required, only permitted and encouraged, the applicant can provide for natural drainageways once in the construction drawing phase of the project.

Condition of Approval #15: Prior to final plat approval, natural drainageways shall be indicated on the final plat and a 15-foot setback shall be required from the centerline of any significant drainageway. Precise location of natural drainageways shall be determined by the applicant's engineers and the City Engineer and drainage easements shall be required on any lots for which water drains onto or across. If no natural drainageways are to be utilized as part of the proposed subdivision, the City will consider this condition satisfied for final plat purposes with confirmation from the City Engineer.

(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.

Recommended FINDING for approval: Easements will be required on lots in which water drains

onto or across. The City Engineer has identified lots 17,19, 20, 21, 23, 28, and 29 as likely requiring drainage easements. The inclusion of drainage easements will be a condition of approval, and required to be shown on the final plat, proper to final plat approval. Staff recommend a condition of approval related to drainage easements. Criterion met with the following Condition of Approval:

Condition of Approval #16: Prior to final plat approval, drainage easements of sufficient widths so as to ensure adequate conveyance and maintenance shall be shown on final plat. Specific identification of which lots will require drainage easements will be determined by the applicant's engineering staff and the City Engineer. Drainage easements shall be applied to any and all lots on which water drains onto or across.

> ***(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.***

Recommended FINDING for approval: The applicant's preliminary storm drainage plan has been submitted and reviewed by the City Engineer and adequately addresses storm drainage as part of the tentative map approval process. As noted earlier, there may be the need for the installation of additional culverts and other minor improvements related to storm drainage. Staff find it reasonable those minor details can be worked out between the City Engineer and the applicant's engineering team during the construction drawing phase. Criterion met.

(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.

Recommended FINDING for approval: 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.

Condition of Approval #17: Prior to the commencement of any site preparation, clearing, grading, or fill, the applicant shall obtain an approved NPDES Permit. Applicant shall submit evidence of an approved NPDES Permit to the City Administrator, or his or her designee, prior to any site preparation, grading, or fill.

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.

Discussion: The applicant is proposing city water connection to all lots being proposed. The City has the ability to serve each lot with city water service. All water line extensions required for fire hydrants and related appurtenances will be installed and paid for by the developer.

(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.

Discussion: The public water system improvements will be installed in accordance with the City's Standard for Public Improvements. All public improvement plans, including improvement for water, will be reviewed by the City Engineer before any construction commences.

(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.

Discussion: Ms. Nelson issued comment with respect to extending full water system improvements through the development site to the edges of the property frontage and argues if the applicant does not improve the small section of preserved ROW with water system improvements, the proposal will be in violation of the above LDC section and Standards for Public Improvements Section II.A.4., because the full water system is not being extended to the edge of the property frontage and must extend along the full length of the property's frontage along the right-of-way. Staff is recommending the City require the applicant to improve the small portion of the preserved ROW extension on 4Th Street to comply with this provision, as well as sewer line extensions. The requirement to improve this portion of 4th Street has been conditioned in this staff report.

(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.

Discussion: The water plan is set forth by the applicant on Sheet 2, dated December 28, 2020. The City Engineer has reviewed the preliminary public improvement plans and has no comments that would prevent the applicant from receiving tentative approval. A final public improvement plan will be required by the applicant before construction commences and final plat approval is granted.

(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 has submitted a preliminary site utilities plan, dated December 28, 2020 as seen on Sheet 2, the plan outlines the proposed new water line extensions required. City water, electric and sewer service is available to each proposed lot. The Site Utilities Plan provided is preliminary for tentative map approval. A final utilities plan shall be submitted for review and approval by the City Engineer prior to the commencement of any construction activities with respect to water, sewer and utilities.

Recommended FINDING for approval: The site utilities plan as seen on Sheet 2, Dated December 28, 2020 is preliminary and provided for tentative map approval. A final utilities plan shall be submitted for review and approval by the City Engineer prior to commencement of any construction activities with respect to water, sewer and utilities. Criterion met with the following Condition of Approval.

Condition of Approval #18: The utilities plan as seen on Sheet 2 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 commencement of any construction activities 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.

Discussion: The applicant is proposing city sewer connection to all lots being proposed. The City has the ability to serve each lot with city sewer service. All water line extensions required for fire hydrants and related appurtenances will be installed and paid for by the developer.

(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.

Discussion: The public sewer system improvements will be installed in accordance with the City's Standard for Public Improvements. All public improvement plans, including improvement for sewer, will be reviewed by the City Engineer before any construction commences.

(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 16-31 can and will be connected to city sewer services. Connections either exist nearby or are proposed to adequately provide city sewer service to lots 16-31. 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.

Recommended FINDING for approval: The utilities plan as seen on Sheet 2, dated December 28, 2020 is preliminary and provided for tentative map approval. A final utilities plan shall be submitted for review and approval by the City Engineer prior to any construction activities commence with respect to water, sewer and utilities. The need for a final utilities plan has been conditioned in this staff report.

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.

(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: All utilities will be placed underground. Staff is not aware of any exceptions that would preclude the placement of utilities underground. Utilities will be placed in accordance with LDC. 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. The applicant will also be providing phase three power conduits within its easements for the eventual construction of a pump station to assist in serving higher elevations with water service. It's expected the City will help in the off-set of some of these costs. 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: There is an existing 40-foot access easement running across the subject property that was placed at the time when the adjacent development occurred. This existing 40-foot access easement was intended to serve access to tax lot 200, which contains an existing home. The applicant's proposal includes buildable lots over this existing 40-foot access easement. In discussions with the applicant's surveyor, the applicant will vacate this 40-foot access easement upon construction of the relocated access and private utilizes easement as seen in between lots 25 and 26. This new access easement between lots 25 and 26 will serve tax lot 200 with access. Staff recommend a condition of approval for the applicant to vacate the existing 40-foot access easement before final plat approval.

Recommended FINDING for approval: As discussed in this staff report, there will be a need for access, utility, and water course/drainage easements. The inclusion of all required easements, as shown on the applicant's preliminary Sheets, where necessary, will be a condition of approval. Easements granting limited use of a property for any defined purpose, access easements, utility easements, and water courses/drainage easements all shall be shown and recorded on the final plat as with all dedications, covenants, conditions, or restrictions. Utility easements shall conform to the easement standards as listed in LDC 9.524(c). The easements shall be consistent with Lane County recording procedures, ORS 92 and the LDC. Additionally, there is an existing 40-foot access easement running through the property that was a requirement of a previous development. This 40-foot access easement will interfere with homesite development on the proposed lots. As such, the applicant shall vacate this 40-foot access easement and relocate it to the proposed 25-foot access easement between lots 25 and 26. This newly placed access easement between lots 25 and 26 is intended to provide tax lot 200 with access.

Condition of Approval #19: 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, ORS 92 and the LDC.

Condition of Approval #20: Prior to final plat approval, the applicant shall vacate the existing 40-foot-wide access easement that traverses through the subject property and relocate it to the proposed 25-foot-wide access easement in between lots 25 and 26. This newly placed access easement is intended to serve tax lot 200 with access.

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.

(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) Ensure 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 (for Section 9.632): Lots 23, 25, and 26 contain slopes of 15 percent greater. The applicant has submitted preliminary grading and drainages plans as seen on Sheet 3 and 4 (**Attachment C**) and a Geotech Report (see **Attachment I**). The applicant is not proposing to mass grade the lots, the applicant will only grade what is required to build the public improvements and infrastructure. Individual lot grading will occur when development occurs on each respective lot. 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 the 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 that show conformance with Hillside Development standards on Lots 23, 25 and

26, consistent with the standards as listed in Section 9.632 Hillside Development Standards. All cut and fill slopes must not exceed a two (horizontal to one (vertical) ratio. All proposed cut and fill slopes will be reviewed by the City Engineer for conformance. As allowed for in the LDC, the City Engineer may approve slopes which are steeper, upon certification by a qualified engineer that the slope will remain stable under foreseeable conditions. A Revegetation plan will be required, consistent with subsection (f) of Section 9.632. The Revegetation Plan shall be submitted to the City Administrator for review and approval, the Revegetation Plan may be incorporated into the Improvement Agreement, if necessary. This will be a condition of approval.

Condition of Approval #21: Because Hillside Development Standards apply, prior to the commencement of any site preparation, grading, or fill, on lots 23, 25 or 26, 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 #22: As required in the Hillside Development Standards for lots 23, 25 and 26, a Revegetation Plan will be required. This plan may be incorporated into the Improvement Agreement, if necessary. The Revegetation Plan shall conform to the standards as listed in Section 9.632(f).

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.

Recommended FINDING for approval: The applicant's surveyor submitted a map showing the above features, including the slope of each lot, sufficient for staff to make findings upon. **See Attachment J.** Criterion met.

(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.

Recommended FINDING for approval: Lots 23, 25, and 26 contain slopes of 15 percent or greater. The applicant has submitted a Geotech Report that the City Engineer will use when reviewing site specific construction plans. Criterion met.

(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: The proposal is consistent with these criteria with the condition of approval the applicant shall submit Engineer's Plan 1 through 5. for review and approval by the City Administrator or his or her designee, prior to the issuance of building permits.

Condition of Approval #23: 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 purchasers of lots that contain 15 percent slopes or greater. The proposal is consistent with this criterion with the condition of approval that:

Condition of Approval #24: 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.

Condition of Approval #25: Prior to the issuance of certificate of occupancy for the proposed residential lots 23, 25 and 26, 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 receiving 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.

Recommended FINDING for approval: The proposal is consistent with these criteria with the condition of approval the applicant shall submit a final plat in consistent with the dedication requirements as indicated in LDC 9.236. Dedications requirements will be required as part of final plat approval, and prior to final plat approval.

Condition of Approval #26: Prior to final plat approval, dedication requirements as contained in LDC 9.236 (Dedication Requirements) shall be met by the applicant.

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. Criterion met with condition of approval.

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 specifications of LDC 9.805, Improvement Agreement. Criterion met as conditioned.

Condition of Approval #27: Prior to final plat approval, the applicant and/or developer shall enter into an Improvement 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 as conditioned.

Condition of Approval #28: 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 security agreement has been reached between the applicant and the City.

LDC 9.807 Noncompliance Previsions.

(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 the 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 FIDNING for approval: The timely and efficient extension of public facilities and services can readily be supplied. The proposed subdivision is the next logical extension of the existing subdivision immediately to the west. The two dead-ends of Wetleau Drive can be further extended for future development, as called for in the Lowell Master Road Plan and Map. The proposal is consistent with the timely and efficient extension of public facilities and services.

> ***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 because the addition of a 17-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. The proposal is consistent with Housing Need Policy (c) 5.

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. The proposal as conditioned is consistent with addressing the development constraints of topography and slope.

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 completed by the applicant.

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 16-lot single family home subdivision.

7. Conditions of Approval

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

Condition of Approval #1: A final grading plan shall be submitted to the City Engineer for review and approval, prior to earth-moving activities. The grading plan shall conform to the grading standards are listed in Section 9.527 GRADING and Lowell Ordinance 227, Section 2, Excavation and Grading Building Code.

Condition of Approval #2: Prior to the commencement of any earth-moving activities on the subject property, the applicant shall receive DSL concurrence on the wetland delineation report and comply with any requirements of DSL in terms of obtaining a fill-removal permit or appropriate mitigation.

Condition of Approval #3: The applicant shall submit final drainage plans/details for review and approval by the City Engineer, prior to the commencement of construction of public improvement facilities. The final drainage plan shall be substantially the same as the drainage plan approved with the approval of the tentative subdivision plan. Additional off–site culverts and inlets made necessary by the final drainage plan shall be paid for by the applicant.

Conditions of Approval #4: Applicant shall install fire hydrant at or near the western edge of the northerly extension of Wetleau Drive. Details of design and placement to be worked out amongst LRFPD, City Engineer, and the applicant's engineering team, during the construction

drawing phase. Prior to final plat approval, evidence of the installation of the fire hydrant shall be shown at or near the western edge of the northerly extension of Wetleau Drive, or as approved by LRFPD and the City Engineer.

Condition of Approval #5: Prior to the issuance of building permits, the applicant/developer shall construct sidewalks, including curb and gutter along both sides of the extension of 4th Street and the northly and southerly extensions of Wetleau Drive. Sidewalks shall be inspected by the City of Lowell before acceptance. Sidewalks shall be constructed to a width of 5-feet and in accordance with Lowell Standards Documents for engineering and construction.

Condition of Approval #6: Lots 16 and 17 share a common access and utility easement which has a width of 20-feet, of the 20-feet, 16-feet shall be paved up until at least the crest of the panhandle.

Condition of Approval #7: Lots 25 and 26 are proposed to have a common access and utility easement of 25-feet that will serve the existing home/structure located on tax lot 100, as well as driveway access for lots 25 and 26. This access and utility easement shall be paved to a width of at least 16-feet.

Condition of Approval #8: Applicant shall submit final street improvement plans to the City Engineer, for review and approval, before street construction commences. Prior to final plat approval and acceptance of urban public street improvements, the applicant shall install urban public street improvements to City standards. Street public improvement plans shall include plans for the improvement of the 50-feet of preserved ROW, located south of lot 26, for future access to tax lot 200. Public street improvements will be inspected by Lowell Public Works or the City Engineer for compliance with Lowell Standards.

Condition of Approval #9: 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. If it is determined, between the applicant's engineer and the City Engineer, during the construction drawing phase, that no slope easements are necessary or non-existent, then the final plat shall contain a plat note stating such.

Condition of Approval #10: A "No Parking sign shall be installed at the ends of the two turnarounds located at the northly and southerly extensions of Wetleau Drive.

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 the street name signs standards as listed in the LDC.

Condition of Approval #12: 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 #13: Prior to final plat approval, the applicant shall provide evidence, to the City Administrator or his or her designee, that the proposed mailbox structure or provision(s) for handling mail to the proposed lots, has been approved by the local Post Office having jurisdiction and shall be noted on the plan as a plat note.

Condition of Approval #14: 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 #15: Prior to final plat approval, natural drainageways shall be indicated on the final plat and a 15-foot setback shall be required from the centerline of any significant drainageway. Precise location of natural drainageways shall be determined by the applicant's engineers and the City Engineer and drainage easements shall be required on any lots for which water drains onto or across. If no natural drainageways are to be utilized as part of the proposed subdivision, the City will consider this condition satisfied for final plat purposes with confirmation from the City Engineer.

Condition of Approval #16: Prior to final plat approval, drainage easements of sufficient widths so as to ensure adequate conveyance and maintenance shall be shown on final plat. Specific identification of which lots will require drainage easements will be determined by the applicant's engineering staff and the City Engineer. Drainage easements shall be applied to any and all lots on which water drains onto or across.

Condition of Approval #17: Prior to the commencement of any site preparation, clearing, grading, or fill, the applicant shall obtain an approved NPDES Permit. Applicant shall submit evidence of an approved NPDES Permit to the City Administrator, or his or her designee, prior to any site preparation, grading, or fill.

Condition of Approval #18: The utilities plan as seen on Sheet 2 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 commencement of any construction activities with respect to water, sewer and utilities.

Condition of Approval #19: 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, ORS 92 and the LDC.

Condition of Approval #20: Prior to final plat approval, the applicant shall vacate the existing 40-foot-wide access easement that traverses through the subject property and relocate it to the proposed 25-foot-wide access easement in between lots 25 and 26. This newly placed access easement is intended to serve tax lot 200 with access.

Condition of Approval #21: Because Hillside Development Standards apply, prior to the commencement of any site preparation, grading, or fill, on lots 23, 25 or 26, 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 #22: As required in the Hillside Development Standards for lots 23, 25 and 26, a Revegetation Plan will be required. This plan may be incorporated into the Improvement Agreement, if necessary. The Revegetation Plan shall conform to the standards as listed in Section 9.632(f).

Condition of Approval #23: 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 #24: 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.

Condition of Approval #25: Prior to the issuance of certificate of occupancy for the proposed residential lots 23, 25 and 26, 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 receiving a copy as described above.

Condition of Approval #26: Prior to final plat approval, dedication requirements as contained in LDC 9.236 (Dedication Requirements) shall be met by the applicant.

Condition of Approval #27: Prior to final plat approval, the applicant and/or developer shall enter into an Improvement Agreement, with the City of Lowell, consistent with the specification of LDC 9.805.

Condition of Approval #28: 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 security agreement has been reached between the applicant and the City.

Condition of Approval #28: In the process of completeness review and further discussions with the applicant, there are several items that remain to be reviewed and approved by the City Engineer. Between the City, City Engineer and the applicant it was determined the items could be discussed, reviewed and approved during the construction drawing phase, as they relate to more engineering specifics. The City Engineer has indicated to staff they have no direct concerns with the proposed subdivision going through the approval process and receiving tentative approval.

The City Engineer's comments that need to be addressed, prior to the commencement of construction activities or earth-moving activities are contained in **Attachment H** and dated July 10, 2019, and December 29, 2020. For purposes of final plat approval, the City will consider this condition satisfied by written communication from the City Engineer that all

engineering related items have been sufficiently addressed by the applicant's engineering team. Where engineering standards are included as approval criteria for a subdivision, staff have adequately stated and addressed those standards and found the standards to be feasible for the applicant to meet on a preliminary basis and thus can delegate final review and approval to the City Engineer.

Condition of Approval #29: Prior to final plat approval, applicant shall install electrical conduits for three phase power from the nearest three phase power source as directed by Lane Electric Co-operative and the City Engineer, to a location on the common boundary of the southernmost portion of Wetleau Drive and Map 19-01-11, Tax Lot 403. If such conduit is not located within the relocated 4th Street right-of-way, a utility easement will be provided and recorded on the final plat. The City of Lowell, as a qualifying public improvement, shall reimburse the applicant or offsets the costs, with a reduction or wavier of SDC fees or other agreement reached between the City and the applicant, associated with the installation three phase power. The details of such agreement and the financial terms shall be spelled out in the development agreement and signed by the applicant and the City Administrator.

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.

9. Attachments

Attachment A: Initial Application and Supplemental Materials

Attachment B: Tentative Subdivision Map, Dated December 3, 2020

Attachment C: Old Sheets 1 through 12, Dated June 5, 2019, includes drainage study

Attachment D: Initial DSL Wetland Response

Attachment E: Previous Comment Regarding Turnarounds

Attachment F: Previous Comment Regarding Fire Standards for Turnarounds

Attachment G: Timeline Extensions Granted to the City

Attachment H: City Engineer's Comments That Need to be Addressed, Dated July 10, 2019 and December 28, 2020 and general comments dated September 14, 2020.

Attachment I: Applicant's GeoTech Report

Attachment J: Map Showing Slopes

Attachment K: Referral Comments from Lane County and LRFPD

Attachment M: Public Comments Received

Attachment O: Wetland Delineation Report

Attachment P: Applicant's Engineer's addressing Mia Nelson Comments and Steep Slope Letter and Re-aligned street map, submitted on November 4, 2020

Attachment Q: Utility Plan – Sheet 2, Dated December 28, 2020

ATTACHMENT A

Land Use Permit Application

___Site Plan Review	___Lot Line Adjustment	___Partition	X 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# 19011421C5000 Lot # [redacted] 16

Map# _____ Lot # _____

Map# _____ Lot # _____

Street Address (if applicable): _____

Area of Request (square feet/acres): 3.26 acres

Existing Zoning: R-1 Single-Family Residential

Existing Use of the Property: Vacant, unimproved

Proposed Use of the Property Single-family residential

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 plans11X17 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. Drainage Plan b. _____

c. _____ d. _____

e. _____ f. _____

✓ 5. Filing Fee: Amount Due: $3316.00

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): Baben Investment Group LLC Phone: 541 513 7623

Address: 195 Melton Rd

City/State/Zip: Creswell OR 97426

Signature: Matt Baben

APPLICANT, If Different

Name (print): Matthew Baben Phone: 541 513 7623

Company/Organization:

Address: 84598 Drew Lane

City/State/Zip: Pleasant Hill OR 97455

Signature: Matt Baben

E-mail (if applicable): speedylue@gmail.com

APPLICANTS REPRESENTATIVE, if applicable

Name (print): Phone:

Company/Organization:

Address:

City/State/Zip:

E-mail (if applicable):

For City Use. Application Number

Date Submitted: 6/25/19 Received by: Jared Cobb Fee Receipt #

Date Application Complete: Reviewed by:

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

Jared Cobb

From: The Bahens <speedylu@gmail.com>
Sent: Tuesday, June 25, 2019 11:37 AM
To: Jared Cobb
Subject: Applicant statement

In regards to the subdivision application sent to the city on behalf of Bahen Investment Group. I would like to take this opportunity to state the reasons for this application.
As I have been building houses in Lowell for the last two years, I have noted that the demand for affordable, quality, family homes is far outstripping the supply. I've had several families express interest in our second phase of construction on the Sunset View Ranch Subdivision since our first phase of houses were pre sold-out at the end of last summer. This application would add 17 more lots to the subdivision and allow the city to move forward with eventually connecting Wetleau road to the south and Hyland lane to the north with the right of ways we are providing.
I believe that the approval of the second phase of this subdivision will positively affect the economy, tax base, school support and overall public interest for the city of Lowell.

Thank you
Matthew Bahen
Bahen Investment Group

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.

(1)

CASCADE TITLE CO.

TITLE NO. 0301200 GL
ESCROW NO. EU17-1171
TAX ACCT. NO.
MAP/TAX LOT NO.

Lane County Clerk
Lane County Deeds and Records
2017-022776
$47.00
01648773201700227760010010
05/11/2017 02:28:38 PM
RPR-DEED Cnt=1 Stn=41 CASHIER 02
$5.00 $11.00 $21.00 $10.00

GRANTOR
WILLIAM D. GEORGE and RUTH M. GEORGE
GRANTEE
BAHEN INVESTMENT GROUP LLC
195 MELTON ROAD
CRESWELL, OR 97426

Until a change is requested
all tax statements shall be
sent to the following address:
SAME AS GRANTEE

After recording return to:
CASCADE TITLE CO.
811 WILLAMETTE
EUGENE, OR 97401

WARRANTY DEED – STATUTORY FORM

WILLIAM D. GEORGE and RUTH M. GEORGE, as tenants by the entirety, Grantor,

conveys and warrants to

BAHEN INVESTMENT GROUP LLC, an Oregon Limited Liability Company, Grantee,

the following described real property free of encumbrances except as specifically set forth herein:

Lots 4, 5, 6, 7, 10, 11, 12 and 16, SUNSET VIEW RANCH, as platted and recorded July 26, 2006, Reception No. 2006-053104, Lane County Deeds and Records, in Lane County, Oregon.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Except the following encumbrances: Covenants, Conditions, Restrictions and Easements of record.

Grantor does hereby assign, and Grantee does hereby assume, any and all special declarant rights held by Grantor in connection with the property conveyed by this deed.

The true consideration for this conveyance is $415,000.00.

Dated this 8 day of May, 2017.

William D. George
WILLIAM D. GEORGE

Ruth M George
RUTH M. GEORGE

State of Oregon
County of Lane

This instrument was acknowledged before me on May 8, 2017 by WILLIAM D. GEORGE and RUTH M. GEORGE.

OFFICIAL STAMP
GINA LEE LARSON
NOTARY PUBLIC - OREGON
COMMISSION NO. 946018
MY COMMISSION EXPIRES JANUARY 5, 2020

(Notary Public for Oregon)
My commission expires 1/5/20

WRD

AFTER RECORDING RETURN TO:
CASCADE TITLE COMPANY
811 WILLAMETTE ST., EUGENE, OR 97401
E017-11716L
CT0301200

(2)

After recording, return to:
Rebecca S. Schwarzkopf
Arnold Gallagher P.C.
800 Willamette Street, Suite 800
Eugene, Oregon 97401

Lane County Clerk
Lane County Deeds and Records 2017-022777

$102.00

01648775201700227770120120

05/11/2017 02:28:38 PM

RPR-DTR Cnt=1 Stn=41 CASHIER 02
$60.00 $10.00 $11.00 $21.00

TRUST DEED

This Trust Deed is made on MAY 8, 2017, between, **BAHEN INVESTMENT GROUP LLC**, an Oregon limited liability company, with an address of 195 Melton Road, Creswell, Oregon 97426 ("Grantor"), **CASCADE TITLE CO.**, with an address of 811 Willamette Street, Eugene, Oregon 97401 ("Trustee") and **WILLIAM D. GEORGE** and **RUTH M. GEORGE**,** with an address of PO Box 305, Lowell, OR 97452 ("Beneficiary"), for the purpose of securing performance of each agreement of the Grantor contained herein, and payment of the sum Three Hundred Seventy-Two Thousand Five Hundred and No/100th Dollars ($372,500.00), according to the terms of a Promissory Note made by the Grantor, payable to the Beneficiary, of an even date herewith, with the final payment, if not sooner paid, to be due and payable on the third anniversary of the date of such Promissory Note (the "Note").

The Grantor irrevocably grants, bargains, sells and conveys to the Trustee in trust, with power of sale, together with all and singular the tenements, hereditaments and appurtenances, and all other rights belonging thereto or in any other way now or hereafter appertaining to, and the rents, issues, and profits thereof, and all fixtures now or hereafter attached to or used in connection with the property located in Lowell, Lane County, Oregon, consisting of eight vacant lots (collectively, the "Trust Property"), more particularly described as:

> Lots 4, 5, 6, 7, 10, 11, 12 and 16 of SUNSET VIEW RANCH, as platted and recorded July 26, 2006, Reception No. 2006-053104, Lane County Oregon Deeds and Records, in Lane County, Oregon.

To protect the security of this Trust Deed, Grantor covenants and agrees as follows:

ARTICLE I
Particular Covenants and Warranties of Grantor

1.01 Obligations Secured. This Trust Deed secures the payment of all indebtedness, including but not limited to principal and interest, and the performance of all covenants and obligations of Grantor, under the Note, this Trust Deed, and all other agreements executed at any time in connection therewith, as they may be amended or supplemented from time to time (collectively, the "Loan Documents"), whether such payment and performance is now due or becomes due in the future (collectively, the "Obligations"). This Trust Deed also secures the payment and performance of any and all other indebtedness and obligations of Grantor to Beneficiary, present and future, of any nature whatsoever, whether direct or indirect, primary or

** AS TENANTS BY THE ENTIRETY

secondary, joint or several, liquidated or unliquidated, whenever and however arising, and whether or not reflected in a written agreement or instrument.

1.02 Payment and Performance. Grantor shall pay and perform all of the Obligations when due.

1.03 Property. Grantor warrants that it holds good and merchantable title to the Trust Property, free and clear of all liens, encumbrances, reservations, restrictions, easements, and adverse claims except those specifically listed in **Exhibit A** attached hereto. Grantor covenants that it shall forever defend Beneficiary's and Trustee's rights hereunder and the priority of this Trust Deed against the adverse claims and demands of all persons.

1.04 Further Assurances. Grantor shall execute, acknowledge, and deliver, from time to time, such further instruments as Beneficiary or Trustee may require to accomplish the purposes of this Trust Deed.

1.05 Compliance with Laws. Grantor represents, warrants, and covenants that the Trust Property is currently in material compliance with, and will at all times be maintained in material compliance with, all applicable laws, and all covenants, conditions, easements, and restrictions affecting the Trust Property.

1.06 Environmental Compliance

(1) For purposes of this section, "Environmental Law" means any federal, state, or local law or regulation now or hereafter at any time pertaining to Hazardous Substances or environmental conditions. For purposes of this section, "Hazardous Substance" includes, without limitation, any substance that is or becomes classified as hazardous, dangerous, or toxic under any federal, state, or local law or regulation.

(2) Grantor will not use, generate, store, release, discharge, or dispose of on, under, or about the Trust Property or the groundwater thereof any Hazardous Substance and will not permit any other person to do so, except for storage and use of such Hazardous Substances (and in such quantities) as may commonly be used for household purposes, provided such substances are stored and used in compliance with all Environmental Laws. Grantor will keep and maintain the Trust Property in compliance with all Environmental Laws.

(3) Beneficiary shall have the right to participate in any legal proceeding initiated with respect to the Trust Property in connection with any Environmental Law and have its attorney fees paid by Grantor. If, at any time, Beneficiary has reason to believe that any violation of this Section 1.06 has occurred or is threatened, Beneficiary may require Grantor to obtain or may itself obtain, at Grantor's expense, an environmental assessment by a qualified environmental consultant. Grantor shall promptly provide to Beneficiary a complete copy of any environmental assessment obtained by Grantor.

(4) If any investigation, monitoring, containment, cleanup, or other remedial work of any kind is required on the Trust Property under any applicable Environmental Law or by any governmental agency or person in connection with a release of a Hazardous Substance, Grantor shall promptly complete all such work at Grantor's expense.

(5) All representations, warranties, and covenants in this Section 1.06 shall survive the satisfaction of the Obligations, the reconveyance of the Trust Property, or the foreclosure of this Trust Deed.

1.07 Liens. Grantor shall pay when due all claims for labor and materials that, if unpaid, might become a lien on the Trust Property. Grantor shall not create or suffer any lien, security interest, or encumbrance on the Trust Property that may be prior to, or on a parity with, the lien of this Trust Deed, except as specifically provided in **Exhibit A** attached hereto.

1.08 Impositions. Grantor shall pay when due all taxes, assessments, fees, and other governmental and nongovernmental charges of every nature now or hereafter assessed against any part of the Trust Property or on the lien or estate of Beneficiary or Trustee therein (collectively, the "Impositions"); provided, however, that if by law any such Imposition may be paid in installments, Grantor may pay the same in installments, together with accrued interest on the unpaid balance thereof, as they become due. Grantor shall furnish to Beneficiary promptly on request satisfactory evidence of the payment of all Impositions. Beneficiary is hereby authorized to request and receive from the responsible governmental and nongovernmental personnel written statements with respect to the accrual and payment of all Impositions.

1.09 Insurance

(1) *Property and Other Insurance.* Grantor shall obtain and maintain during the term of this Trust Deed all-risk property insurance (including flood insurance unless waived by Beneficiary) in an amount not less than the full remaining principal balance of the Note or, if greater, in the amount of the full replacement cost of the Trust Property, without reduction for coinsurance.

(2) *Insurance Companies and Policies.* All insurance shall be written by a company or companies reasonably acceptable to Beneficiary; shall contain a long-form mortgagee endorsement in favor of Beneficiary with proceeds under any policy payable to Beneficiary, subject to the terms of this Trust Deed; shall require 10 days' prior written notice to Beneficiary of cancellation or reduction in coverage; and shall contain a waiver of subrogation. Grantor shall furnish to Beneficiary on request a certificate evidencing the coverage required under this Trust Deed and a copy of each policy.

1.10 Actions to Protect Trust Property; Reserves

(1) If Grantor shall fail to pay, perform, or observe any of its covenants hereunder, Beneficiary may, but shall not be required to, take such actions as it deems appropriate to remedy such failure. All sums, including reasonable attorney fees, so expended, or expended to maintain the lien or estate of this Trust Deed or its priority, or to protect or enforce any of Beneficiary's rights

hereunder, shall be a lien on the Trust Property, shall be secured by this Trust Deed, and shall be paid by Grantor on demand, together with interest thereon at the rate provided in the Note. No payment or other action by Beneficiary under this section shall impair any other right or remedy available to Beneficiary or constitute a waiver of any Event of Default. The following notice is provided pursuant to ORS 746.201(1):

WARNING:

Unless Grantor provides Beneficiary with evidence of the insurance coverage required by the Note, Beneficiary may purchase insurance at Grantor's expense to protect Beneficiary's interest. This insurance may, but need not, also protect Grantor's interest. If the Trust Property becomes damaged, the coverage Beneficiary purchases may not pay any claim Grantor makes or any claim made against Grantor. Grantor may later cancel this coverage by providing evidence that Grantor has obtained property coverage elsewhere.

Grantor is responsible for the cost of any insurance purchased by Beneficiary. The cost of this insurance may be added to Grantor's loan balance. If the cost is added to Grantor's loan balance, the interest rate on the underlying loan will apply to this added amount. The effective date of coverage may be the date Grantor's prior coverage lapsed or the date Grantor failed to provide proof of coverage.

The coverage Beneficiary purchases may be considerably more expensive than insurance Grantor can obtain on its own and may not satisfy any need for property damage coverage or any mandatory liability insurance requirements imposed by applicable law.

(2) If Grantor fails to promptly perform any of its obligations under Section 1.08 or 1.09 of this Trust Deed, Beneficiary may require Grantor thereafter to pay and maintain with Beneficiary reserves for payment of such obligations. In that event, Grantor shall pay to Beneficiary each month a sum estimated by Beneficiary to be sufficient to produce, at least 20 days before due, an amount equal to the Impositions, insurance premiums, or both. If the sums so paid are insufficient to satisfy any Imposition or insurance premium when due, Grantor shall pay any deficiency to Beneficiary on demand. The reserves may be commingled with Beneficiary's other funds. Beneficiary shall credit to Grantor interest on such reserves at the minimum rate required from time to time by applicable law. Beneficiary shall not hold the reserves in trust for Grantor, and Beneficiary shall not be the agent of Grantor for payment of the taxes and assessments required to be paid by Grantor.

1.14 Estoppel Certificates. Grantor, within five days of request therefor, shall furnish Trustee and Beneficiary a written statement, duly acknowledged, of the amount of the Obligations secured by this Trust Deed and whether any offsets or defenses exist against the Obligations secured hereby. If Grantor shall fail to furnish such a statement within the time allowed, Beneficiary shall be authorized, as Grantor's attorney-in-fact, to execute and deliver such statement.

ARTICLE II
Condemnation

Should the Trust Property or any part thereof be taken or damaged by reason of any public improvement, eminent domain, condemnation proceeding, or in any other manner (a

"Condemnation"), or should Grantor receive any notice or other information regarding such action, Grantor shall give immediate notice thereof to Beneficiary. Beneficiary shall be entitled to all compensation, awards, and other payments or relief therefor ("Condemnation Proceeds") up to the full amount of the Obligations, and may appear in any Condemnation proceeding in its own or Grantor's name and make any settlement in connection therewith. Beneficiary may, at its option, apply the Condemnation Proceeds to the Obligations or release the proceeds to Grantor, on such terms and conditions as Beneficiary elects, for restoration of the Trust Property.

ARTICLE III
Development Cooperation

3.01 Cooperation. Provided that no Event of Default exists under the terms of this Trust Deed or the Note beyond any applicable cure period, Beneficiary will release any single lot included in the Trust Property (a "Lot") by executing a request for partial reconveyance and delivering such request for partial reconveyance and any other document required by the Trust Deed to the Trustee, within ten (10) days after written request from Grantor and payment to Grantor of the sum of $35,000 as consideration for any such single lot release.

3.02 Lot Release. Provided that no Event of Default exists under the terms of this Trust Deed or the Note beyond any applicable cure period, Beneficiary will subordinate the lien of this Trust Deed on any one Lot to any construction loan obtained by Grantor secured by such Lot for construction on such Lot by executing a commercially reasonable subordination agreement for the Lot the subject of the construction within ten (10) days after written request by Grantor.

3.03 Subordination. Provided that no Event of Default exists under the terms of this Trust Deed or the Note beyond any applicable cure period, Beneficiary will subordinate the lien of this Trust Deed to any construction loan obtained by Grantor for construction on the Trust Property by executing a commercially reasonable subordination agreement within ten (10) days after written request by Grantor.

ARTICLE IV
Security Agreement and Fixture Filing

To secure the Obligations, Grantor grants to Beneficiary a security interest in the following: (1) the Trust Property to the extent that it is not encumbered by this Trust Deed as a first priority real estate lien; (2) all personal property that is used or will be used in the construction of any Improvements on the Trust Property; (3) all personal property that is now or will hereafter be placed on or in the Trust Property or Improvements; (4) all personal property that is derived from or used in connection with the use, occupancy, or enjoyment of the Trust Property; (5) all property defined in Oregon's version of the Uniform Commercial Code as accounts, equipment, fixtures, and general intangibles, to the extent that they are used at, or arise in connection with the ownership, maintenance, or operation of, the Trust Property; (6) all causes of action, claims, security deposits, advance rental payments, utility deposits, refunds of fees or deposits paid to any governmental authority, refunds of taxes, and refunds of insurance premiums relating to the Trust Property; (7) all options, agreements, and contracts for the purchase or sale of all or any part or parts of the Trust

Property or interests in the Trust Property; and (8) all present and future attachments, accessions, amendments, replacements, additions, products, and proceeds of every nature of the foregoing. This Trust Deed constitutes a security agreement and a "fixture filing" under the Oregon's version of the Uniform Commercial Code regarding secured transactions. The mailing address of Grantor and the address of Beneficiary from which information may be obtained are set forth on the first page of this Trust Deed. The organizational identification number of Grantor is 468846-98. Grantor authorizes Beneficiary to file with all applicable governmental entities financing statements and continuation statements evidencing the security interest granted herein.

ARTICLE V
Events of Default; Remedies

5.01 Events of Default. Each of the following shall constitute an Event of Default under this Trust Deed and under each of the other Loan Documents:

(1) *Nonpayment.* Failure of Grantor to pay any of the Obligations on or within 15 days after written notice from Beneficiary of such failure.

(2) *Breach of Other Covenants.* Failure of Grantor to perform or abide by any other covenant included in the Obligations, including without limitation those covenants in the Note, in this Trust Deed, or in any other Loan Document.

(3) *Misinformation.* Falsity when made in any material respect of any representation, warranty, or information furnished by Grantor or its agents to Beneficiary in connection with any of the Obligations.

(4) *Other Default.* The occurrence of any other event of default under the Note, the Loan Documents, or any of the other Obligations.

(5) *Other Indebtedness, Secondary Financing.* Grantor's default beyond applicable grace periods in the payment of any other indebtedness secured by all or any portion of the Trust Property.

(6) *Bankruptcy.* The occurrence of any of the following with respect to Grantor, any guarantor of the Obligations, or the then-owner of the Trust Property: (a) appointment of a receiver, liquidator, or trustee for any such party or any of its properties; (b) adjudication as a bankrupt or insolvent; (c) filing of any petition by or against any such party under any state or federal bankruptcy, reorganization, moratorium, or insolvency law; (d) inability to pay debts when due; or (e) any general assignment for the benefit of creditors.

(7) *Transfer; Due-on-Sale.* Any sale, gift, conveyance, contract for conveyance, transfer, or assignment of the Trust Property, or any part thereof or any interest therein, either voluntarily, involuntarily, or by the operation of law (a "Transfer"), without Beneficiary's prior written consent. Any lease for a term in excess of three years, and any lease containing an option to purchase the Trust Property or any portion thereof, shall be a Transfer. The provisions of this subsection (7) shall apply to each and every Transfer, regardless of whether or not Beneficiary has consented or waived

its rights in connection with any previous Transfer. Beneficiary may attach such conditions to its consent under this subsection (7) as Beneficiary may determine in its sole discretion, including without limitation an increase in the interest rate or the payment of transfer or assumption fees, and the payment of administrative and legal fees and costs incurred by Beneficiary.

5.02 Remedies in Case of Default. If an Event of Default shall occur, Beneficiary or Trustee, as the case may be, may exercise any one or more of the following rights and remedies, in addition to any other remedies that may be available by law, in equity, or otherwise:

(1) *Acceleration.* Beneficiary may declare all or any portion of the Obligations immediately due and payable.

(2) *Receiver.* Beneficiary may have a receiver appointed for the Trust Property. Beneficiary will be entitled to the appointment of a receiver as a matter of right whether or not the apparent value of the Trust Property exceeds the amount of the indebtedness secured by this Trust Deed. Employment by Trustee or Beneficiary will not disqualify a person from serving as a receiver. Grantor consents to the appointment of a receiver at Beneficiary's option and waives any and all defenses to such an appointment.

(3) *Possession.* Beneficiary may, either through a receiver or as lender-in-possession, enter and take possession of all or any part of the Trust Property and use, operate, manage, and control it as Beneficiary deems appropriate in its sole discretion. On request after an Event of Default, Grantor will peacefully relinquish possession and control of the Trust Property to Beneficiary or any receiver appointed under this Trust Deed.

(4) *Power of Sale.* Beneficiary may direct Trustee, and Trustee will be empowered, to foreclose this Trust Deed by advertisement and sale under applicable law.

(5) *Foreclosure.* Beneficiary may judicially foreclose this Trust Deed and obtain a judgment foreclosing Grantor's interest in all or any part of the Property and giving Beneficiary the right to collect any deficiency remaining due after disposition of the Trust Property.

(6) *Fixtures and Personal Property.* With respect to any Improvements and other personal property subject to a security interest in favor of Beneficiary, Beneficiary may exercise any and all of the rights and remedies of a secured party under the Uniform Commercial Code.

(7) *Abandonment.* Beneficiary may abandon all or any portion of the Trust Property by written notice to Grantor.

5.03 Sale. In any sale under this Trust Deed or pursuant to any judgment, the Trust Property, to the extent permitted by law, may be sold as an entirety or in one or more parcels and in such order as Beneficiary may elect. The purchaser at any such sale shall take title to the Trust Property or the part thereof so sold, free and clear of the estate of Grantor, the purchaser being hereby discharged from all liability to see to the application of the purchase money. Any person, including Beneficiary, may purchase at any such sale. Beneficiary is hereby irrevocably appointed

Grantor's attorney-in-fact, with power of substitution, to make all appropriate transfers and deliveries of the Trust Property or any portions thereof so sold. Nevertheless, Grantor shall ratify and confirm any such sale or sales by executing and delivering to Beneficiary or to such purchaser or purchasers all such instruments requested by Beneficiary for such purpose.

5.04 Cumulative Remedies. All remedies under this Trust Deed are cumulative. Any election to pursue one remedy shall not preclude the exercise of any other remedy. No delay or omission in exercising any right or remedy shall impair the full exercise of that or any other right or remedy or constitute a waiver of any Event of Default.

5.05 Application of Proceeds. All proceeds from the exercise of the rights and remedies under this Article V shall be applied (1) to costs of exercising such rights and remedies; (2) to the Obligations, in such order as Beneficiary shall determine in its sole discretion; and (3) the surplus, if any, shall be paid to the clerk of the court in the case of a judicial foreclosure proceeding, otherwise to the person or persons legally entitled thereto.

5.06 Deficiency. No sale or other disposition of all or any part of the Trust Property pursuant to Section 5.02 will be deemed to relieve Grantor of any of the Obligations, except to the extent that the proceeds are applied to the payment of the Obligations. If the proceeds of a sale, a collection, or other realization of or on the Trust Property are insufficient to cover the costs and expenses of such realization and the payment in full of the Obligations, Grantor will remain liable for any deficiency to the fullest extent permitted by law.

5.07 Waiver of Stay, Extension, Moratorium, and Valuation Laws. To the fullest extent permitted by law, Grantor waives the benefit of any existing or future stay, extension, or moratorium law that may affect observance or performance of the provisions of this Trust Deed and any existing or future law providing for the valuation or appraisal of the Trust Property before any sale.

ARTICLE VI
General Provisions

6.01 Time Is of the Essence. Time is of the essence with respect to all covenants and obligations of Grantor under this Trust Deed.

6.02 Reconveyance by Trustee. At any time on the request of Beneficiary, payment of Trustee's fees, if any, and presentation of this Trust Deed, without affecting the liability of any person for payment of the Obligations, Trustee may reconvey, without warranty, all or any part of the Trust Property. The grantee in any reconveyance may be described as the "person or persons legally entitled thereto," and the recitals therein of any facts shall be conclusive proof of the truthfulness thereof.

6.03 Notice. Except as otherwise provided in this Trust Deed, all notices shall be in writing and may be delivered by hand, or mailed by first-class certified mail, return receipt requested, postage prepaid, and addressed to the appropriate party at its address set forth at the outset of this

Trust Deed. Any party may change its address for such notices from time to time by notice to the other parties. Notices given by mail in accordance with this paragraph shall be deemed to have been given on the date of mailing; notices given by hand shall be deemed to have been given when actually received.

6.04 Substitute Trustee. In the event of dissolution or resignation of Trustee, Beneficiary may substitute one or more trustees to execute the trust hereby created, and the new trustee(s) shall succeed to all the powers and duties of the prior trustee(s).

6.05 Trust Deed Binding on Successors and Assigns. This Trust Deed shall be binding on and inure to the benefit of the heirs, legatees, personal representatives, successors, and assigns of Grantor, Trustee, and Beneficiary.

6.06 Indemnity. Grantor shall, to the fullest extent allowed by law, hold Beneficiary and Trustee and, if either is a corporation or other legal entity, their respective directors, officers, employees, agents, and attorneys harmless from and indemnify them for any and all claims, demands, damages, liabilities, and expenses, including but not limited to attorney fees and court costs, arising out of or in connection with Trustee's or Beneficiary's interests and rights under this Trust Deed.

6.07 Expenses and Attorney Fees. Grantor shall pay all fees and expenses, taxes, assessments, and charges arising out of or in connection with the execution, delivery, and recording of this Trust Deed. If Beneficiary refers any of the Obligations to an attorney for collection or seeks legal advice following a default; if Beneficiary is the prevailing party in any litigation instituted in connection with any of the Obligations; or if Beneficiary or any other person initiates any judicial or nonjudicial action, suit, or proceeding in connection with any of the Obligations or the Trust Property (including but not limited to bankruptcy, eminent domain, or probate proceedings), and a lawyer is employed by Beneficiary to appear in any such proceeding or seek relief from a judicial or statutory stay, or otherwise enforce Beneficiary's interests, then in any such event Grantor shall pay reasonable attorney fees, costs, and expenses incurred by Beneficiary in connection with the above mentioned events and any appeals. Such amounts shall be secured by this Trust Deed and, if not paid on demand, shall bear interest at the rate specified in the Note.

6.08 Applicable Law. This Trust Deed shall be governed by the laws of the state of Oregon.

6.09 *Person* Defined. As used in this Trust Deed, the word *person* shall mean any natural person, partnership, trust, corporation, or other legal entity of any nature.

6.10 Severability. If any provision of this Trust Deed shall be held to be invalid, illegal, or unenforceable, the other provisions of this Trust Deed shall not be affected.

6.11 Entire Agreement. This Trust Deed contains the entire agreement of the parties with respect to the Trust Property. No prior agreement or promise made by any party to this Trust Deed that is not contained herein shall be binding or valid.

6.12 Joint and Several Liability. If this Trust Deed is executed by two or more persons as Grantor, all of such persons shall be liable, jointly and severally, for payment of all sums and performance of all other covenants in this Trust Deed.

6.13 Standard for Discretion. If this Mortgage is silent on the standard for any consent, approval, determination, or similar discretionary action, the standard shall be sole and unfettered discretion as opposed to any standard of good faith, fairness, or reasonableness.

6.14 Rights of Prior Mortgagee. If all or any portion of the Trust Property is subject to a superior mortgage or trust deed specifically permitted in **Exhibit A**, the rights of Beneficiary with respect to insurance and condemnation proceeds, and all other rights granted under this Trust Deed that have also been granted to such a superior mortgagee or trust deed beneficiary, will be subject to the rights of the superior mortgagee or trust deed beneficiary. Grantor hereby authorizes all such superior mortgagees and beneficiaries, on satisfaction of the indebtedness secured by their mortgage or trust deed, to remit all remaining insurance or Condemnation proceeds and all other sums held by them to Beneficiary to be applied in accordance with this Trust Deed.

6.15 Commercial Property. Grantor covenants and warrants that the Trust Property is used by Grantor exclusively for business and commercial purposes. Grantor also covenants and warrants that the Trust Property is not now, and at no time in the future will be, occupied as the principal residence of Grantor, Grantor's spouse, or Grantor's minor or dependent child.

6.16 ORS 93.040 Warning. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the parties have caused this Trust Deed to be executed as of the day and year first above written.

BENEFICIARY:

William D. George

Ruth M. George

GRANTOR:

Bahen Investment Group LLC

By: Matthew A Bahen
Matthew Bahen, Member

STATE OF OREGON)
: ss.
County of Lane)

This instrument was acknowledged before me on May 11th, 2017, by Matthew Bahen, member of Bahen Investment Group LLC, an Oregon limited liability company, as his voluntary act and deed.

OFFICIAL SEAL
TAMARA A MC KINNEY
NOTARY PUBLIC - OREGON
COMMISSION NO. 479827
MY COMMISSION EXPIRES JULY 17, 2017

Notary Public for Oregon
My Commission Expires: 7-17-2017

STATE OF OREGON)
: ss.
County of Lane)

This instrument was acknowledged before me on May 8, 2017, by William D. George and Ruth M. George, as their voluntary act and deed.

OFFICIAL STAMP
GINA LEE LARSON
NOTARY PUBLIC - OREGON
COMMISSION NO. 946018
MY COMMISSION EXPIRES JANUARY 5, 2020

Notary Public for Oregon
My Commission Expires: 1/5/20

Exhibit A

Permitted Exceptions

Easements, notes, conditions and restrictions, as shown, set forth and/or delineated on the recorded Land Partition Plat No. 2003-P1708, recorded September 24, 2003, Reception No. 2003-093517, Lane County Deeds and Records.

Declaration of Maintenance and Access Agreement, including the terms and provisions thereof, as set forth in instrument recorded September 24, 2003, Reception No. 2003-093518, Lane County Deeds and Records.

Right-of-Way Easement Electric Line, including the terms and provisions thereof, granted the Lane Electric Cooperative, Inc., a cooperative association, by instrument recorded January 2, 2004, Reception No. 2004-000164, Lane County Deeds and Records. (Blanket Easement)

Easements, notes, conditions and restrictions shown, set forth and/or delineated on the recorded Plat of Sunset View Ranch, recorded July 26, 2006, Reception No. 2006-053104, Lane County Deeds and Records.

Declaration of Private Joint Access Easement and Maintenance Agreement, including the terms and provisions thereof, as set forth in instrument recorded July 26, 2006, Reception No. 2006-053105, Lane County Deeds and Records. (Lots 6 & 7)

Easements for utilities over and across the premises formerly included within the boundaries of 4th Street and Wetleau Drive now vacated, including the terms and provisions thereof, as reserved by City of Lowell, Oregon, Ordinance 249, and Vacating Order recorded April 27, 2006, Reception No. 2006-028868, Lane County Deeds and Records.

Covenants, conditions and restrictions, including the terms and provisions thereof (but omitting covenants or restrictions, if any, based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law) in Declaration recorded July 26, 2006, Reception No. 2006-053107, Lane County Deeds and Records.

Private Reciprocal Private Utility Easement and Maintenance Agreement, including the terms and provisions thereof, recorded August 3, 2015, Reception No. 2015-038691, Lane County Deeds and Records.

Declaration of Private Utility Easement and Maintenance Agreement, including the terms and provisions thereof, recorded January 26, 2017, Reception No. 2017-003743, Lane County Deeds and Records.

First Amendment to Declaration of Sunset View Ranch Protective Covenants, Conditions, and Restrictions, including the terms and provisions thereof, recorded May 2, 2017, Reception No. 2017-021394, Lane County Deeds and Records.

TENTATIVE PARTITION PLAN
FOR
BAHEN INVESTMENT GROUP
ASSESSOR'S MAP 19-01-14-21, TAX LOT 5000

RESPONSE TO ADDITIONAL REVIEW
DATED NOVEMBER 7, 2019

This "Additional Review Response" acts to address the incomplete items as listed on the Application for Subdivision letter from LCOG dated November 7, 2019:

Please include the following items for further review of your application:

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.

- *Thank you for your narrative dated October 10, 2019. Please indicate how the proposed land division specifically complies with the Development Standards of the underlying zoning district as contained in* ***Section 9.411(d).***

(d) Development Standards.

(1) Minimum lot area: 7,000 square feet.

All lots exceed the 7,000 minimum lot area.

(2) Minimum lot width: 60 feet, except for corner lots which must have no less than 65 feet on any property line adjoining a street

All lots exceed the minimum lot width of 60 feet on and 65 feet on corner lots.

(3) Minimum Lot Depth: 80 feet

All lots exceed the minimum lot depth of 80 feet.

(4) Maximum Building coverage including accessory buildings, provided that any patio structure used solely for open space and swimming pool not structurally covered shall not be counted as a structure for ascertaining coverage: 35%

The applicant understands that the maximum building coverage including accessory buildings, provided that any patio structure used solely for open space and swimming pool not structurally covered shall not be counted as a structure for ascertaining coverage: 35%

(5) Maximum building height – 2 stories, excluding basements/daylight basements, or 30 feet, whichever is lower. Accessory buildings are limited to one story.

The applicant understands that Maximum building height will be 2 stories, excluding basements/daylight basements, or 30 feet, whichever is lower and that accessory buildings are limited to one story.

(6) Yards (all measurements are from the property line unless indicated otherwise):

A. Front Yard

1. For Streets with constructed or planned curbs and/or sidewalks, 20 feet from the outside edge of the curb or sidewalk but no less than 10 feet from the property line.

2. Where no curbs or sidewalks are constructed or planned, 15 feet, except all garages, carports or other parking structures taking access from the front of the property shall be set back 20 feet.

B. Side yard setbacks:

1. Interior side yard: 5 feet for single story and 7 ½ feet for two story structures.

2. Alley side yard: 5 feet

3. Street side yard: For Streets with constructed or planned curbs and/or sidewalks, 15 feet from the outside edge of the curb or sidewalk but no less than 5 feet from the property line except for parking structures which shall be set back at least 20 feet from a curb or sidewalk. Where no curbs or sidewalks are constructed or planned, 10 feet, except all parking structures taking access from the side street shall be set back 20 feet.

C. Rear yard: 10 feet

The applicant understands the building standards (6) (A-C), which will be employed at the time building permits are applied for.

(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.

- Thank you for your narrative dated, October 10, 2019. The above criterion goes beyond ensuring connectivity alone, it relates to lot development siting standards, and whether or not the configuration and dimensions of the proposed lots may or may not preclude the ability of future lots to meet certain basic lot standards.

The proposed subdivision does not preclude development of adjacent properties in the vicinity. 4th Street and Wetleau Drive are dedicated rights-of-way per Sunset View Ranch (attached). The proposed subdivision acts only to infill Lot 16. No public streets are proposed per this application.

(d) The proposed street plan:

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

- Staff are including Lowell ' s Master Road Plan for your reference. Please provide a response to the criteria listed above.

4th Street and Wetleau Drive are dedicated rights-of-way per Sunset View Ranch (attached) and in conformance with the Master Road Plan.

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

- In your October 10, 2019 narrative, you indicate sidewalks are proposed to handle pedestrian traffic, however, Staff do not see the proposed sidewalks on the tentative plan. Please submit a revised tentative plan that includes sidewalks, and their width. **Please see LDC Section 9.411 Single Family Residential and Section 9.518 Sidewalks, for standards related to sidewalks. Additionally, please explain the pedestrian connection to the existing sidewalks along 4th Street.**

The attached tentative plan has been revised to depict the propose curb lines and sidewalks.

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

- Please refer to the Master Road Plan for reference and submit a revised response to the criteria above.

4th Street and Wetleau Drive are dedicated rights-of-way per Sunset View Ranch (attached) and will not preclude the orderly extension of streets and utilities to undeveloped and underdeveloped portions of the subject property or on surrounding properties.

SUNSET VIEW RANCH

A RE-PLAT OF A PORTION OF PARCEL 1 OF
LAND PARTITION PLAT NO. 2003-P1708
NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Ida Weathers

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 39941
FILING DATE: 26 JULY 2006 S

Division of Chief Deputy Clerk
Lane County Deeds and Records
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RPR-SUBD Cnt=1 Stn=8 CASHIER 01
$5.00 $180.00 $10.00 $11.00

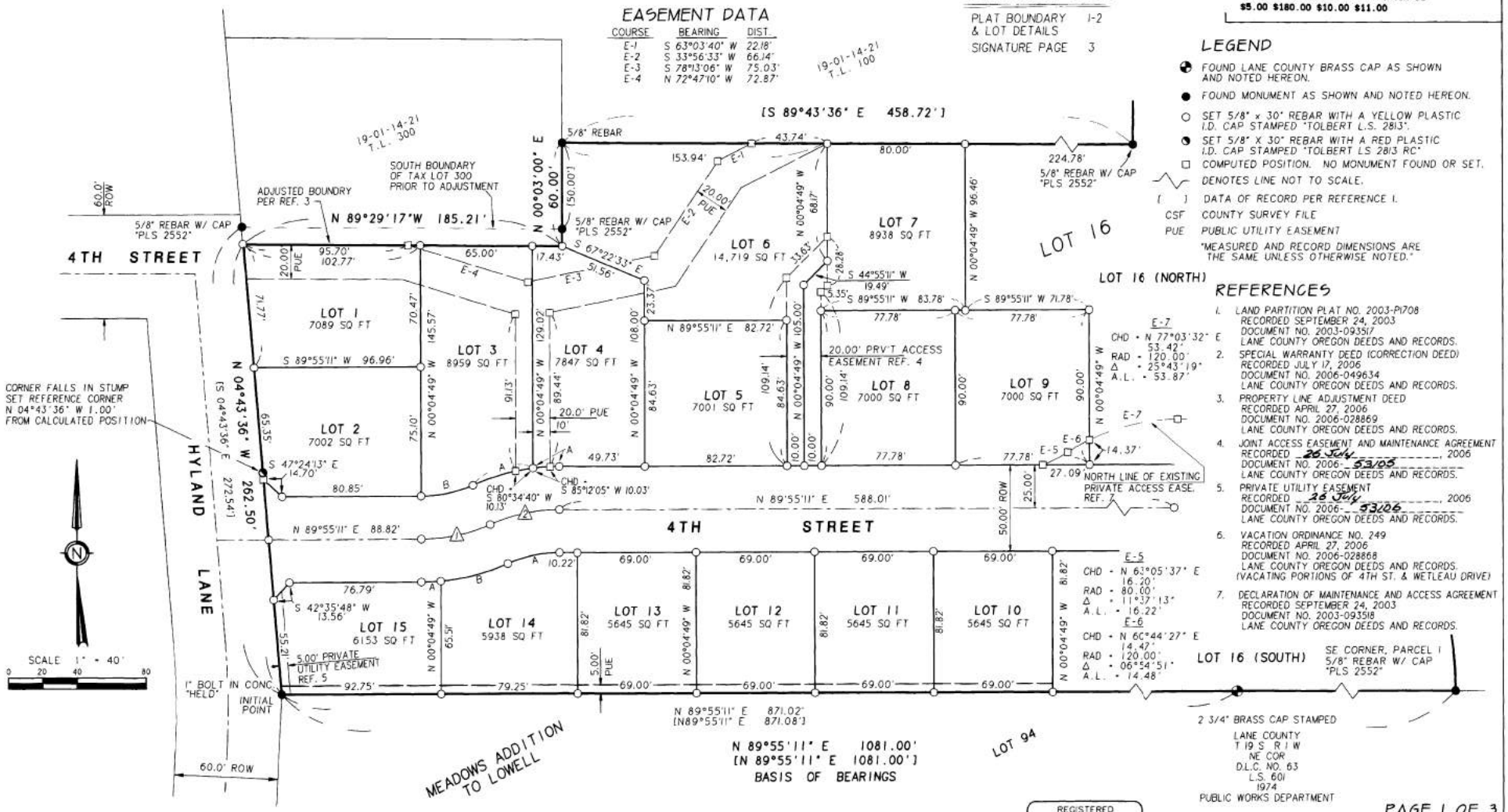
LOT DATA

LOT-STA.	BEARING	DIST.	RADIUS	AL.	DELTA
3-A	S 74°34'43" W	36.19'	125.00'	36.31'	16°38'43"
3-B	S 78°05'16" W	30.76'	75.00'	30.98'	23°39'50"
4-A	S 86°24'38" W	15.30'	125.00'	15.31'	07°01'07"
14-A	S 78°05'16" W	30.76'	75.00'	30.98'	23°39'50"
14-B	S 75°30'26" W	40.19'	125.00'	40.37'	18°30'10"
15-A	S 87°20'21" W	11.26'	125.00'	11.26'	05°09'40"

EASEMENT DATA

COURSE	BEARING	DIST.
E-1	S 63°03'40" W	22.18'
E-2	S 33°56'33" W	66.14'
E-3	S 78°13'06" W	75.03'
E-4	N 72°47'10" W	72.87'

PLAT INDEX PAGE



LEGEND

- FOUND LANE COUNTY BRASS CAP AS SHOWN AND NOTED HEREON.
- FOUND MONUMENT AS SHOWN AND NOTED HEREON.
- SET 5/8" x 30" REBAR WITH A YELLOW PLASTIC I.D. CAP STAMPED "TOLBERT L.S. 2813".
- SET 5/8" X 30" REBAR WITH A RED PLASTIC I.D. CAP STAMPED "TOLBERT LS 2813 RC"
- COMPUTED POSITION. NO MONUMENT FOUND OR SET.
- DENOTES LINE NOT TO SCALE.
- [ ] DATA OF RECORD PER REFERENCE 1.
- CSF COUNTY SURVEY FILE
- PUE PUBLIC UTILITY EASEMENT
- "MEASURED AND RECORD DIMENSIONS ARE THE SAME UNLESS OTHERWISE NOTED."

REFERENCES

1. LAND PARTITION PLAT NO. 2003-P1708 RECORDED SEPTEMBER 24, 2003 DOCUMENT NO. 2003-093517 LANE COUNTY OREGON DEEDS AND RECORDS.
2. SPECIAL WARRANTY DEED (CORRECTION DEED) RECORDED JULY 17, 2006 DOCUMENT NO. 2006-049634 LANE COUNTY OREGON DEEDS AND RECORDS.
3. PROPERTY LINE ADJUSTMENT DEED RECORDED APRIL 27, 2006 DOCUMENT NO. 2006-028869 LANE COUNTY OREGON DEEDS AND RECORDS.
4. JOINT ACCESS EASEMENT AND MAINTENANCE AGREEMENT RECORDED 26 July, 2006 DOCUMENT NO. 2006-53105 LANE COUNTY OREGON DEEDS AND RECORDS.
5. PRIVATE UTILITY EASEMENT RECORDED 26 July, 2006 DOCUMENT NO. 2006-53106 LANE COUNTY OREGON DEEDS AND RECORDS.
6. VACATION ORDINANCE NO. 249 RECORDED APRIL 27, 2006 DOCUMENT NO. 2006-028868 LANE COUNTY OREGON DEEDS AND RECORDS. (VACATING PORTIONS OF 4TH ST. & WETLEAU DRIVE)
7. DECLARATION OF MAINTENANCE AND ACCESS AGREEMENT RECORDED SEPTEMBER 24, 2003 DOCUMENT NO. 2003-093518 LANE COUNTY OREGON DEEDS AND RECORDS.

NOTE

THIS PROPERTY IS AFFECTED BY AN UNLOCATABLE RIGHT-OF-WAY EASEMENT IN FAVOR OF LANE ELECTRIC COOPERATIVE, RECORDED JANUARY 2, 2004 DOCUMENT NO. 2004-000164, LANE COUNTY OREGON DEEDS AND RECORDS.

STREET CENTERLINE DATA

CURVE	BEARING	DIST.	RADIUS	AL.	DELTA
1	N 78°05'16" E	41.01'	100.00'	41.30'	23°39'50"
2	N 78°05'16" E	41.00'	100.00'	41.30'	23°39'50"

OWNER/APPLICANT
WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JUNE 30, 1997
LLOYD L. TOLBERT 2813
EXPIRES: JUNE 30, 2008

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM

CADD FILE - GEORGE PLAT 1 OF 3.GXD DWN BY: LLT

PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

SUNSET VIEW RANCH

A RE-PLAT OF A PORTION OF PARCEL 1 OF
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NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Dda Weathers

LANE COUNTY SURVEYOR'S OFFICE
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LEGEND

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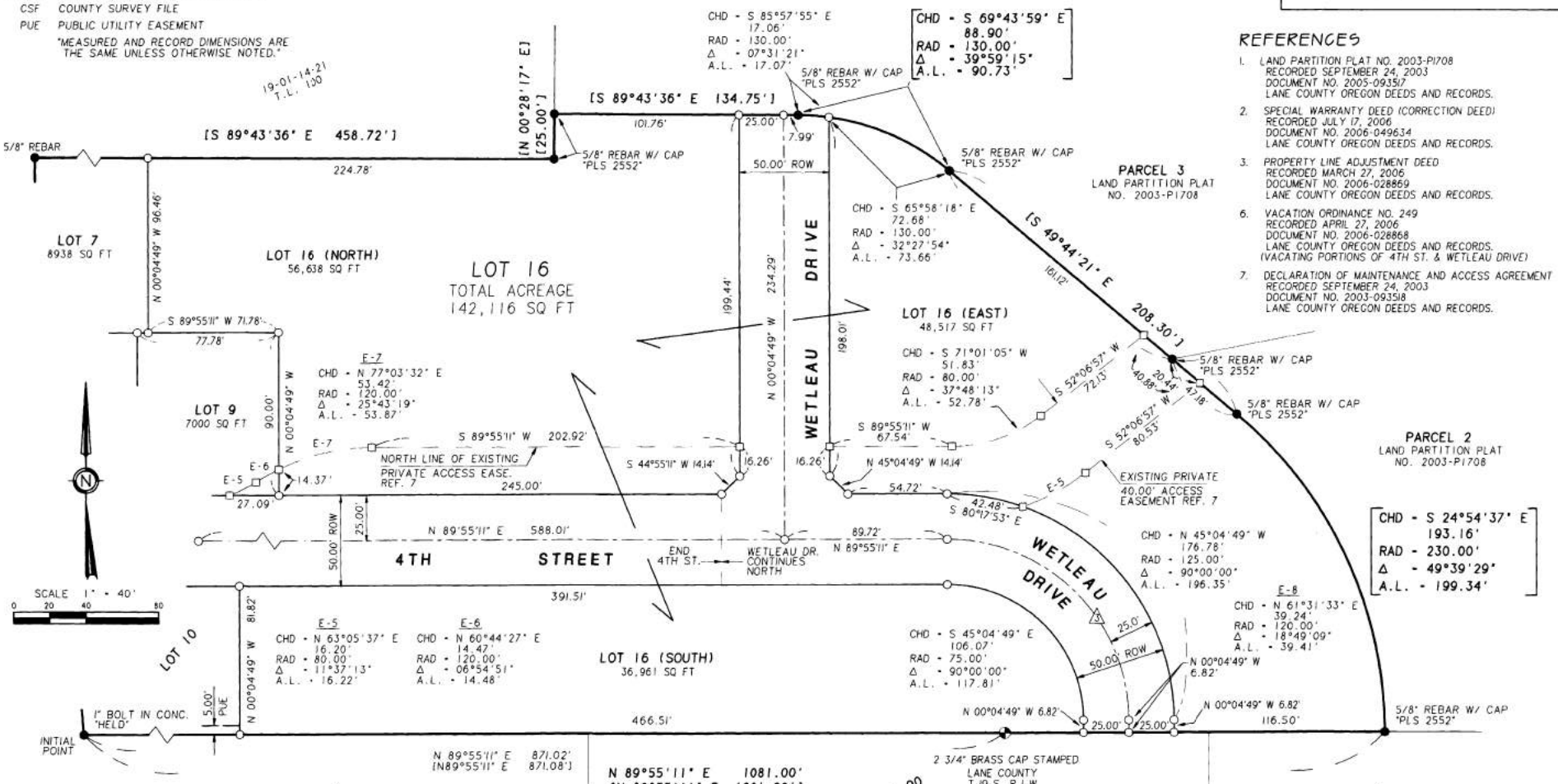
- CSF COUNTY SURVEY FILE
- PUE PUBLIC UTILITY EASEMENT

"MEASURED AND RECORD DIMENSIONS ARE THE SAME UNLESS OTHERWISE NOTED."

19-01-14-21 T.L. 130



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   LANE COUNTY OREGON DEEDS AND RECORDS.
2. SPECIAL WARRANTY DEED (CORRECTION DEED)
   RECORDED JULY 17, 2006
   DOCUMENT NO. 2006-049634
   LANE COUNTY OREGON DEEDS AND RECORDS.
3. PROPERTY LINE ADJUSTMENT DEED
   RECORDED MARCH 27, 2006
   DOCUMENT NO. 2006-028869
   LANE COUNTY OREGON DEEDS AND RECORDS.
6. VACATION ORDINANCE NO. 249
   RECORDED APRIL 27, 2006
   DOCUMENT NO. 2006-028868
   LANE COUNTY OREGON DEEDS AND RECORDS.
   (VACATING PORTIONS OF 4TH ST. & WETLEAU DRIVE)
7. DECLARATION OF MAINTENANCE AND ACCESS AGREEMENT
   RECORDED SEPTEMBER 24, 2003
   DOCUMENT NO. 2003-093518
   LANE COUNTY OREGON DEEDS AND RECORDS.

OWNER/APPLICANT

WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

NOTE

THIS PROPERTY IS AFFECTED BY AN UNLOCATABLE RIGHT-OF-WAY EASEMENT IN FAVOR OF LANE ELECTRIC COOPERATIVE, RECORDED JANUARY 2, 2004 DOCUMENT NO 2004-000164, LANE COUNTY OREGON DEEDS AND RECORDS.

MEADOWS ADDITION TO LOWELL

STREET CENTERLINE DATA

CURVE	BEARING	DIST.	RADIUS	AL.	DELTA
3	N 45°04'49" W	141.42'	100.00'	157.08'	90°00'00"

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JUNE 30, 1987
LLOYD L. TOLBERT 2813
EXPIRES: JUNE 30, 2008

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM

CADD FILE - GEORGE PLAT 2 OF 3.GXD DWN BY: LLT

PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

SUNSET VIEW RANCH

A RE-PLAT OF PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708
NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Deb Wathen

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 39941
FILING DATE: 26 JULY 2006 S

Division of Chief Deputy Clerk
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07/26/2006 09:17:34 AM
RPR-SUBD Cnt=1 Stn=8 CASHIER 01
$5.00 $180.00 $10.00 $11.00

OWNER/APPLICANT

WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

SURVEYOR'S CERTIFICATE

I, LLOYD L. TOLBERT, A REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE HEREON DESCRIBED PLAT, THAT THE INITIAL POINT IS REFERENCED BY A 1 INCH BOLT SET IN CONCRETE AS DESCRIBED AND SHOWN HEREON.

PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708 AS FILED SEPTEMBER 24, 3003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON.

EXCEPT:

BEGINNING AT THE NORTHWEST CORNER OF PARCEL 1, LAND PARTITION PLAT NO. 2003-P1708, RECORDED SEPTEMBER 24, 2003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON; THENCE ALONG THE NORTH BOUNDARY OF SAID PARCEL 1 SOUTH 89°29'17" EAST 186.05 FEET; THENCE LEAVING SAID NORTH BOUNDARY OF PARCEL 1 BEARING SOUTH 00°03'00" WEST 10.00 FEET; THENCE PARALLEL WITH SAID NORTH BOUNDARY OF PARCEL 1 NORTH 89°29'17" WEST 185.21 FEET TO THE EAST MARGIN OF HYLAND LANE; THENCE ALONG SAID EAST MARGIN OF HYLAND LANE NORTH 04 43'36" WEST 10.04 FEET TO THE POINT OF BEGINNING, ALL IN LANE COUNTY, OREGON.

LLOYD L. TOLBERT L.S. NO. 2813

APPROVALS:

CITY ADMINISTRATOR, CITY OF LOWELL — DATE 7/18/06

LANE COUNTY BOARD OF COMMISSIONERS — DATE 7/25/06

LANE COUNTY SURVEYOR — DATE 7/24/06

LANE COUNTY ASSESSOR — DATE 7-26-06

PUBLIC DEDICATIONS ACCEPTED BY THE CITY OF LOWELL:

MAYOR, CITY OF LOWELL — DATE 7/18/06

OWNERS DECLARATION

KNOWN ALL PEOPLE PRESENTS THAT THE GEORGE FAMILY TRUST IS THE OWNER OF THE LAND HEREON DESCRIBED AND DID CAUSE THE SAME TO BE SUBDIVIDED AS HEREON SHOWN ACCORDING TO THE PROVISIONS OF THE OREGON REVISED STATUTES, CHAPTER 92, DOES DEDICATE TO THE PUBLIC FOREVER ALL STREETS AND PUBLIC UTILITY EASEMENTS AS SHOWN HEREON AND DOES CREATE A 5.0' PRIVATE UTILITY EASEMENT ACROSS LOT 15 FOR THE BENEFIT OF THAT CERTAIN TRACT OF LAND DESCRIBED IN A QUITCLAIM DEED RECORDED JANUARY 15, 1998, DOCUMENT NO. 98-02693, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON AS SHOWN AND REFERENCED HEREON, A 20.0' PRIVATE ACCESS EASEMENT AND JOINT MAINTENANCE AGREEMENT ACROSS LOTS 6 AND 7 FOR THE BENEFIT OF LOTS 6 AND 7 AS SHOWN AND REFERENCED HEREON AND ~~A 40.0' PRIVATE ACCESS EASEMENT AND JOINT MAINTENANCE AGREEMENT FOR THE BENEFIT OF PARCELS 2 AND 3 OF LAND PARTITION PLAT NO. 2003-P1708 RECORDED SEPTEMBER 24, 2003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON~~ L.T. AS SHOWN AND REFERENCED HEREON.

WILLIAM D. GEORGE, MEMBER
GEORGE FAMILY, LLC

NARRATIVE

THIS SURVEY WAS MADE AT THE REQUEST OF THE OWNER TO SUBDIVIDE A PORTION OF PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708. THE SUBDIVISION WAS GRANTED APPROVAL PER CITY OF LOWELL PLANNING ACTION FILE NO. LU 05-009. MONUMENTS FOUND WERE FOUND TO REFLECT THEIR RECORD POSITIONS PER SAID LAND PARTITION PLAT. WITH THE EXTERIOR BOUNDARIES SO DEFINED, THE PROPERTY WAS THEN SUBDIVIDED AT THE DIRECTION OF THE OWNER, AND IN ACCORDANCE WITH THE PRELIMINARY PLAN.

THIS SURVEY ALSO REFLECTS THE ADJUSTMENT OF THE COMMON BOUNDARY BETWEEN SAID PARCEL 1 AND TAX LOT 300 AS DESCRIBED IN REFERENCE 3 AND APPROVED PER CITY OF LOWELL PLANNING ACTION FILE NO. LU 06-007.

REGISTERED
PROFESSIONAL
LAND SURVEYOR
OREGON
JUNE 30, 1997
LLOYD L. TOLBERT
2813
EXPIRES: JUNE 30, 2008

ACKNOWLEDGMENT

STATE OF OREGON)
)SS
COUNTY OF LANE)

THERE APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR THE SAID STATE AND COUNTY, THE HEREON NAMED WILLIAM D. GEORGE ACTING IN HIS CAPACITY AS MEMBER OF GEORGE FAMILY LLC, KNOWN TO ME OR PROVED BY SATISFACTORY EVIDENCE TO BE THE SAME PERSON WHOM EXECUTED THE DECLARATION HEREON SHOWN, AND ACKNOWLEDGED THE SAME TO BE HIS VOLUNTARY DEED, IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL.

OFFICIAL SEAL
BONNIE L HOSKINSON-WIEBE
NOTARY PUBLIC - OREGON
COMMISSION NO. 396046
MY COMMISSION EXPIRES SEPT. 7, 2009

SUBSCRIBED AND SWORN TO BEFORE ME THIS 17 DAY OF July 2006.

Bonnie L. Hoskinson-Wiebe
NOTARY PUBLIC FOR OREGON
MY COMMISSION EXPIRES: Sept. 7, 2009

PROTECTIVE COVENANTS, CONDITIONS AND RESTRICTIONS
RECORDED 26 July, 2006
DOCUMENT NO. 2006-53107
LANE COUNTY OREGON DEEDS & RECORDS
CONCURRENCES: LCODR #2006-5308 & 2006-5309

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM
CADD FILE - GEORGE PLAT.GXD DWN BY: LLT

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

75

TENTATIVE SUBDIVISION PLAN
SUNSET HILLS

NE 1/4, NW 1/4, SECTION 14, T. 19 S., R. 1 W., W.M.
ASSESSOR'S MAP 19-01-14-21, TAX LOT 5000
LOWELL, LANE COUNTY, OREGON
OCTOBER 10, 2019

OWNER/APPLICANT
BAHEN INVESTMENT GROUP, LLC
195 MELTON RD
CRESWELL, OR 97426

LOT AREA
142,119 SQ. FT. / 3.26 ACRES

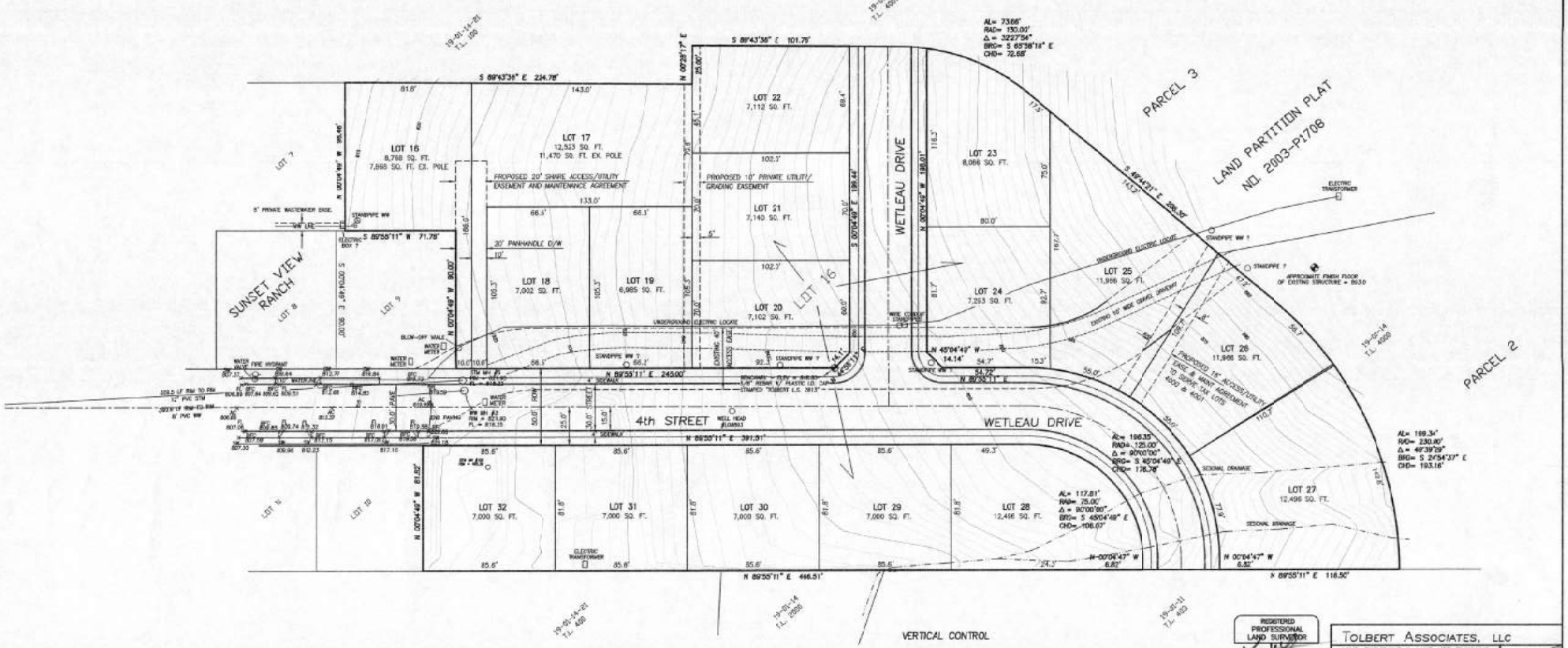
ZONING
R1 – SINGLE FAMILY RESIDENTIAL

SURVEYOR
LLOYD L. TOLBERT, LS
TOLBERT ASSOCIATES, LLC
P.O. BOX 22603
EUGENE, OR 97402
541-359-8426

ENGINEER
DENNIS J. BOEGER, PE, CWRE
BOEGER & ASSOCIATES, LLC
P.O. BOX 21623
EUGENE, OR 97402
541-302-4996

SCALE 1" = 30'
0 15 30 60

VICINITY MAP
NOT TO SCALE



VERTICAL CONTROL

ELEVATIONS ARE BASED ON LANE COUNTY BENCHMARK, LCOM 1177, ELEVATION 742.20 (NGVD29) – LOCATED AT THE INTERSECTION OF PENGRA ROAD AND JASPER-LOWELL ROAD.

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 30, 1977
LLOYD L. TOLBERT
2813
EXPIRES: JUNE 30, 2020

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 22603
EUGENE, OREGON 97402
(541) 359-8426
WWW.TOLBERTASSOCIATES.COM
CADD FILE--1485TENT.DWG DWN BY: LLT

ATTACHMENT B

OWNER/APPLICANT

BAHEN INVESTMENT GROUP, LLC
195 MELTON RD
CRESWELL, OR 97426

LOT AREA

142,116 SQ. FT. / 3.26 ACRES

ZONING

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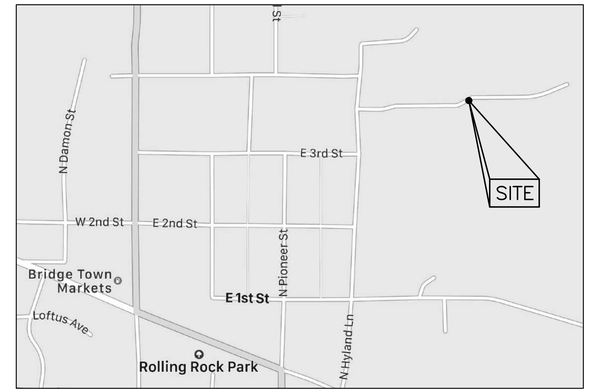
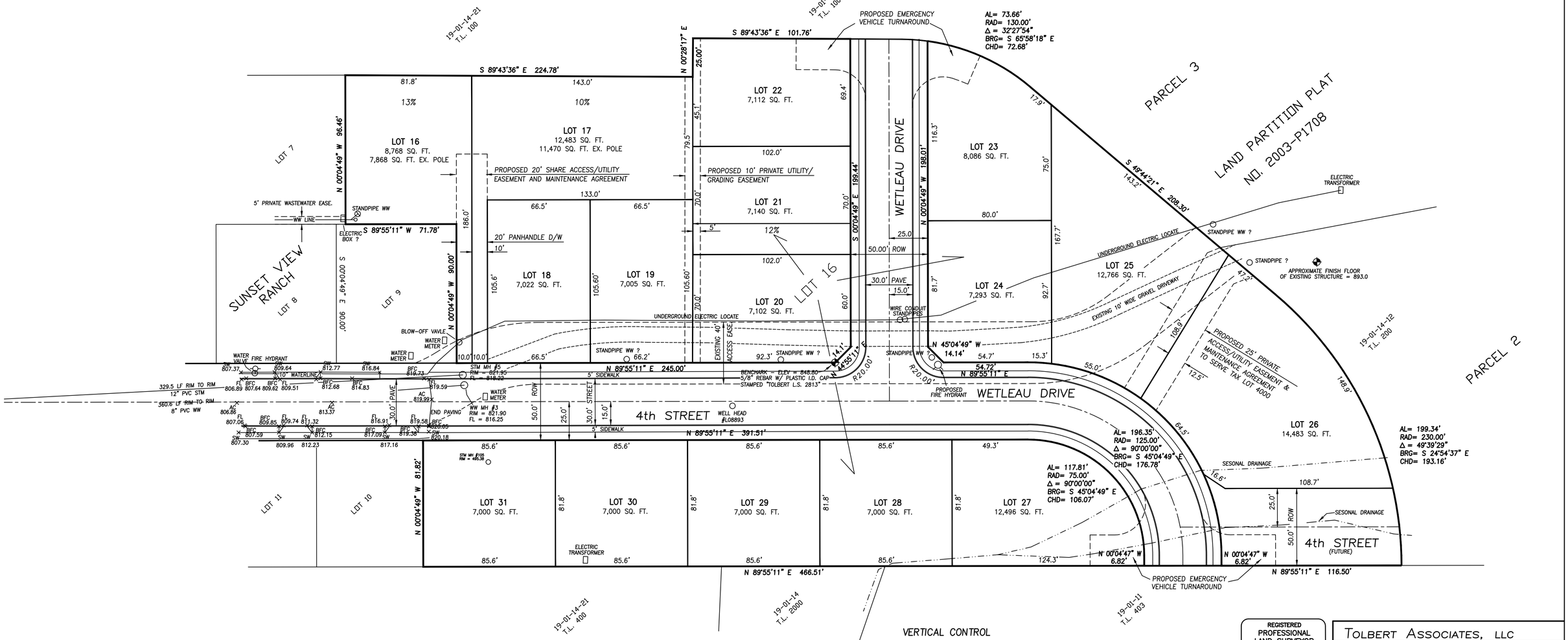
TENTATIVE SUBDIVISION PLAN
SUNSET HILLS

NE 1/4, NW 1/4, SECTION 14, T. 19 S., R. 1 W., W.M.
ASSESSOR'S MAP 19–01–14–21, TAX LOT 5000
LOWELL, LANE COUNTY, OREGON
REVISED DECEMBER 3, 2020

SCALE 1" = 30'
0 15 30 60



VICINITY MAP
NOT TO SCALE



VERTICAL CONTROL

ELEVATIONS ARE BASED ON LANE COUNTY BENCHMARK, LCCM 1177, ELEVATION 742.20 (NGVD29) – LOCATED AT THE INTERSECTION OF PENGRA ROAD AND JASPER–LOWELL ROAD.

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 30, 1997
LLOYD L. TOLBERT
2813
EXPIRES: JUNE 30, 2022

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 22603
EUGENE, OREGON 97402
(541) 359–8426
WWW.TOLBERTASSOCIATES.COM

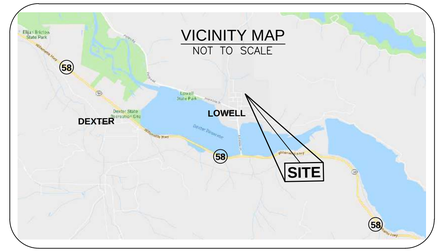
CADD FILE–1485TENT.DWG DWN BY: LLT

ATT

ATTACHMENT C

SUNSET HILLS
RESIDENTIAL SUBDIVISION

SITE DEVELOPMENT, GRADING, ROAD AND UTILITY EXTENSION



GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THESE PLANS. THE PROJECT SPECIFICATIONS AND THE APPLICABLE REQUIREMENTS OF THE CURRENT EDITION OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE CURRENT EDITION OF THE OREGON PLUMBING SPECIALTY CODE AND REQUIREMENTS OF THE CITY OF LOWELL PUBLIC WORKS CONSTRUCTION STANDARDS.

2. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS. ALL PERMITS LICENSE AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES FOR THE EXECUTION AND COMPLETION OF WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING ALL WORK.

4. IF REQUIRED BY THE CITY A TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLAN TO THE CITY OF LOWELL FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.

5. CONTRACTOR SHALL MAINTAIN ALL UTILITIES TO EXISTING HOMES AT ALL TIMES DURING CONSTRUCTION.

6. REQUESTS BY THE CONTRACTOR FOR CHANGES SHALL BE APPROVED BY THE ENGINEER AND THE CITY IN WRITING PRIOR TO IMPLEMENTATION.

7. ANY DAMAGE TO THE PRIVATE STREETS OR DRIVEWAYS THAT IS INCURRED DURING THE CONSTRUCTION PROCESS WILL NEED TO BE REPAIRED BY THE DEVELOPER. ALL REPAIRS TO STREET AND DRIVEWAY STRUCTURE AND PAVING MATERIAL WILL BE IN LIKE KIND AND TO LIKE BEFORE CONDITIONS. ANY REPAIR EXCEEDING THEE CONDITIONS WILL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR THE PROJECT.

8. THE CITY'S MUNICIPAL CODE LIMITS THE OPERATING HOURS FOR DEVELOPMENT PROJECTS WITHIN CITY LIMITS BY REGULATING NOISE AND TIMING OF CONSTRUCTION ACTIVITY ON PUBLIC AND PRIVATE SITES. THE CITY'S CONSTRUCTION PERMITTING PROCESS ALSO REQUIRES DEVELOPERS TO MONITOR AND MITIGATE DUST AND DEBRIS SUCH THAT IT DOES NOT POSE A NUISANCE OR HAZARD TO ADJACENT PROPERTIES, OR GETS WASHED INTO THE STORMWATER SYSTEM. FINALLY, THE DEVELOPER WILL BE RESPONSIBLE FOR ENSURING THAT ACCESS TO, FROM, AND WITHIN THE GOLDEN OAKS MANUFACTURED HOME PARK IS APPROPRIATELY MAINTAINED DURING SITE CONSTRUCTION TO ENSURE THAT RESIDENTS CAN COME AND GO FROM THEIR DRIVEWAYS, AND EMERGENCY VEHICLES CAN QUICKLY REACH ALL PARTS OF THE SITE. ADDITIONALLY, THE DEVELOPER WILL NEED TO RESTRICT THE CONSTRUCTION IMPACTS TO THE PROJECT AREA UNLESS EXPRESS, WRITTEN PERMISSION IS GRANTED BY ADJACENT PROPERTY OWNERS FOR ACCESS ACROSS A THIRD-PARTY PROPERTY.

CONCRETE

1. THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO INSURE THE CONCRETE IS NOT DAMAGED DUE TO WEATHER, VANDALISM, TRAFFIC OR OTHER PROBLEMS.

2. THIS PROJECT SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT REQUIREMENTS SUCH AS INCORPORATION OF DESIGN CRITERIA FOR HANDICAP RAMPS, MAXIMUM PROFILE AND CROSS SECTION SLOPES FOR SIDEWALKS, UP GRADING EXISTING HANDICAP FACILITIES WHERE MAJOR CONSTRUCTION IS OCCURRING, AND BUILDING WARNING FOR OBJECTS IN SIDEWALK SUCH AS CURBING OR LANDSCAPING AROUND MAILBOXES

3. ALL CONCRETE PLACEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS LATEST APPLICABLE EDITIONS:

4. AMERICAN CONCRETE SOCIETY (ACI)
5. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
6. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
7. NATIONAL READY MIXED CONCRETE ASSOCIATION (NRMCA)
8. UNITED STATES OF AMERICA STANDARDS INSTITUTE (USASI)

9. FOR PLACEMENT OF CONCRETE WITHIN VEHICULAR TRAFFIC WAYS OR VEHICULAR MANEUVERING AREAS, CONCRETE SUB BASE AND BASE STANDARDS SHALL MEET THE REQUIREMENTS WITHIN THE "EARTHWORKS" AND "PAVING" SPECIFICATIONS SECTIONS OF THESE PLANS.

10. EXTERIOR CONCRETE FOR WALKS, SLABS, DRIVEWAYS, DRAINAGE STRUCTURES, AND GUTTERS, ETC. SHALL MEET THE REQUIRED BUILDING CODE SPECIFICATIONS.

CONCRETE COMPRESSIVE STRENGTH REQUIREMENTS (PSI)

CONCRETE USE	FIELD	LABORATORY
SIDEWALK RAMPS	3000	3450
DRIVEWAYS.	3500	4025

11. REINFORCEMENT PLACEMENT ALONG WITH FORM DIMENSIONS, GRADES, AND SLOPES SHALL BE VERIFIED PRIOR TO CONCRETE POUR. FORM WORK SHALL BE COASTED WITH A RELEASE AGENT. ALL CONCRETE WITH REINFORCEMENT SHALL BE MACHINE VIBRATED FOR PROPER CONSOLIDATION. CONCRETE SHALL TO BE "OVERWORKED" DURING PLACEMENT AND FINISHING. AT NO TIME WILL THE USE OF WATER BE ALLOWED TO AID IN THE FINISHED PROCESS. A "SURFACE RETARDER" SUCH AS CONFILM IS PERMITTED TO AID IN THE FINISHED IF NECESSARY.

12. EXPANSION JOINTS SHALL BE ½" ASPHALT SATURATED FIBERBOARD PLACED AROUND ALL PENETRATIONS AND EXISTING STRUCTURES. ALL CONTROL JOINTS SHALL HAVE A 2-PART POLYMER BASED BAULK APPLIED SUCH AS "POLYFLEX DS" OR EQUIVALENT. CAULK SHALL BE FLUSH WITH ABUTTING SURFACING

13. ALL CONCRETE SHALL HAVE A LIGHT BROOM FINISH APPLIED PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW. CURBS AND GUTTERS SHALL HAVE THE FINISHED APPLIED PARALLEL TO GETTER FLOWLINE. THE FINISH OF CONCRETE SLABS WITHIN VEHICULAR TRAVELLED WAYS SHALL CONFIRM TO ODOT, OR APPLICABLE CITY SPECIFICATIONS

14. CONTRACTION JOINT FOR WALKS SHALL BE HAND TROWELED JOINTS PLACED AT LENGTH TO WIDTH RATIO AND HAND TROWELED FOR CONCRETE SLABS.

PAVING

1. ALL CONCRETE PLACEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS LATEST APPLICABLE EDITIONS:

2. AMERICAN PAVING INSTITUTE (API)
3. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
4. OREGON DEPARTMENT OF TRANSPORTATION (ODOT)
5. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES IN FEDERAL HIGHWAY PROJECTS, FP-03

6. ASPHALT SHALL BE FORMULATED FOR THIS PROJECT IN ACCORDANCE WITH LEVEL I APPLICATION (LOW TRAFFIC AND LIMITED EXPOSURE TO TRUCKS) PER SECTION 744 OF THE 2015 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION AS ISSUED IN JANUARY 1, 2015. ASPHALT SHALL BE COMPACTED TO 92% (MAXIMUM DRY DENSITY) FOLLOWING ASTM D 2950 CRITERIA.

7. AGGREGATE SUBBASE AND BASE SHALL BE FORMULATED FOR THIS PROJECT PER SECTION 641 OF THE 2015 OREGON STANDARD SPECIFICATION FOR CONSTRUCTION AS ISSUED IN JANUARY 1, 2015. AGGREGATE SUBBASE AND BASE SHALL BE COMPACTED TO NO LESS THAN 95% (MAXIMUM DRY DENSITY) FOLLOWING ASTM D-1557 CRITERIA

EARTHWORK

1. WHERE THE CONTRACTOR IS UNABLE TO ACHIEVE SUB-GRADE COMPACTION AND DEFLECTION STANDARDS REQUIRED BY THE SPECIFICATIONS, AS DETERMINED BY FIELD INSPECTION AND TESTING, THE SUB-GRADE SURFACE SHALL BE LOWERED AT LEAST 6 INCHES, FABRIC SHALL BE PLACED, AND THE MATERIAL REMOVED SHALL BE REPLACED WITH 1"-0 CRUSHED ROCK AND COMPACTED ACCORDING TO THE SPECIFICATIONS . IF THE SUB-GRADE STILL DOES NOT MEET SPECIFICATIONS OVER-EXCAVATE TO A DEEPER SUBBASE DEPTH AS DIRECTED BY PROJECT ENGINEER AND REPEAT THE PROCESS UNTIL THE SUB-GRADE MEETS SPECIFICATIONS.

2. CLEAN SOIL (FREE OF ORGANICS) MAYBE USED ON SITE AS COMPACTED FILL MATERIAL FOR DRIVEWAYS, PADS .

3. COMPACTED FILL IN DRIVEWAY AND PAD AREAS MUST OBTAIN A SOIL COMPACTION TEST TO ASSURE IT IS CAPABLE OF SUPPORTING A MINIMUM OF 1,000 PSF.

4. CONTRACTOR SHALL BE AWARE IF PAVING IS NOT SCHEDULED OR DOES NOT OCCUR PRIOR TO OCTOBER 15TH, WET WEATHER PROVISIONS INCLUDING ADDITIONAL ROCK SUBSTRUCTURE AND GEOTEXTILE FABRIC SHALL BE USED. REFER TO STANDARD SPECIFICATION SECTION 301.1.01 AND THE TYPICAL CROSS SECTIONS CONTAINED HEREIN FOR DETAILS. ADDITIONAL PROVISIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.

SITE SAFETY

1. BOEGER & ASSOCIATES, LLC'S (B&A) SITE RESPONSIBILITIES ARE LIMITED SOLELY TO THE ACTIVITIES OF B&A AND B&A'S EMPLOYEES ON SITE. THESE RESPONSIBILITIES SHALL NOT BE INFERRED BY ANY PARTY TO MEAN THAT B&A HAS RESPONSIBILITY FOR SITE SAFETY. SAFETY IN, ON, OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE OF THE CONTRACTOR ALONE. THE CONTRACTOR'S METHODS OF WORK PERFORMANCE, SUPERINTENDENCE OF THE CONTRACTOR'S EMPLOYEE'S AND SEQUENCING OF CONSTRUCTION AREA ALSO THE SOLE AND EXCLUSIVE RESPONSIBLY OF THE CONTRACTOR ALONE

2. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.

SITE PREPARATION

1. ERECT AND MAINTAIN TEMPORARY LIGHTS, BARRICADES, CONSTRUCTION, AND WARNING SIGNS NECESSARY TO PROTECT THE GENERAL PUBLIC AND PRIVATE PROPERTY FROM DAMAGE, ALL IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.

2. THE CONTRACTOR SHALL VERIFY EACH EXISTING SANITARY AND STORM CONNECTION.

3. WORK SHALL BE LIMITED TO THE SITE UNLESS WRITTEN AGREEMENT FROM ADJOINING LAND OWNERS IS OBTAINED.

GRADING NOTES

1. THE DESIGN ENGINEER, OR THEIR APPROVED CONTACT, SHALL CONDUCT FIELD OBSERVATIONS AND TESTS DURING CONSTRUCTION TO VERIFY THE WORK QUALITY AND CONFORMATION TO THE SPECIFICATIONS AND RECOMMENDATIONS CONTAINED IN THE SOILS REPORT.

2. THE CONTRACTOR WILL BE BOUND BY THE CONDITIONS OF THE EROSION AND SEDIMENT CONTROL (ESC) PLANS FOR THE SITE. ALL EXISTING EROSION AND SEDIMENT CONTROL MUST BE INSPECTED, MAINTAINED, AND REPLACED AS NECESSARY PER THE ESC PLANS

3. FINISH GRADE ELEVATIONS AROUND THE HOME PADS ARE NOTED IN THE SITE PLAN AND SLOPE AT A MINIMUM .5% POSITIVE DRAINS AWAY FROM THE DWELLING TO THE ROAD. FOR HOME SITES LOCATED DOWNGRADE OF ROAD SECTIONS, GRADE THE HOME PAD TO THE DESIGNATED DRAINAGE LOCATION.

4. FINISH GRADE INDICATED IN PLANTING AREAS AND STORM FACILITIES ARE TO TOP OF TOPSOIL OR MOLDS. CONTRACTOR SHALL ACCOUNT FOR DEPTH OF TOPSOIL/MOLDS IN THESE LOCATIONS WHEN ESTABLISHING THEIR SITE GRADING.

UTILITIES

1. OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987). EXCAVATORS MUST NOTIFY ALL PERTINENT COMPANIES OR AGENCIES WITH UNDERGROUND UTILITIES IN THE PROJECT AREA AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS PRIOR TO COMMENCING EXCAVATION, SO UTILITIES MAY BE ACCURATELY LOCATED.

2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR SHALL VERIFY ELEVATIONS, PIPE SIZE AND MATERIAL TYPES OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF BOEGER AND ASSOCIATES LLC (ENGINEERS) 72 HOURS PRIOR TO STARTING CONSTRUCTION TO PREVENT GREAT ALIGNMENT CONFLICTS.

3. BEFORE BACKFILLING ANY SUBGRADE UTILITY IMPROVEMENTS CONTRACTED TO SURVEY AND RECORD MEASUREMENTS OF EXACT LOCATION AND DEPTH.

4. CONTRACTOR SHALL ADJUST ALL EXISTING OR NEW FLEXIBLE UTILITIES (WATER, GAS, TV, TELEPHONE, ELECTRIC, ETC.) TO CLEAR ANY EXISTING OR NEW GRAVITY DRAIN UTILITIES (STORM DRAIN, SANITARY SEWER, ETC.) IF CONFLICT OF OCCURS.

5. ALL PRIVATE WATER AND FIRE PRESSURE FITTINGS SHALL BE PROPERLY RESTRAINED WITH THRUST BLOCKS PER DETAIL.

6. ALL ROOF DRAINS AND BUILDING LATERALS SHALL HAVE A MINIMUM SLOPE OF 2% UNLESS NOTED OTHERWISE.

7. CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR GAS, ELECTRICAL, POWER AND TELEPHONE SERVICE.

8. MATERIALS, TRENCH EXCAVATION, PIPE LAYING AND BACKFILL EXCAVATION SHALL MEET THE REQUIREMENTS OF THE 2018 OREGON STANDARD SPECIFICATION FOR CONSTRUCTION SECTION 00405 "TRENCH EXCAVATION, BEDDING AND BACKFILL".

9. WHERE CONNECTING TO AN EXISTING PIPE, THE CONTRACTOR SHALL EXPOSE THE END OF THE EXISTING PIPE AND ALLOW THE ENGINEER TO VERIFY EXACT LOCATION AND ELEVATION BEFORE LAYING ANY NEW PIPE ON THAT SYSTEM.

10. CONTRACTOR IS REQUIRED TO NOTIFY UTILITIES OF OPEN TRENCHING FOR THE PROJECT TO ALLOW POSSIBLE COMMUNICATION CABLE INSTALLATION.

11. ALL WATER MAINS CROSSINGS SHALL CONFORM TO THE OREGON STATE HEALTH DEPARTMENT, CHAPTER 333. WATER MAINS SHALL CROSS OVER SANITARY SEWERS WITH A 18" MINIMUM CLEARANCE BETWEEN THE OUTSIDE DIAMETERS OF THE PIPES WITH ALL PIPE JOINTS EQUIDISTANT FROM CROSSING. HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS IN PARALLEL INSTALLATIONS SHALL BE 10'. MAINTAIN 12" MINIMUM VERTICAL DISTANCE FOR ALL OTHER UTILITY CROSSING AND 12" HORIZONTAL PARALLEL DISTANCE IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A MINIMUM 10' HORIZONTAL SEPARATION. THE WATER MAINS SHALL BE LAID ON SEPARATE SHELF IN THE TRENCH 18" MINIMUM ABOVE THE SEWER

12. ALL WATER PIPE TO BE C-900 CL-150 PVC OR APPROVED EQUAL.

13. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH OREGON ADMINISTRATIVE RULES (OAR) CHAPTER 333, PUBLIC WATER SYSTEMS STANDARDS, LATEST EDITION, AND THE AMERICAN PUBLIC WORKS ASSOCIATION'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).

14. WATER MAINS AND SERVICE LINES SHALL BE DISINFECTED AND PRESSURE TESTED PER AWWA STANDARDS PRIOR TO ACCEPTANCE BY CITY OF LOWELL OR PLACED INTO SERVICE. PRESSURE TESTING SHALL BE HYDROSTATIC TESTING PER AWWA C 600 SECTION 4. THE LINES SHALL BE FLUSHED UNTIL AN ACCEPTABLE BACTERIOLOGICAL TEST IS ACHIEVED BY A LICENSED LABORATORY PER AWWA C 601.

CLEARING AND GRUBBING

1. EXCAVATE AND REMOVE TREE STUMPS AND ORGANICS WITHIN STREET, DRIVE WAYS OR HOME AREAS.

2. UNSUITABLE CLEARED OR GRUBBED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE THEIR SOLE RESPONSIBILITY FOR REMOVAL AND OFF SITE DISPOSAL.

DEMOLITION

1. THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING PAYMENTS CURBS AND OTHER SITE ELEMENTS WITHIN PROJECT AREA.

2. ALL MATERIAL DEMOLISHED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE THEIR SOLE RESPONSIBILITY FOR REMOVAL AND OFF SITE DISPOSAL.

PROJECT NAME & LOCATION
SUNSET HILLS RESIDENTIAL SUBDIVISION

LOWELL, OREGON

PROPERTY DESCRIPTION
TAX LOT 5000
TAX MAP T18S R12E SEC16

OWNER/ DEVELOPER
MATT BAHEN
BAHEN INVESTMENTS
541-513-7623
speedylu@gmail.com

ENGINEERING / PLANNING
BOEGER & ASSOCIATES LLC.
1011 S. BERTELSEN RD
EUGENE, OR 97402
OFFICE: (541) 302-4996
www.boegerandassociates.com

GEOTECHNICAL ENGINEER
KA ENGINEERING, INC
910515 WILLAMETTE ST.
COBURG OR, 970408
(541)684-9399

TOLBERT AND ASSOCIATES, LLC
P.O. BOX 22603
EUGENE, OR 97405
(541)359-8426
WWW.TOLBERTASSOCIATES.COM

CITY OF LOWELL CONTACT
JARED COBB
CITY ADMINISTRATOR
107 EAST 3RD STREET
LOWELL, OR 97452
541-937-2157

CITY ENGINEER
CIVIL WEST
MATT WADLINGTON, PE
541.982.4373
mwadlington@civilwest.net

SHEET INDEX

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph: 541.302.4996
Cell: 541.556.5779
Fax: 541.302.9668
dboeger@boegerandassociates.com

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 15, 1983
DAVID J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedylu@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
Date	6/5/2019
Dwg	314 SUNSET HILLS

Sheet
1 of 12

REVISIONS

No.	Description/Date	By

SITE PLAN

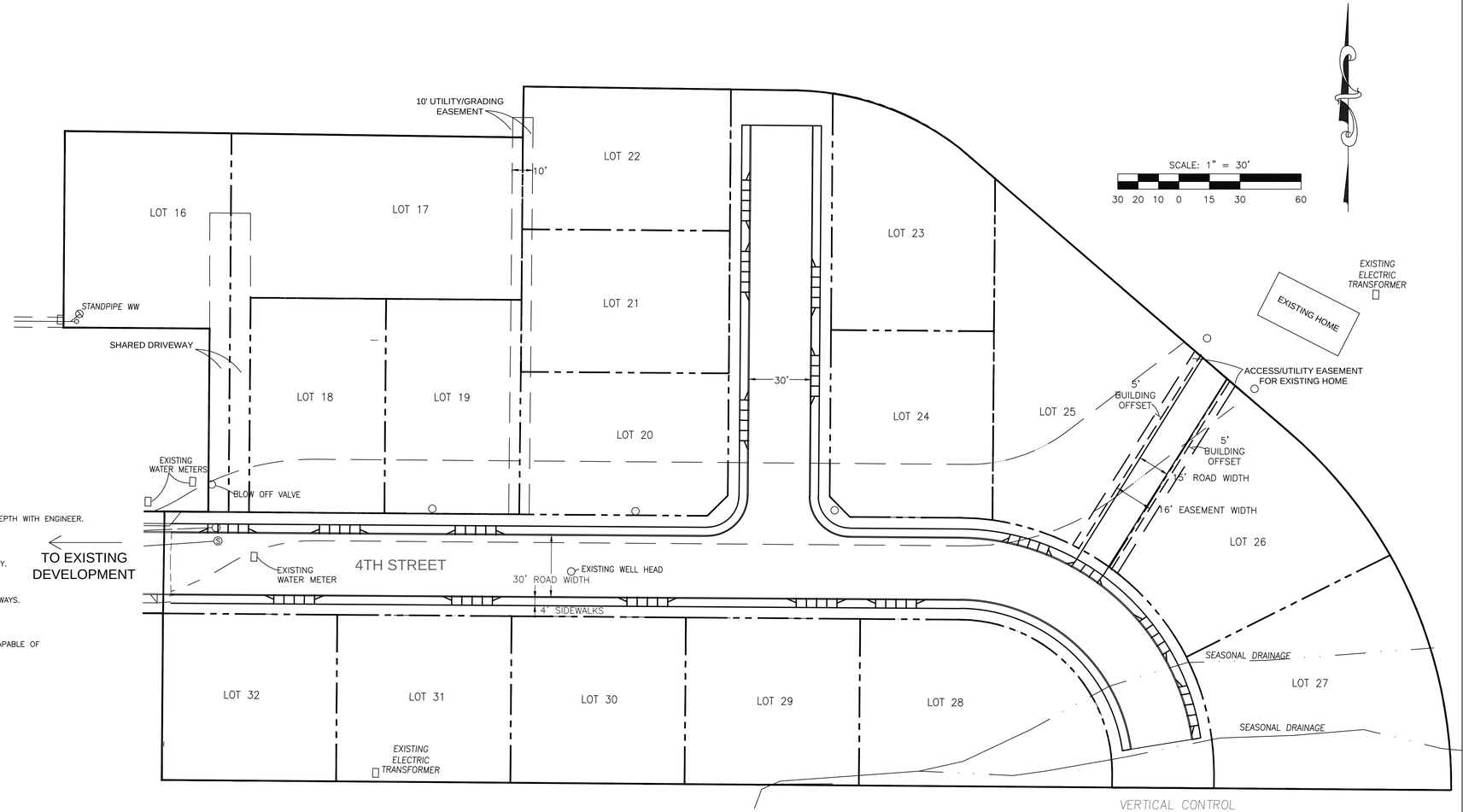
CONSTRUCTION NOTES
STORM
1 CONST STORMWATER DROP INLET PER DETAIL SHEET 7
5 CONST SOUTHERN DRAINAGE SWALE PER DETAIL SHEET 7
6 CONST STD DRAINAGE SWALE PER DETAIL SHEET 7
7 CONST 18" CMP CULVERT FOR FUTURE ROAD CROSSING AT SLOPES AND LENGTH AS SHOWN
9 CONST 8" PVC D-3034 STORMWATER LINE WITH 14 GA. GREEN TRACER WIRE AT SLOPES INDICATED
10 CONST 12" PVC D-3034 STORMWATER LINE WITH 14 GA. GREEN TRACER WIRE AT SLOPES INDICATED
11 CONST SIDEWALK AND CURB DRAIN DETAIL PER DETAIL SHEET 7
12 CONST CUSTOM CATCH BASIN CONFIGURATION PER DETAIL SHEET 7
13 REMOVE OR ABANDON EXISTING STORMWATER MANHOLE AND STORMWATER PIPE TO NEW CONNECTION POINT
14 CONST SWALE TO CONNECT WITH EXISTING DRAINAGE

WATER
20 CONST DUAL OR SINGLE WATER SERVICE LINE PER DETAIL SHEET 9
22 LOCATE END OR STUB OF EXISTING WATER LINE AND CONST DI TO C-900 ADAPTER FOR WATER LINE EXTENSION
23 CONST 10" DIA C900 PVC WATER LINE WITH 14 GA. BLUE TRACER WIRE
24 CONST FIRE HYDRANT ASSEMBLY PER DETAIL SHEET 9
25 CONST 10" DUCTILE IRON GATE VALVE IN VALVE BOX, PER DETAIL SHEET 9
26 CONST THRUST BLOCKING PER DETAIL SHEET 9
27 NOTIFY RESIDENTS 48 HOURS IN ADVANCE TO ANY WATER SHUT-OFFS NECESSARY FOR CONSTRUCTION OF NEW WATER LINE
28 CONST BLOW-OFF VALVE PER DETAIL SHEET 7
29 STUB WATER SERVICE LINES AT PROPERTY LINE AND MARK LOCATION WITH 2X4 WITH BLUE MARKINGS
30 MAINTAIN ALL UTILITIES TO EXISTING HOME DURING CONSTRUCTION
31 ABANDON EXISTING WELL PER OREGON WATER RESOURCE DEPARTMENT GUIDELINES
32 ABANDON AND REMOVE WATER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED.

SANITARY SEWER
40 CONST 4" DIA PVC D-3034 SEWER PIPE WITH 14 GA. GREEN TRACER WIRE AT S = 2.0% MIN. UNLESS NOTED
41 CONST 8" DIA PVC D-3034 WW SEWER PIPE WITH 14 GA. GREEN TRACER WIRE
42 CONST 4" PVC SCH 40 CLEANOUT, STUB CLEANOUT TO GRADE IN BOX WITH LID. SEE DETAIL SHEET 7
43 CONST 4" PVC D-3034 SEWER PIPE STUB AT PROPERTY LINE PER DETAIL SHEET 8
44 CONST SANITARY SEWER MANHOLE, PER DETAIL SHEET 8
45 CONST SEWER LATERAL CONNECTIONS PER DETAIL SHEET 8
46 CONNECT NEW SEWER LINE TO THE EXISTING SEWER LINE STUB
47 ABANDON AND REMOVE SEWER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED

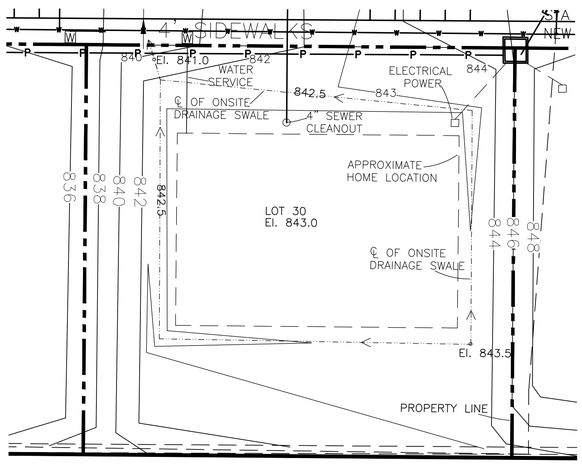
PAVING, GRADING & MISCELLANEOUS
60 POT-HOLE TO EXPOSE EXISTING SEWER, STORM OR WATER LINES, CONFIRM PIPE DIAMETER,PIPE MATERIAL AND DEPTH WITH ENGINEER.
61 CLEAR & GRUB AREAS OF ORGANICS
62 CLEAN SOIL (FREE OF ORGANICS) MAYBE USED ON SITE AS COMPACTED FILL MATERIAL FOR DRIVEWAYS, PADS .
63 EXCAVATE AND REMOVE TREE STUMPS AND ORGANICS WITHIN SPACES, DRIVE WAYS OR PAD AREAS.
64 SEE GEOTECHNICAL REPORT FOR HOME FOUNDATION PREPARATION AND TESTING REQUIREMENTS.
65 END AC STREET PAVING AFTER LAST DRIVEWAY. TRANSITION PROPOSED TO EXISTING GRADE AT PROPERTY BOUNDARY.
66 SEE EROSION CONTROL PLANS FOR SEDIMENT MANAGEMENT DURING MASS GRADING AND CONSTRUCTION ACTIVITIES.
67 CONST STABILIZED ROCK SLOPE FOR SLOPES WITH 1:1.5 OR STEEPER PER DETAIL SHEET 7
70 CONST AC STREET PAVING, BASE AND SUB-BASE MATERIAL PER CROSS SECTION DETAIL ON SHEET 2
71 CONST 3 1/2" PCC ON 8" OF ¾" MINUS CRUSHED ROCK OVER SERIES-N MRAFI GEOTEXTILE FABRIC FOR DRIVEWAYS.
72 SAWCUT AND REMOVE EXISTING AC PAVING TO CUTLINE, USE CLEAN EDGE FOR NEW ASPHALT PLACEMENT
73 ALL JOINTS TO BE TACK SEALED AND SANDED
74 BEGIN CONSTRUCTION OF NEW SIDEWALK AT THE EDGE OF EXISTING CONCRETE SIDEWALK
75 CONST SIDEWALKS AND DRIVEWAY SECTIONS PER DETAIL SHEET 7
76 COMPACTED FILL IN DRIVEWAY AND HOME PAD AREAS MUST OBTAIN A SOIL COMPACTION TEST TO ASSURE IT IS CAPABLE OF SUPPORTING THE LOADS PROPOSED. SEE GEOTECHNICAL REPORT FOR SPECIFICS
77 PLACE TRAFFIC BARRICADES AND APPROPRIATE SIGNAGE AT END OF ROAD SECTIONS
78 CONST V-GUTTER IN INTERSECTION PER DETAIL SHEET 8
79 CONST CURB & GUTTER PER DETAIL SHEET 7
80 CONST SIDEWALK ACCESS RAMPS PER DETAIL SHEET 7

POWER
100 INSTALL TRANSFORMER PER LANE ELECTRIC SPECIFICATIONS
101 INSTALL SERVICE JUNCTION VAULTS PER LANE ELECTRIC SPECIFICATIONS
102 CONST PRIMARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
103 CONST SECONDARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
104 ABANDON AND REMOVE EXISTING ELECTRICAL SERVICE TO HOME AFTER NEW SERVICE HAS BEEN ESTABLISHED

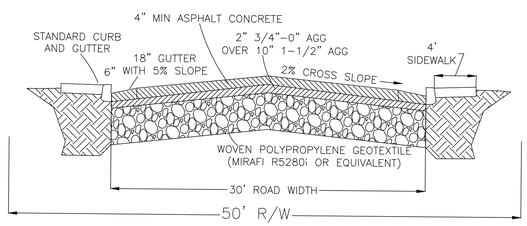


VERTICAL CONTROL

ELEVATIONS ARE BASED ON LANE COUNTY BENCHMARK, LCCM 1177, ELEVATION 742.20 (NGVD29) – LOCATED AT THE INTERSECTION OF PENGRA ROAD AND JASPER-LOWELL ROAD.



TYPICAL LOT DRAINAGE + LAYOUT
NTS



TYPICAL STREET SECTION DETAIL

LEGEND

- PROPERTY LINE (R)
- PRIVATE LOT LINE
- W NEW WATER LINE
- SS NEW SEWER LINE
- ST NEW STORM LINE
- NEW POWER VAULT
- P PRIMARY POWER CONDUIT
- SECONDARY POWER CONDUIT
- EXISTING ELECTRIC METER
- JUNCTION BOX
- WATER METER
- WATER VALVE
- 10+00 RIGHT OF WAY
- RIGHT OF WAY
- NEW SANITARY CLEANOUT
- NEW SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- SS EXISTING SANITARY MANHOLE
- ST EXISTING STORM
- W EXISTING WATER
- NEW GRAVEL
- NEW RETAINING WALL
- NEW WATER METER
- NEW STORM DRAIN INLET
- EXISTING WATER VALVE
- EXISTING CATCH BASIN
- NEW MINOR CONTOUR
- NEW MAJOR COUNTOUR
- 47 SPACE NUMBER

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road Ph:541.302.4096
P.O. Box 21623 Cell: 541.556.5779
Eugene, OR 97402 Fax: 541.302.4988
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 19, 1988 DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedylu@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
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Sheet 2 of 12

REVISIONS

No.	Description/Date	By

GRADING & DRAINAGE 1

FOR LOT 16 CONSTRUCTION NOTES, SEE SHEET 6.

END OF PAVING IMPROVEMENTS @ 2+17.1

Cut/Fill Summary

Name	Area	Cut	Fill	Net
FINISHED GRADE	179560 Sq. Ft.	*6685 Cu. Yd.	6559 Cu. Yd.	126 Cu. Yd.<CUT>

*CALCULATED USING .9 COMPACTION %

SCALE: 1" = 20'

20 15 10 5 0 10 20 40

LOT 17 El. 833.0
LOT 18 El. 832.0
LOT 19 El. 840.0
LOT 20 El. 844.5
LOT 21 El. 847.0
LOT 22 El. 847.5
LOT 23 EL. 861.0
LOT 24 El. 859.0
LOT 25 El. 869.0
LOT 26 El. 871.0
LOT 27 El. 869
LOT 28 El. 855.0
LOT 29 El. 849.0
LOT 30 El. 843.0
LOT 31 El. 834.0
LOT 32 El. 826.0

EXISTING HOME

STA 5+79.50 LT 15.0'
NEW CUSTOM STM DROP INLET #1

EX. ST MH 6+00

8" STM PVC LF=26.48' S=0.02'/FT

STA 5+79.50 RT 15.0'
NEW STM DROP INLET #2

30' ROAD WIDTH

4' SIDEWALKS

STA 8+41.05 LT. 15.0'
NEW STM DROP INLET #3

8" STM PVC LF=29.39' S=0.02'/FT

STA 8+41.05 RT 15.0'
NEW STM DROP INLET #4

STA 0+8.6 RT. 15.0'
NEW STM DROP INLET #6

STA 9+67.8 LT 15.0'
NEW STM DROP INLET #5

SEE DETAIL A

A= 266.75'
R= 113.3'
L= 187.6'

A= 266.6'
R= 85.3'
L= 140.6'

END PAVING AT STA 11+08.7

18" CMP LF = 52.0'
S = 0.02'/FT

CONSTRUCTION NOTES
STORM
1 CONST STORMWATER DROP INLET PER DETAIL SHEET 7
5 CONST SOUTHERN DRAINAGE SWALE PER DETAIL SHEET 7
6 CONST STD DRAINAGE SWALE PER DETAIL SHEET 7
7 CONST 18" CMP CULVERT FOR FUTURE ROAD CROSSING AT SLOPES AND LENGTH AS SHOWN
9 CONST 8" PVC D-3034 STORMWATER LINE WITH 8 GA. GREEN TRACER WIRE AT SLOPES INDICATED
10 CONST 12" PVC D-3034 STORMWATER LINE WITH 8 GA. GREEN TRACER WIRE AT SLOPES INDICATED
11 CONST SIDEWALK AND CURB DRAIN DETAIL PER DETAIL SHEET 7
12 CONST CUSTOM CATCH BASIN CONFIGURATION PER DETAIL SHEET 7
13 REMOVE OR ABANDON EXISTING STORMWATER MANHOLE AND STORMWATER PIPE TO NEW CONNECTION POINT.
14 CONST SWALE TO CONNECT WITH EXISTING DRAINAGE

PAVING, GRADING & MISCELLANEOUS
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62 CLEAN SOIL (FREE OF ORGANICS) MAYBE USED ON SITE AS COMPACTED FILL MATERIAL FOR DRIVEWAYS, PADS .
63 EXCAVATE AND REMOVE TREE STUMPS AND ORGANICS WITHIN SPACES, DRIVE WAYS OR PAD AREAS.
64 SEE GEOTECHNICAL REPORT FOR HOME FOUNDATION PREPARATION AND TESTING REQUIREMENTS.
65 END AC STREET PAVING AT STA SHOWN. TRANSITION PROPOSED TO EXISTING GRADE AT PROPERTY BOUNDARY.
66 SEE EROSION CONTROL PLANS FOR SEDIMENT MANAGEMENT DURING MASS GRADING AND CONSTRUCTION ACTIVITIES.
67 CONST STABILIZED ROCK SLOPE FOR SLOPES WITH 1:1.5 OR STEEPER PER DETAIL SHEET 7
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77 PLACE TRAFFIC BARRICADES AND APPROPRIATE SIGNAGE AT END OF ROAD SECTIONS
78 CONST V-GUTTER IN INTERSECTION PER DETAIL SHEET 8
79 CONST CURB & GUTTER PER DETAIL SHEET 7
80 CONST SIDEWALK ACCESS RAMPS PER DETAIL SHEET 7

LEGEND

PROPERTY LINE (P)	NEW GRAVEL
PRIVATE LOT LINE	RIGHT OF WAY
ST NEW STORM LINE	NEW RETAINING WALL
10+00 NEW ALIGNTMENT	NEW WATER SERVICE
TBSW TOP BACK OF SIDEWALK	NEW STORM DRAIN INLET
EAP EDGE OF ASPHALT PAVING	EXISTING WATER VALVE
MINOR CONTOUR	ST EXISTING STORM
MAJOR COUNTOUR	EXISTING CATCH BASIN
	47 SPACE NUMBER

NOTE:
SEASONAL DRAINAGE TO BE INTERCEPTED AND DIVERTED AROUND NE DEVELOPMENT DRAINAGE WILL CONTINUE TO USE ITS EXISTING DISCHARGE POINT.

Boeger & Associates, LLC
Civil and Environmental Engineering
B&A
1011 S. Bertelsen Road Ph:541.302.4096
P.O. Box 21623 Cell: 541.556.5779
Eugene, OR 97402 Fax: 541.302.4988
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER #16331 OREGON JULY 19, 1989 DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyluc@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
Date	6/5/2019
Dwg	314 SUNSET HILLS

Sheet
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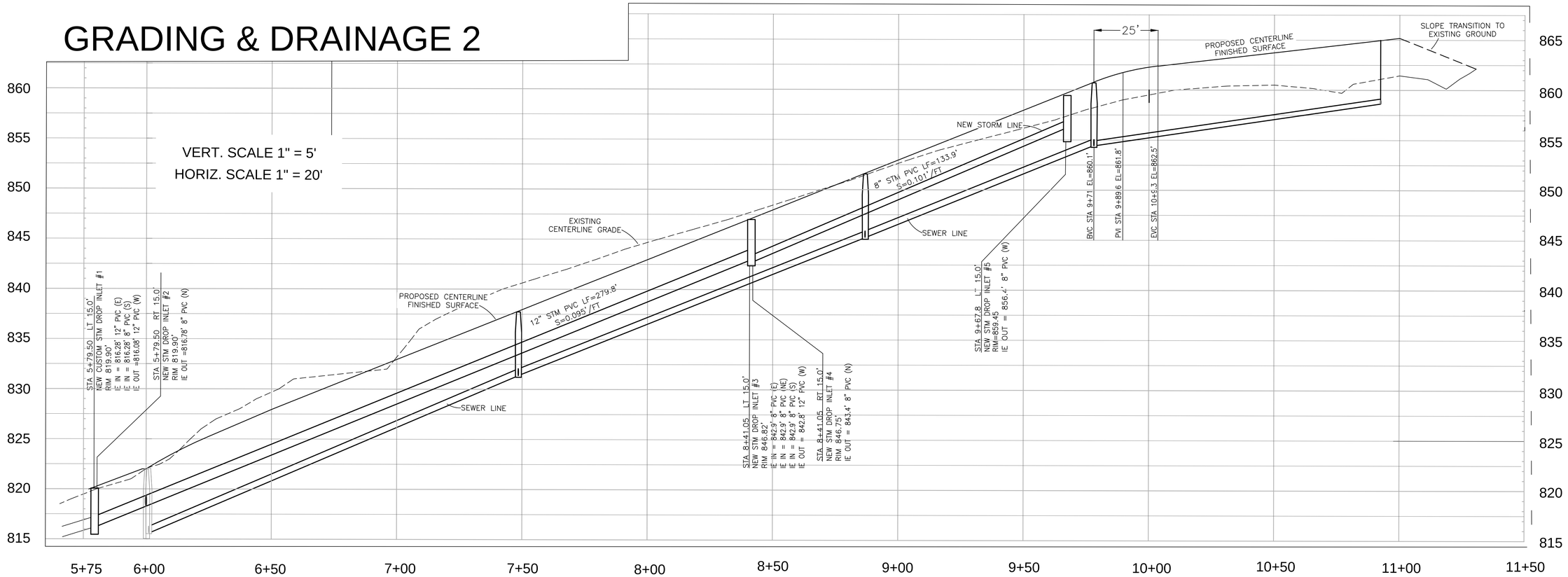
REVISIONS

No.	Description/Date	By

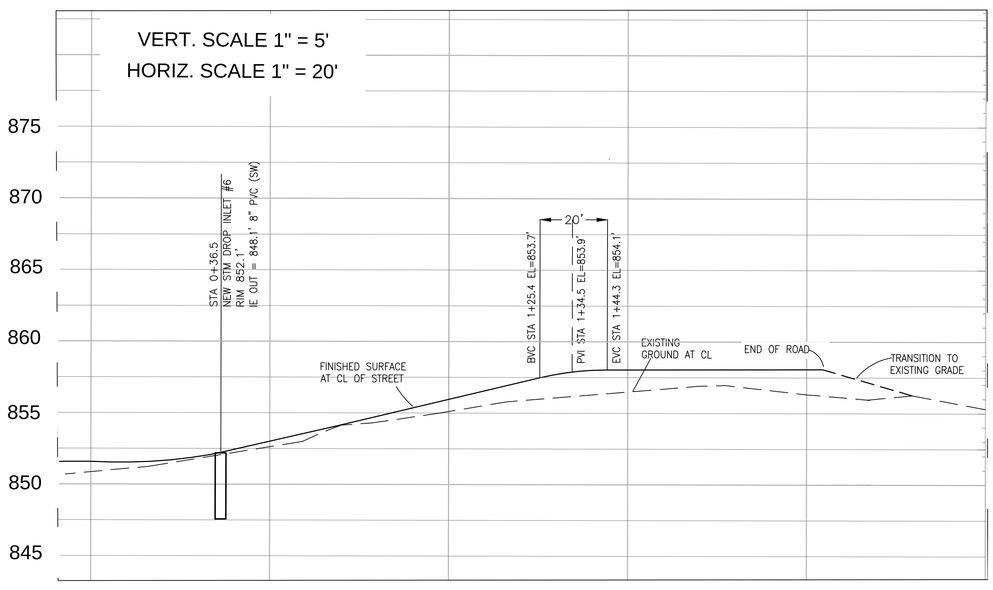
GRADING & DRAINAGE 2



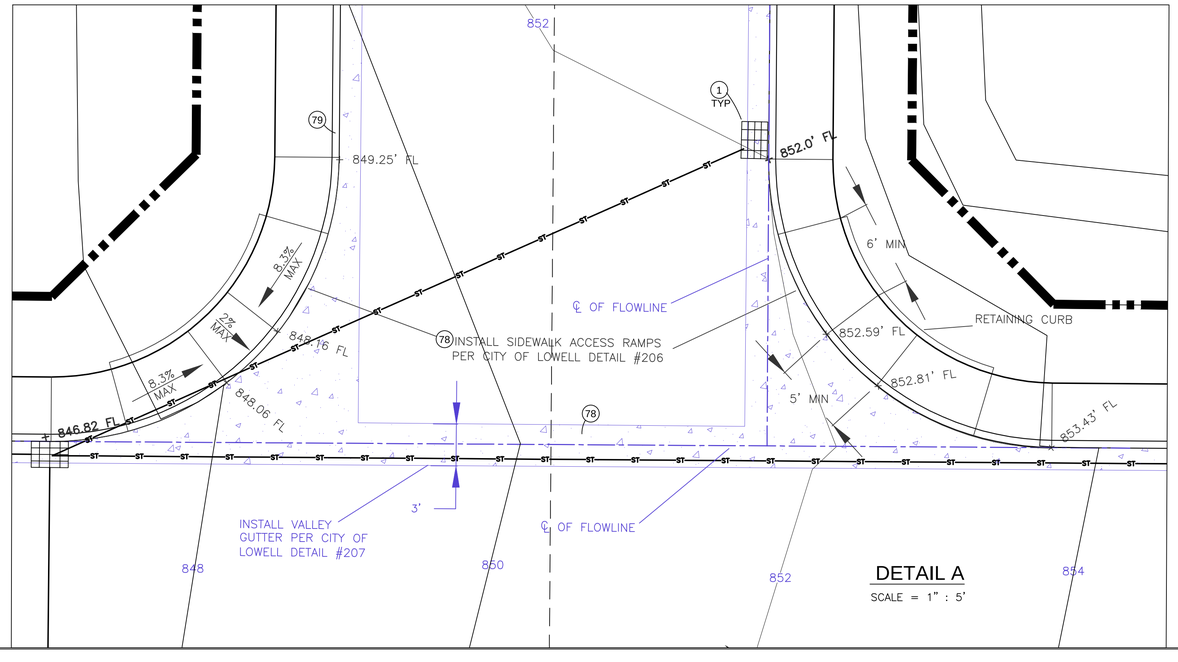
4th Street Profile
SCALE = AS SHOWN

NOTE:
CONSTRUCTION NOTES
STORM
1 CONST STORMWATER DROP INLET PER DETAIL SHEET 8

NOTE:
PAVING, GRADING & MISCELLANEOUS
78 CONST V-GUTTER IN INTERSECTION PER DETAIL SHEET 8
79 CONST CURB & GUTTER PER DETAIL SHEET 7



NORTH /SOUTH ROAD PROFILE
SCALE = AS SHOWN



DETAIL A
SCALE = 1" : 5'

Boeger & Associates, LLC
Civil and Environmental Engineering
B & A
1011 S. Bertelsen Road Ph:541.302.4096
P.O. Box 21623 Cell: 541.556.5779
Eugene, OR 97402 Fax: 541.302.4988
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER OREGON JAN. 19, 1988 DENNIS J. BOEGER
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SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyluv@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
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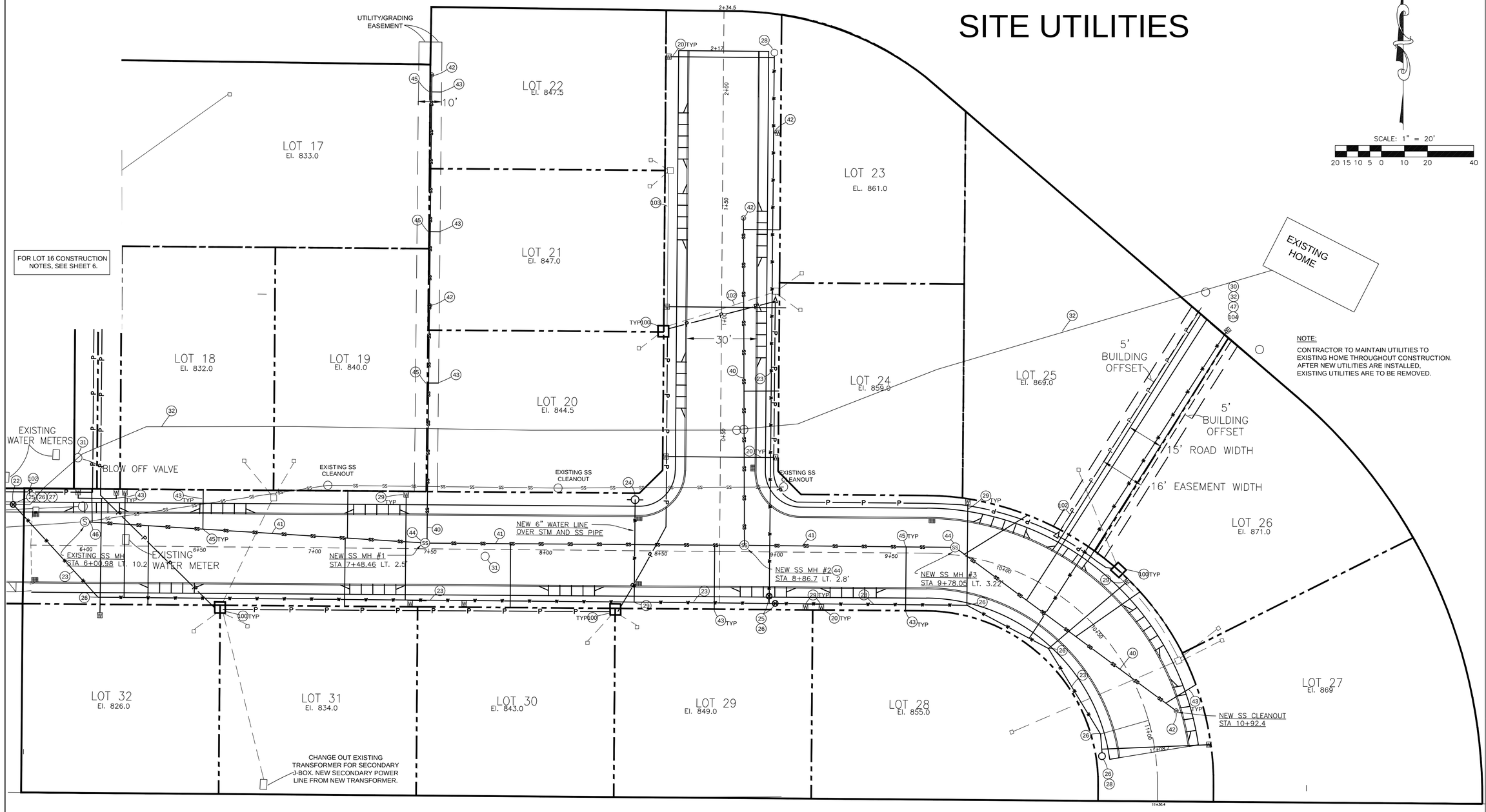
Dwg	314 SUNSET HILLS

Sheet
4 of 12

REVISIONS

No.	Description/Date	By

SITE UTILITIES



NOTE:
CONTRACTOR TO MAINTAIN UTILITIES TO EXISTING HOME THROUGHOUT CONSTRUCTION. AFTER NEW UTILITIES ARE INSTALLED, EXISTING UTILITIES ARE TO BE REMOVED.

WATER
20 CONST DUAL OR SINGLE WATER SERVICE LINE PER DETAIL SHEET 9
22 LOCATE END OR STUB OF EXISTING WATER LINE AND CONST DI TO C-900 ADAPTER FOR WATER LINE EXTENSION
23 CONST 10" DIA C900 PVC WATER LINE WITH 14 GA. BLUE TRACER WIRE
24 CONST FIRE HYDRANT ASSEMBLY PER DETAIL SHEET 9
25 CONST 10" DUCTILE IRON GATE VALVE IN VALVE BOX, PER DETAIL SHEET 9
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27 NOTIFY RESIDENTS 48 HOURS IN ADVANCE TO ANY WATER SHUT-OFFS NECESSARY FOR CONSTRUCTION OF NEW WATER LINE
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30 MAINTAIN ALL UTILITIES TO EXISTING HOME DURING CONSTRUCTION
31 ABANDON EXISTING WELL PER OREGON WATER RESOURCE DEPARTMENT GUIDELINES
32 ABANDON AND REMOVE WATER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED.

SANITARY SEWER
40 CONST 6" DIA PVC D-3034 SEWER PIPE WITH 14 GA. GREEN TRACER WIRE AT S = 2.0% MIN. UNLESS NOTED
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42 CONST 4" PVC SCH 40 CLEANOUT, STUB CLEANOUT TO GRADE IN BOX WITH LID. SEE DETAIL SHEET 7
43 CONST 4" PVC D-3034 SEWER PIPE STUB AT PROPERTY LINE PER DETAIL 8
44 CONST SANITARY SEWER MANHOLE, PER DETAIL SHEET 8
45 CONST SEWER LATERAL CONNECTIONS PER DETAIL SHEET 8
46 CONTRACTOR TO VERIFY SIZE OF EXISTING SS PIPE. IF EXISTING PIPE IS SMALLER THAN PROPOSED SS PIPE, CONTRACTOR TO CORE DRILL MH TO FIT PROPOSE PIPE AT THE SPECIFIED ELEVATIONS.
47 ABANDON AND REMOVE SEWER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED

POWER
100 INSTALL TRANSFORMER PER LANE ELECTRIC SPECIFICATIONS
101 INSTALL SERVICE JUNCTION VAULTS PER LANE ELECTRIC SPECIFICATIONS
102 CONST PRIMARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
103 CONST SECONDARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
104 ABANDON AND REMOVE EXISTING ELECTRICAL SERVICE TO HOME AFTER NEW SERVICE HAS BEEN ESTABLISHED

LEGEND

PROPERTY LINE (P)	WATER METER
PRIVATE LOT LINE	WATER VALVE
NEW WATER LINE	NEW ALIGNTMENT
NEW SEWER LINE	RIGHT OF WAY
NEW POWER VAULT	NEW SANITARY CLEANOUT
PRIMARY POWER CONDUIT	NEW SANITARY MANHOLE
SECONDARY POWER CONDUIT	EXISTING SANITARY MANHOLE
EXISTING ELECTRIC METER	EXISTING SANITARY SEWER LINE
JUNCTION BOX	SPACE NUMBER

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road Ph:541.302.4096
P.O. Box 21623 Cell: 541.556.5779
Eugene, OR 97402 Fax: 541.302.4988
dboeger@boegerassociates.com

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SUNSET HILLS
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ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyfuj@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
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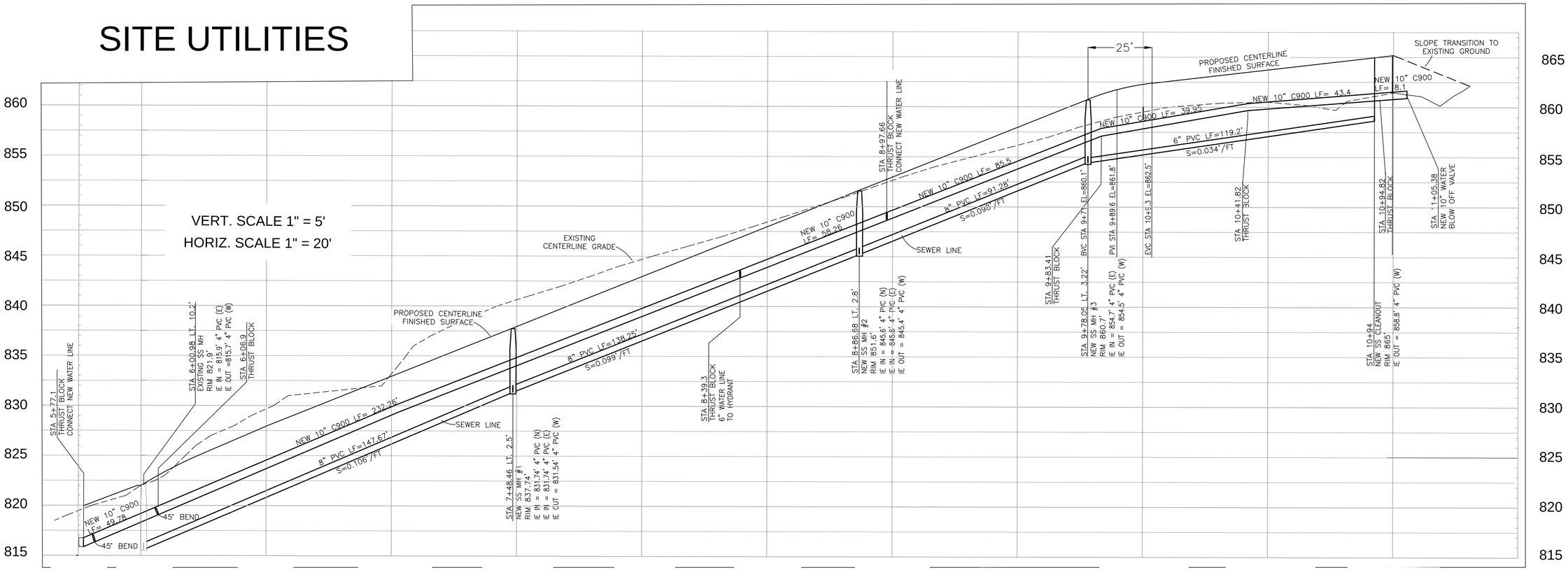
Sheet 5 of 12

REVISIONS

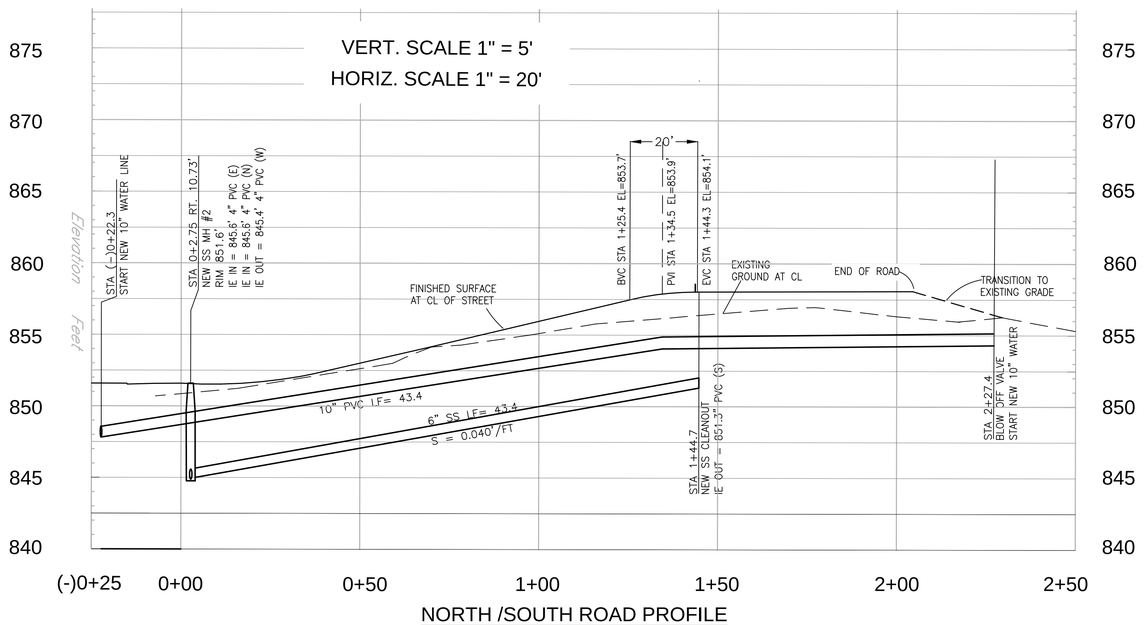
No.	Description/Date	By

SITE UTILITIES



4th Street Profile

SCALE = AS SHOWN



NORTH /SOUTH ROAD PROFILE

POWER

100 INSTALL TRANSFORMER PER LANE ELECTRIC SPECIFICATIONS
101 INSTALL SERVICE JUNCTION VAULTS PER LANE ELECTRIC SPECIFICATIONS
102 CONST PRIMARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
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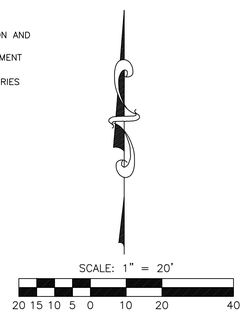
104 ABANDON AND REMOVE EXISTING ELECTRICAL SERVICE TO HOME AFTER NEW SERVICE HAS BEEN ESTABLISHED

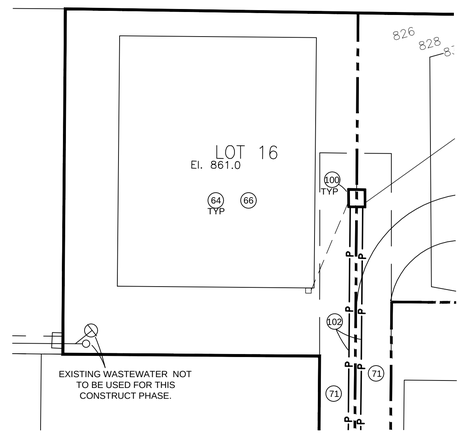
PAVING, GRADING & MISCELLANEOUS

64 SEE GEOTECHNICAL REPORT FOR HOME FOUNDATION PREPARATION AND TESTING REQUIREMENTS.
66 ADHERE TO EROSIONAL CONTROL PLANS FOR SEDIMENT MANAGEMENT DURING MASS GRADING AND CONTSTRUCTION ACTIVITIES.
71 CONST 3 ¾" PCC ON 8" OF ¾" MINUS CRUSHED ROCK OVER SERIES N–MRAFI GEOTEXTILE FABRIC FOR DRIVEWAYS.



LEGEND

- NEW POWER VAULT
- P — PRIMARY POWER CONDUIT
- SECONDARY POWER CONDUIT
- RIGHT OF WAY



LOT 16

SCALE = 1" : 20'

NOTE:

WATER AND SEWER LATERALS FOR LOTS 16 + 17TO BE PLACED IN THE DRIVEWAY TO CONNECT TO THE UTILITIES IN THE ROADWAY.

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph 541.302.4096
Cell 541.556.5779
Fax 541.302.4988
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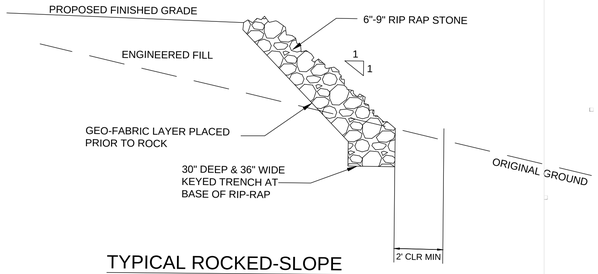
Sheet 6 of 12

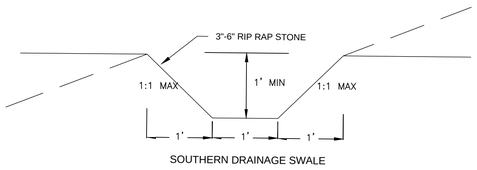
REVISIONS

No.	Description/Date	By

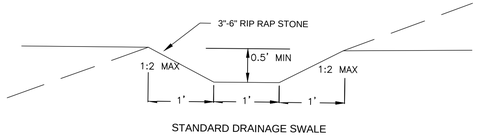
DETAILS #1



TYPICAL ROCKED-SLOPE WALL & FILL SECTION

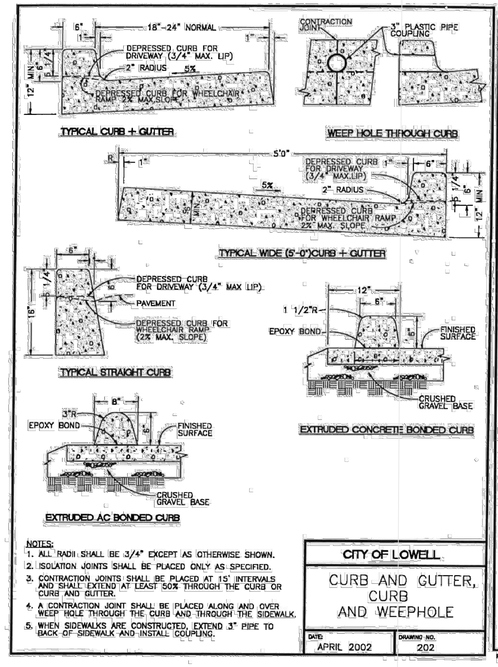


SOUTHERN DRAINAGE SWALE



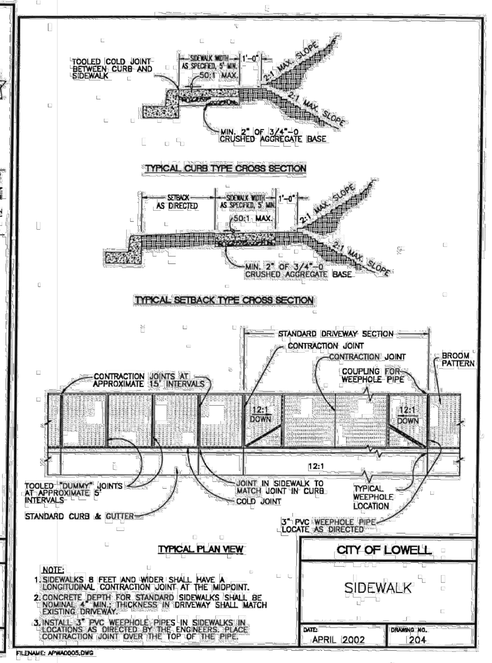
STANDARD DRAINAGE SWALE

SWALE INSTALLATION DETAIL
NTS



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

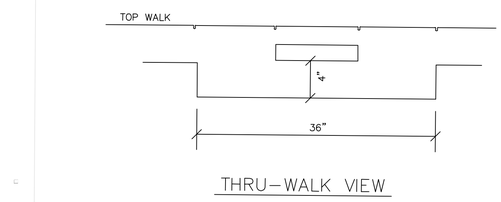
CITY OF LOWELL	
CURB AND GUTTER, CURB AND WEEPHOLE	
DATE: APRIL 2002	DRAWING NO. 202



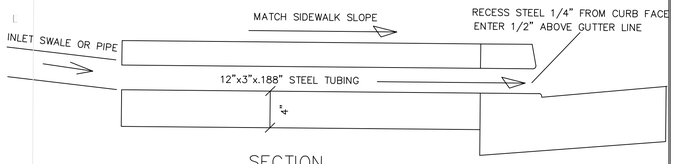
NOTE:
1. SIDEWALKS 8 FEET AND WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT THE MIDPOINT.
2. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 4" MIN.; THICKNESS IN DRIVEWAY SHALL MATCH EXISTING DRIVEWAY.
3. INSTALL 3" PVC WEEPHOLE PIPES IN SIDEWALKS IN LOCATIONS AS DIRECTED BY THE ENGINEERS. PLACE CONTRACTION JOINT OVER THE TOP OF THE PIPE.

CITY OF LOWELL	
SIDEWALK	
DATE: APRIL 2002	DRAWING NO. 204

FILENAME: APWA0005.DWG

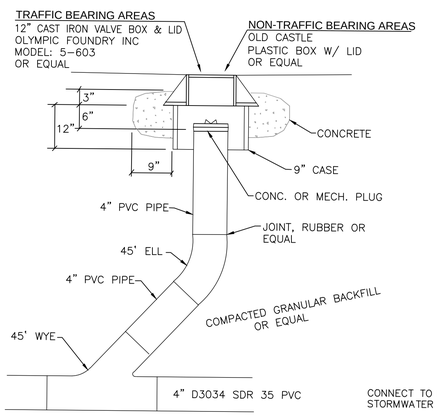


THRU-WALK VIEW

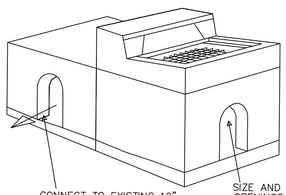


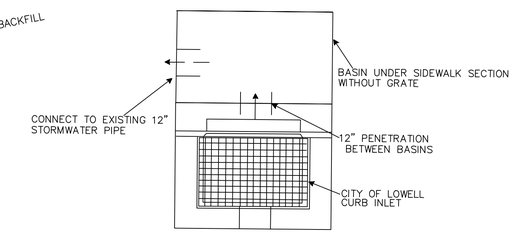
SECTION

SIDEWALK AND CURB DRAIN
NTS



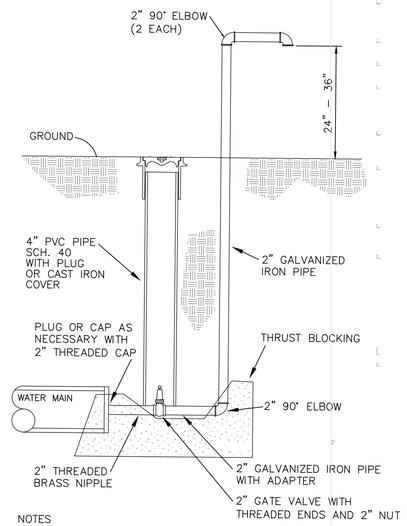
4" CLEANOUT DETAIL
NTS





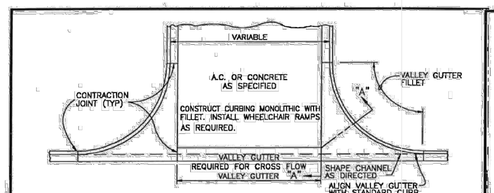
TOP VIEW

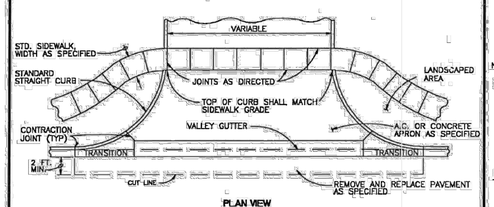
CUSTOM CATH BASIN INLET #1



NOTES
1. FOR BLOW-OFF OPERATIONS, REMOVE PIPE CAP AND ADD A 2" PIPE EXTENTION AND 2" CHECK VALVE ASSEMBLY.
2. BACK-FLOW PREVENTION DEVICES REQ'D FOR ALL BLOW-OFF ASSEMBLIES.

2" BLOW-OFF DETAIL
NTS

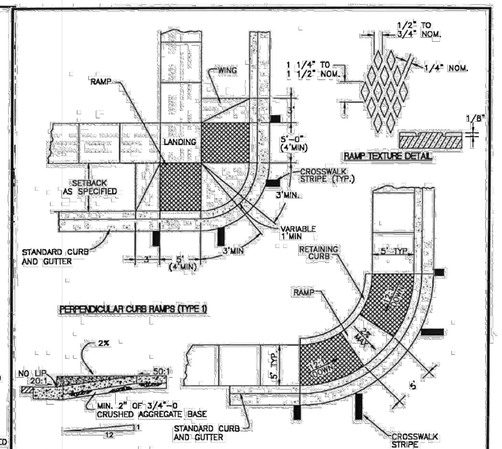




NOTES:
1. ORDER OF CONSTRUCTION:
   A. CONSTRUCT VALLEY GUTTER AND TRANSITION SECTIONS.
   B. CONSTRUCT 8" SIDEWALK ACROSS DRIVEWAY AREA.
   C. CONSTRUCT APRON.
   D. PCC APRONS SHALL BE JOINTED IN ACCORDANCE WITH DRAWING 212.
2. CONCRETE SHALL BE CLASS 3300.
3. CONSTRUCT 3/4"-0 AGGREGATE BASE 2" THICK FOR CONCRETE DRIVEWAYS AND 6" THICK FOR AC DRIVEWAYS.

CITY OF LOWELL	
INTERSECTION AND COMMERCIAL DRIVEWAYS	
DATE: APRIL 2002	DRAWING NO. 207

FILENAME: FILENAME



NOTES:
1. THE "AMERICANS WITH DISABILITIES ACT" (ADA) REQUIRES THAT ACCESS RAMPS TO SIDEWALKS CONFORM TO ALL FEDERAL GUIDELINES. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE ENGINEER AND MUST COMPLY WITH ADA.
2. NO ABOVE GROUND UTILITIES ARE PERMITTED WITHIN RAMP AREA.
3. LANDINGS SHALL BE PLACED AT THE TOP OF EACH RAMP. LANDING SLOPES SHALL NOT EXCEED 50:1 IN ANY DIRECTION. THE SLOPE OF THE SURFACING AT THE BOTTOM OF THE RAMP SHALL NOT EXCEED 20:1 FOR A DISTANCE OF 2' (SEE TYPICAL SECTION ABOVE).
4. MINIMUM LANDING DIMENSIONS SHALL BE 4' X 4'.
5. RAMP SURFACE SHALL BE TEXTURED WITH RAISED DIAMOND TEXTURE. TEXTURING SHALL BE DONE WITH AN EXPANDED METAL GRATE STAMPED INTO THE CONCRETE.
6. CONCRETE STRENGTH SHALL BE 3300 PSI.

CITY OF LOWELL	
SIDEWALK ACCESS RAMPS	
DATE: APRIL 2002	DRAWING NO. 206

FILENAME: APWA0059.DWG

Boeger & Associates, LLC
Civil and Environmental Engineering
1911 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph:541.302.4096
Cell: 541.556.5779
Fax: 541.302.4988
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER OREGON JAN. 19, 1988 DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyfix@gmail.com

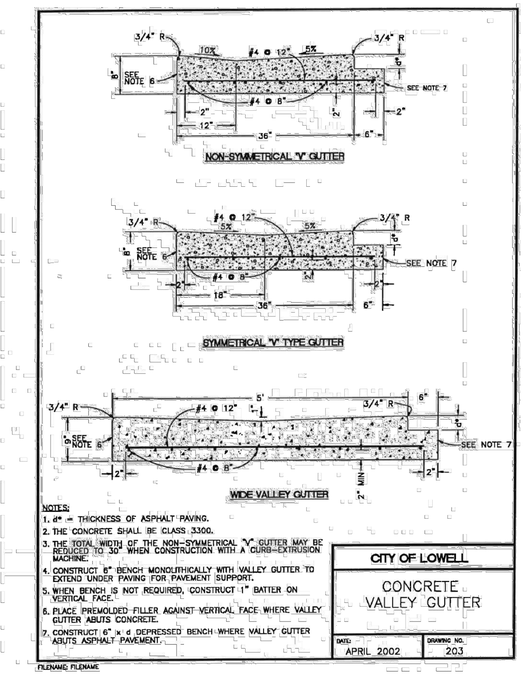
W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
Date	6/5/2019
Dwg	314 SUNSET HILLS

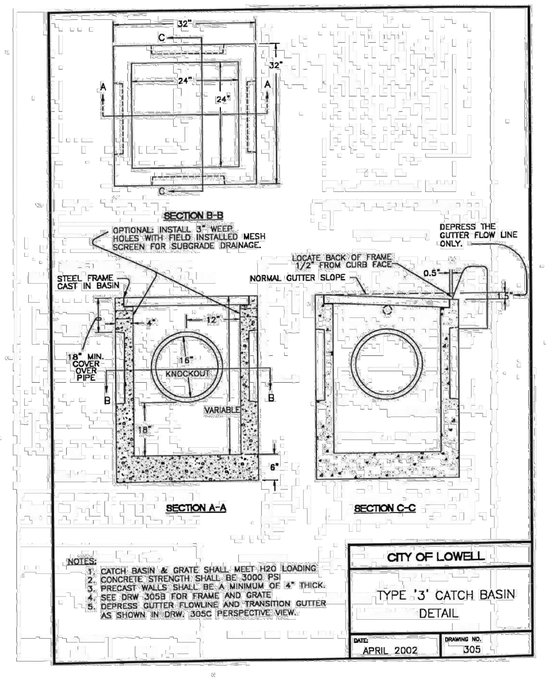
Sheet 7 of 12

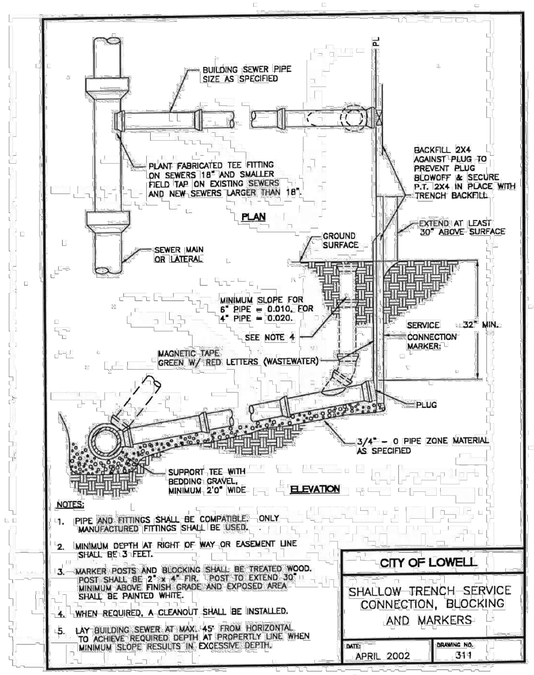
REVISIONS

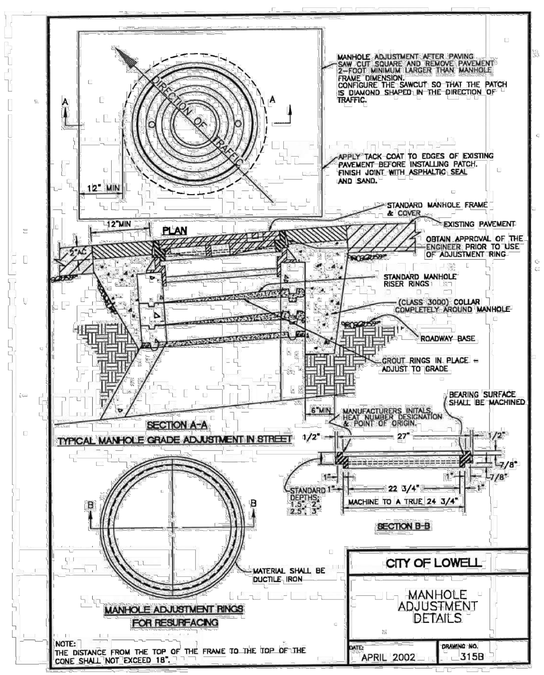
No.	Description/Date	By

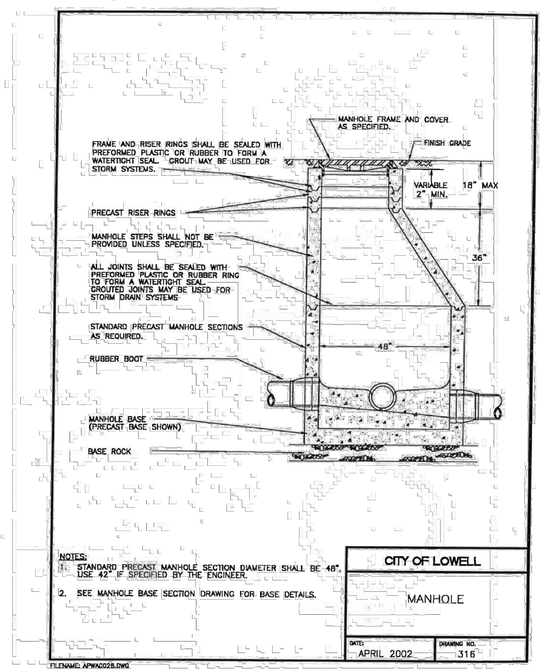
DETAILS # 2











Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 10325
Eugene, OR 97402
Ph:541.302.4996
Cell: 541.505.5770
Fax: 541.302.4968
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 19, 1983 — DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyful@gmail.com

W.O. No. 314
Design J. BRENNER
Drawn Z. BOEGER
Check D. BOEGER
Date 6/5/2019
Dwg 314 SUNSET HILLS

Sheet 8 of 12

REVISIONS

No.	Description/Date	By

DETAILS # 3

THRUST BLOCKING

CONCRETE THRUST BLOCKING (HORIZONTAL)

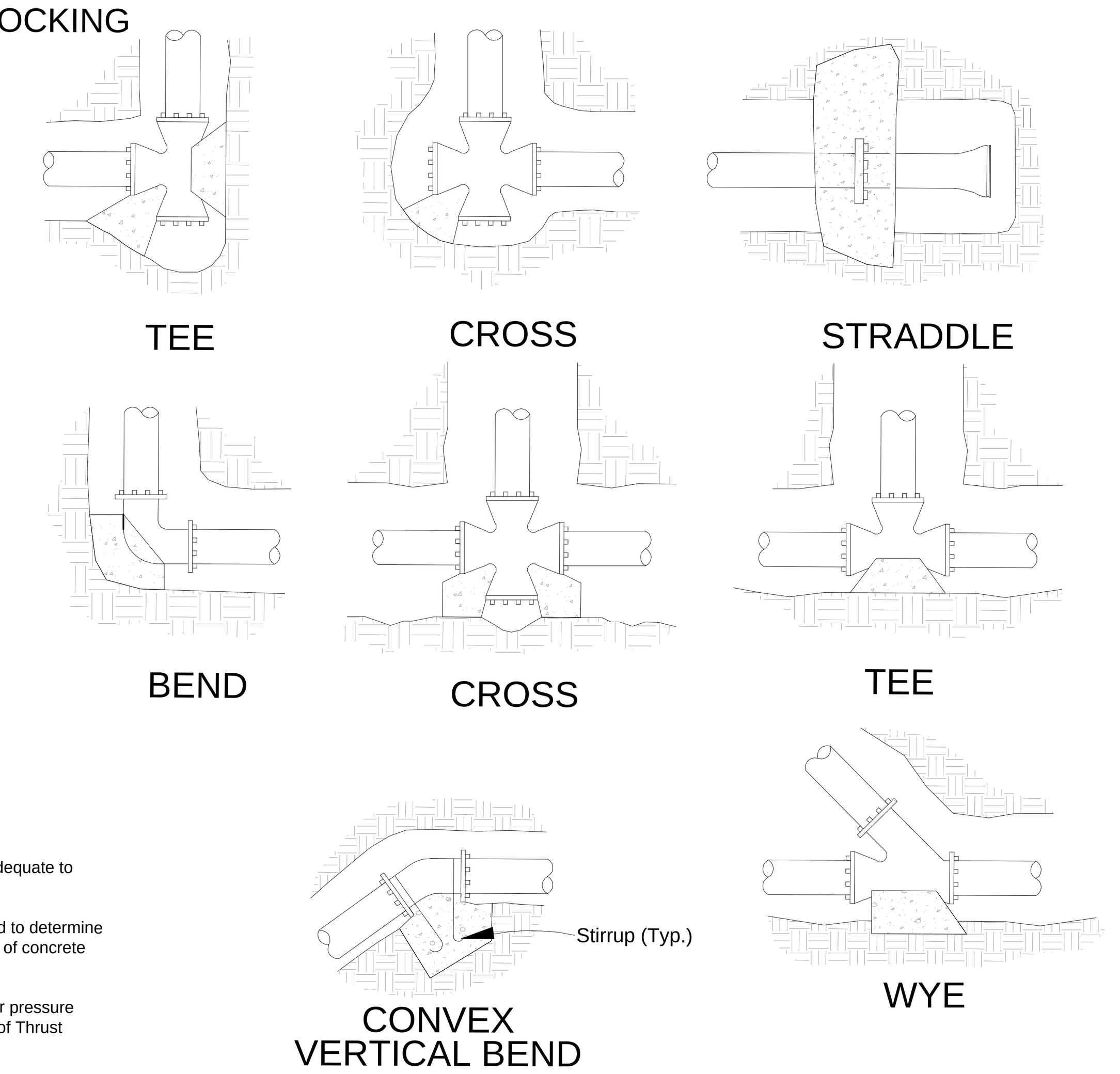
		Thrust (T) at fittings in Pounds				
		A	B	C	D	E
PIPE DIA.	Table Pressure PSI	Tee & Dead Ends	90 deg Bend	45 deg Bend	22.5 deg Bend	11.25 deg Bend
4"	250	3140	4440	2405	1225	615
6"	250	7070	9995	5410	2760	1385
8"	250	12565	17770	9620	4905	2465
10"	250	19635	27770	15030	7660	3850
12"	250	28275	39985	21640	11030	5545
14"	250	38485	54425	29455	15015	7545
16"	250	50265	71085	38470	19615	9855

Soil Type	Soil Bearing Capacity (B) in PSI
Muck, peat, etc.	0
Soft Clay	1000
Sand	2000
Sand and gravel	3000
Sand and gravel cemented with clay	4000
Hard shale	10,000

CONCRETE BLOCKING FOR CONVEX VERTICAL BENDS

DIMENSION TABLE						
PIPE DIA. in.	Table Pressure PSI	Bend Angle (deg)	Concrete Volume (cy)	Cube Size (ft)	Stirrup Dia. (in)	Stirrup Embmt. (in)
4"	250	11.25	0.21	1.8	5/8	17
		22.5	0.43	2.3		
		45	0.77	2.8		
6"	250	11.25	0.48	2.4	5/8	17
		22.5	0.95	3.0		
		45	1.79	3.6		
8"	250	11.25	0.86	2.9	5/8	17
		22.5	1.65	3.5		
		45	3.22	4.4		
10"	250	11.25	1.39	3.3	5/8	17
		22.5	2.62	4.1		
		45	4.97	4.1		
12"	250	11.25	1.94	3.7	5/8	17
		22.5	3.91	4.7		
		45	6.89	5.7	7/8	24
14"	250	11.25	2.62	4.1	5/8	17
		22.5	5.26	5.2	3/4	20
		45	9.70	6.4	1	27
16"	250	11.25	3.44	4.5	5/8	17
		22.5	6.89	5.7	7/8	24
		45	12.63	7.0	1-1/8	30

Erd250.det



DETERMINATION OF THRUST BLOCK BEARING AREA

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, USE THE FOLLOWING PROCEDURE TO DETERMINE REQUIRED BEARING AREA.

1. Determine thrust (T) for type of fitting or joint and size of pipe from Table.
2. Determine Design (Test) Pressure from Standard Specifications or Special Provisions.
3. Determine Table Pressure from Table.
4. Determine Soil Bearing Capacity (B) of soil from Table.
5. Determine required bearing area (A) in sq. ft. as follows:

$$A = \left(\frac{T}{B}\right)\left(\frac{\text{Design (Test) Pressure}}{\text{Table Pressure}}\right)$$

Example: Design (Test) Pressure = 150 PSI
Pipe = 14"
Fitting = Tee
Soil = Sand

From Table, T = 272.3 PSI
From Table, B = 14 PSI

$$A = \left(\frac{38485}{2000}\right)\left(\frac{150}{250}\right) \doteq 11.55 \text{ sq ft}$$

NOTES:

1. Contractor to provide blocking adequate to withstand full test pressure.
2. Divide thrust by safe bearing load to determine required bearing area (A in sq ft) of concrete to distribute load.
3. Adjust bearing areas (A) for other pressure conditions. (See "Determination of Thrust Block Bearing Area" equation.
4. Pour concrete blocking against undisturbed earth.
5. All concrete to be 2900 PSI minimum.
6. Wrap pipe and/or fittings with 2 layers of polyethylene film where in contact with concrete
7. Keep concrete clear of all joints and accessories.
8. Stirrups shall be deformed galvanized cold rolled steel AASHTO M31 (ASTM A615), Grade 420. Coat with coal tar epoxy after installation.

THRUST BLOCKING

RD250

RD250

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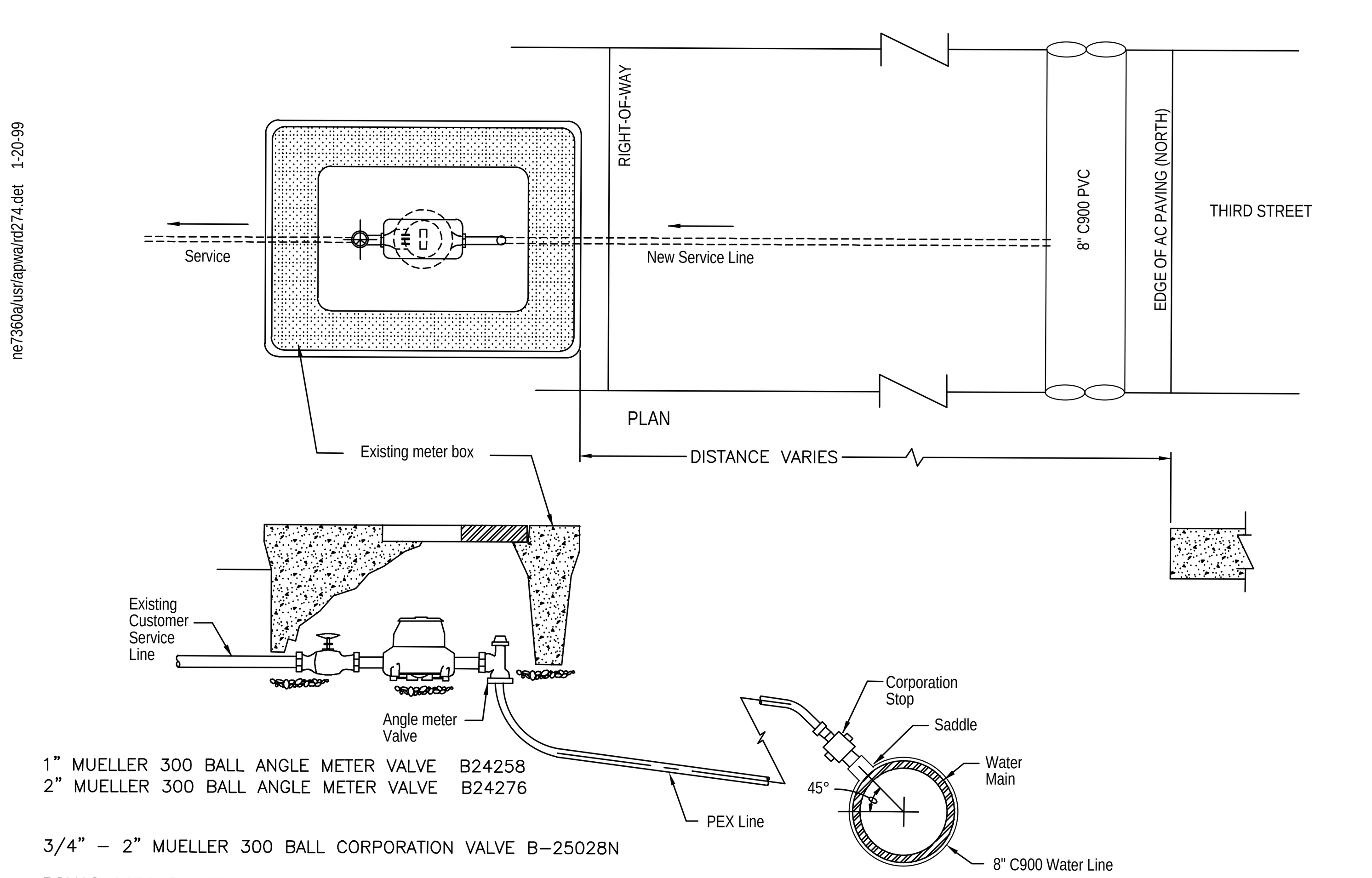


1" MUELLER 300 BALL ANGLE METER VALVE B24258
2" MUELLER 300 BALL ANGLE METER VALVE B24276

3/4" – 2" MUELLER 300 BALL CORPORATION VALVE B–25028N

ROMAC 202S PAINTED SADDLE WITH STAINLESS STEEL STRAPS.
TO FIT 8" C–900 CL–150 PVC

1" MUELLER LINER PART CODE 504385 USED WITH MUELLER 110 COMPRESSION FITTING
2" MUELLER LINER PART CODE 506141 USED WITH MUELLER 110 COMPRESSION FITTING

REHAU – MUNICIPEX WATER SERVICE LINE 1/2 INCH THROUGH 3 INCH
CERTIFIED TO AWWA C 904
RATED FOR:
200 PSI @ 73.4d F BASED ON DESIGN FACTOR 0.63
160 PSI @ 73.4d F
100 PSI @ 180d F
COLOR BLUE, UV RESISTANT

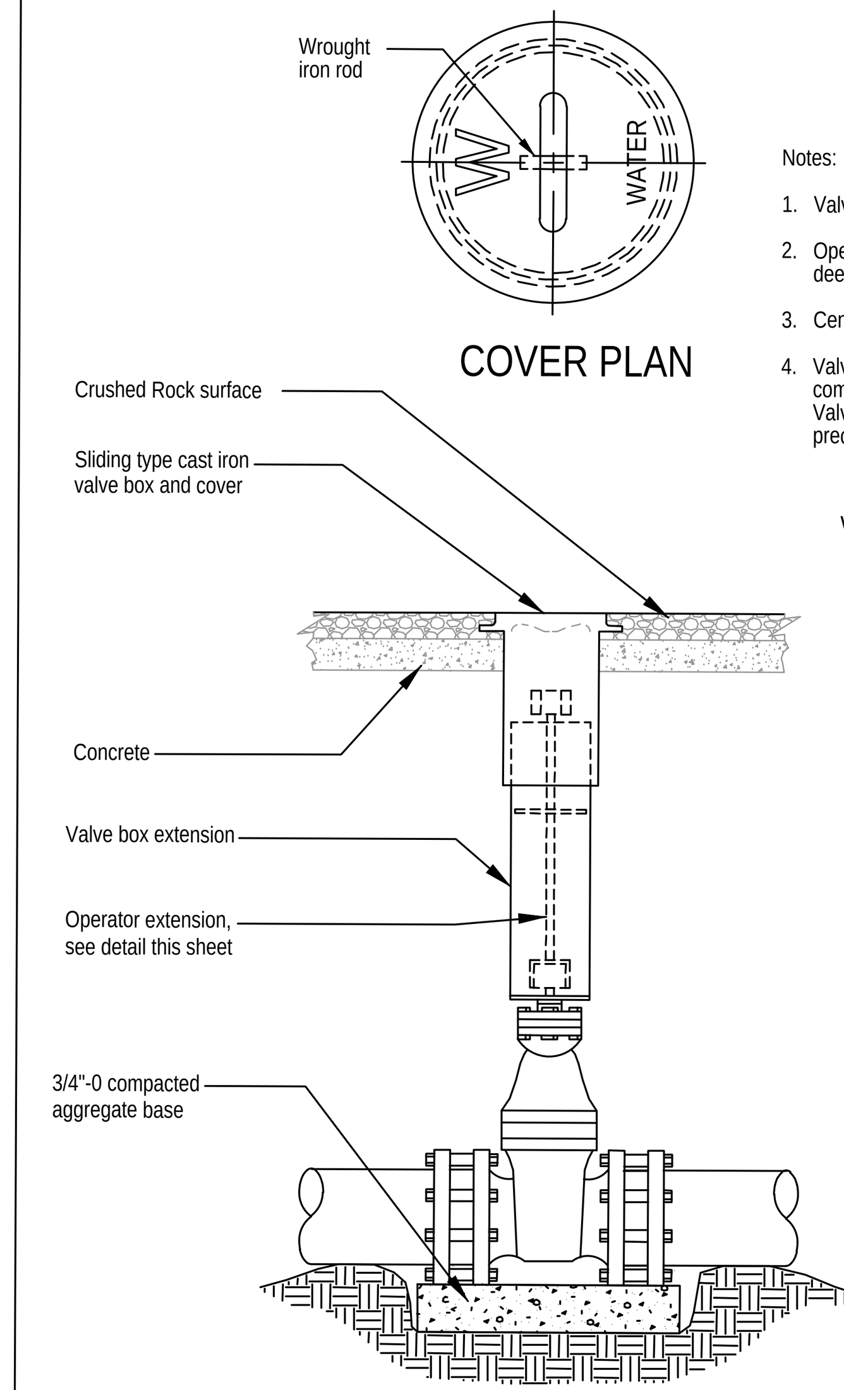
NOTE:
WATER SERVICE SHOWN ONE SIDE OF STREET.
WATER SERVICE SAME ON BOTH SIDES OF STREET.

NOTE:
1. DISCONNECT EXISTING ANGLE METER VALVE FROM EXISTING WATER METER.
2. CONNECT NEW ANGLE METER VALVE TO EXISTING WATER METER.

3/4" - 2"
WATER SERVICE CONNECTION

RD274

RD274



Notes:

1. Valve box not to rest on operating assembly.
2. Operator extension required when valve nut is deeper than 4' from finish grade.
3. Center valve box on axis of operator nut.
4. Valves 12" and smaller shall be provide with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block.

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

TYPICAL ISOLATION VALVE BOX ASSEMBLY DETAIL

HYDRANT ASSEMBLY

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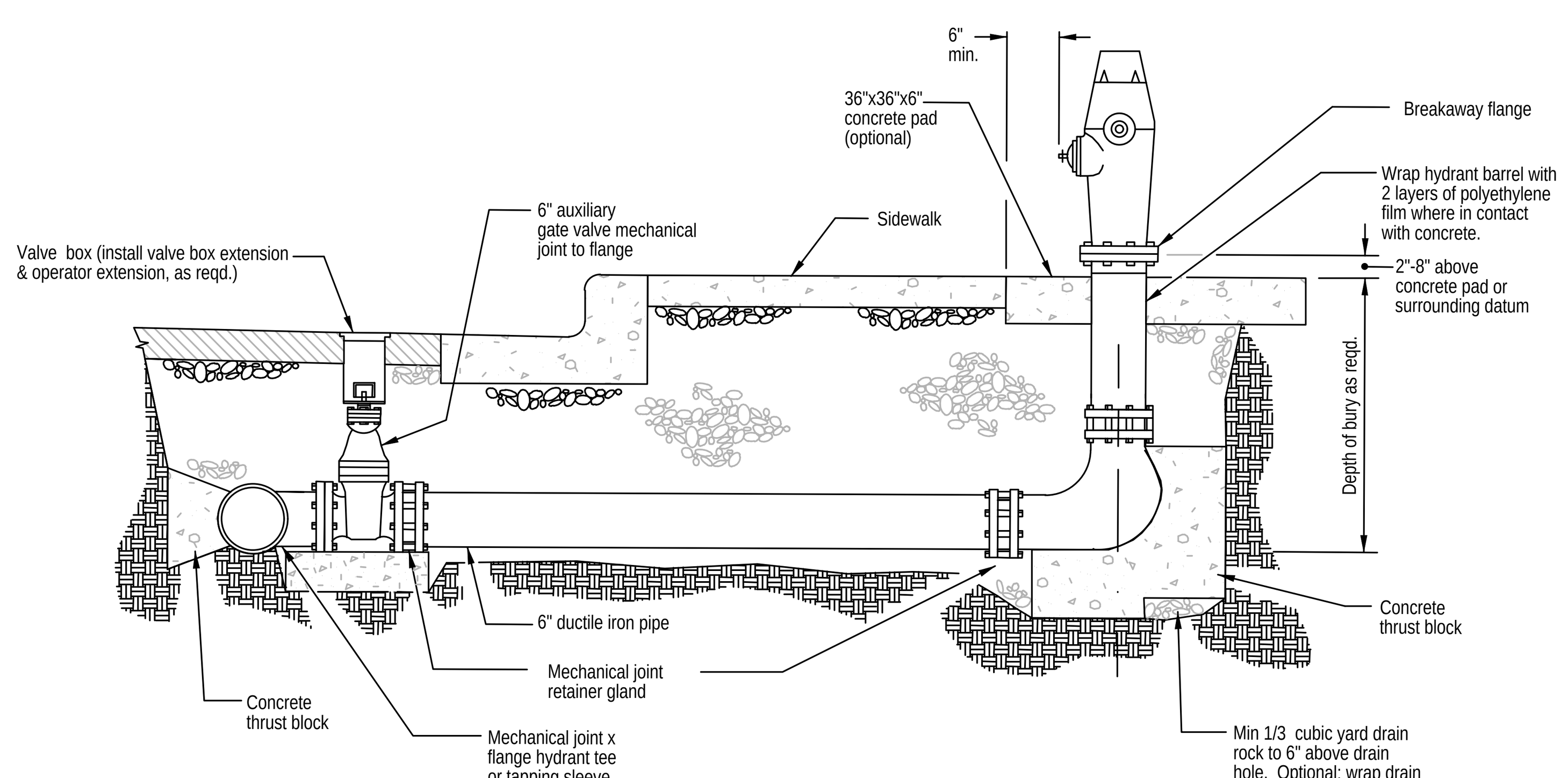


NOTES:

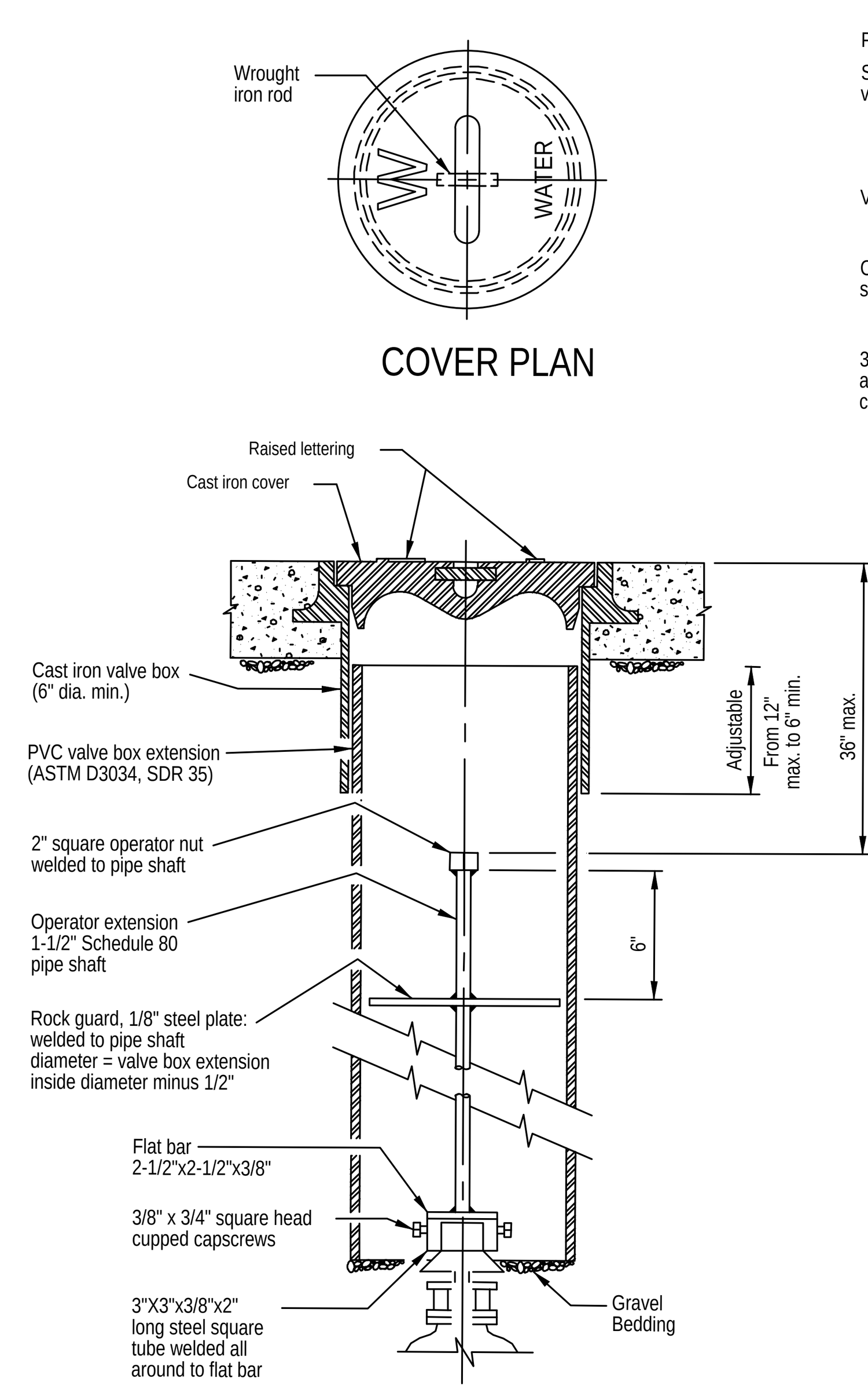
1. When pipe is shorter than 18', no joints allowed. Use mechanical joint retainer glands. Two 3/4" galvanized tie rods may be used in lieu of thrust blocks for installations less than 18' long. Coat tie rods with two coats of coal tar epoxy.
2. When pipe is longer that 18' retainer glands not required.
3. There shall be a minimum of 18" horizontal clearance around hydrant.
4. When placed adjacent to curb, hydrant port shall be 24" from face of curb.
5. Concrete thrust blocks shall be constructed as per thrust block standard drawing. Do not block drain holes.
6. Extensions required for hydrant systems shall be installed to the manufacutrer's specifications.
7. Hydrants shall be placed to provide a minimum of 5' clearance from driveways, poles, and other obstructions.
8. Hydrant pumper port shall face direction of access
9. Set hydrant plumb in all directions.

HYDRANT INSTALLATION

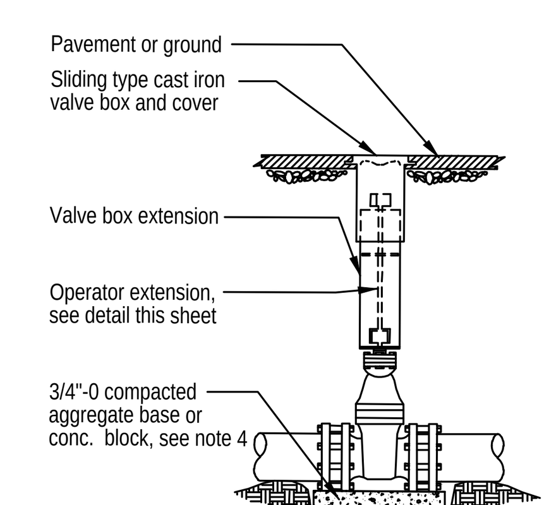
RD254

RD254

ne7360a/usr/apwa/rd258.det 1-20-99



VALVE BOX EXTENSION SECTION



VALVE BOX ASSEMBLY DETAIL

Notes:

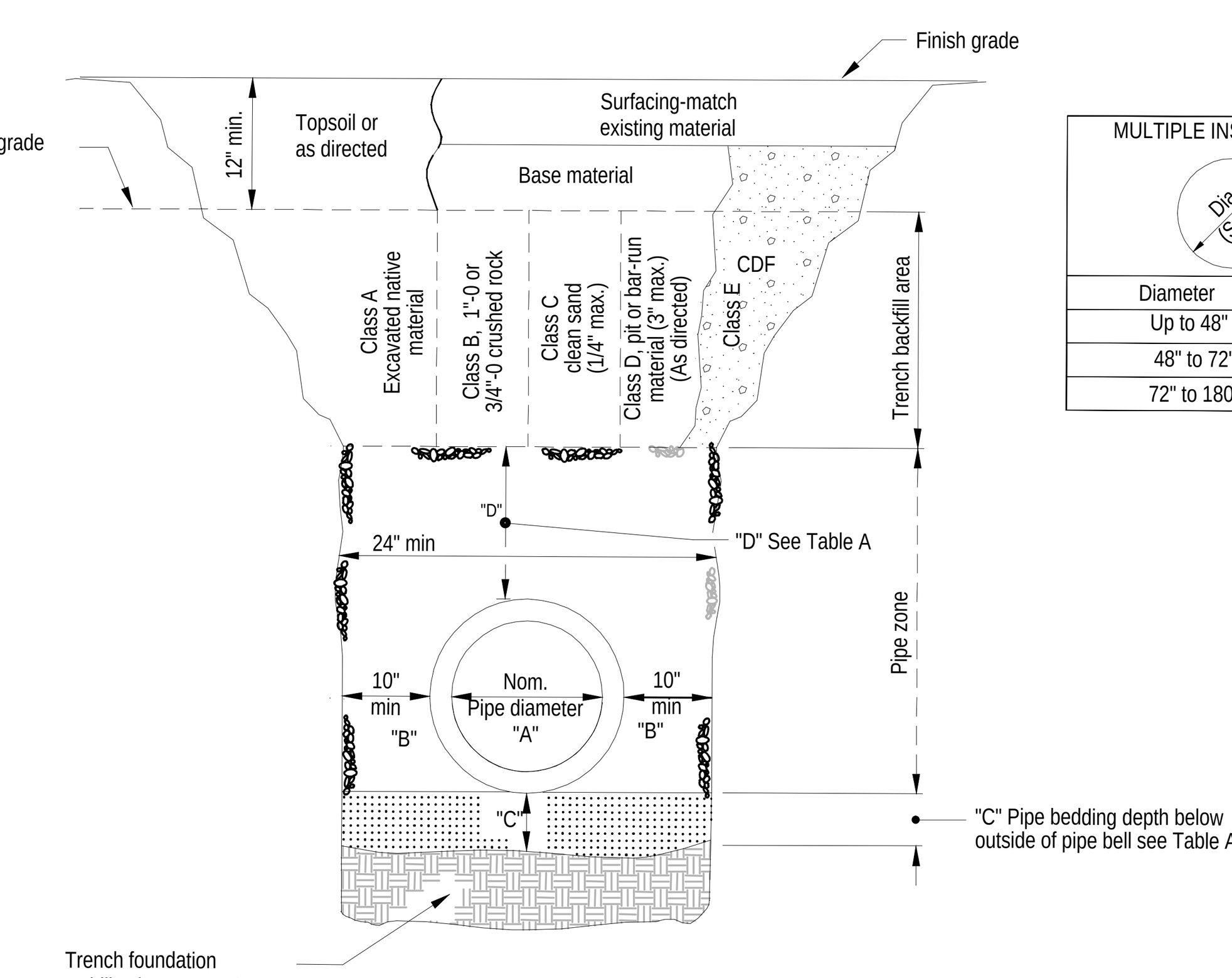
1. Valve box not to rest on operating assembly.
2. Operator extension required when valve nut is deeper than 4' from finish grade.
3. Center valve box on axis of operator nut.
4. Valves 12" and smaller shall be provide with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block.
5. Welds shall be minimum 1/4" all around.
6. Hot dip galvanize operator extension after fabrication.

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

RD258

RD258

ne7360a/usr/apwa/rd300.met 11-15-99



MULTIPLE INSTALLATIONS (All Shapes)	
Diameter	Min. Space Between Pipe
Up to 48"	24"
48" to 72"	One Half (½) Dia. of Pipe
72" to 180"	36"

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

Note:
1. Surfacing of paved areas shall comply with street cut standard drawing (RD302).
2. For pipes ≥ 36" dia., when placed in an embankment, increase dimension "B" to actual diameter.

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

RD300

RD300

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph 541.302.4996
Cell 541.556.5779
Fax 541.302.4968
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER 16531 OREGON JAN. 15, 1993 DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedylu@gmail.com

W.O. No.	314
Design	J. BRENNER
Drawn	Z. BOEGER
Check	D. BOEGER
Date	6/5/2019
Dwg	314 SUNSET HILLS

Sheet 9 of 12

REVISIONS

No.	Description/Date	By

Boeger & Associates, LLC
Civil and Environmental - Engineering and Planning

DRAINAGE REPORT
FOR
SUNSET VIEW SUBDIVISION PHASE 2

Prepared for: Matthew Bahen
Property owner

Prepared by: Jesten Brenner, P.E.
Project Engineer
Boeger & Associates, LLC

March 21, 2019
B&A W.O. #314

Table of Contents

DRAINAGE REPORT

FORWARD

The Sunset View Subdivision is a residential subdivision located on 4th Street in Lowell Oregon. This residential subdivision is the second phase of the planned development. The first phase included placing a road, utilities, and homes along the westernmost edge of the property. The second phase will include extending the road and utilities eastward into the subject property for the addition of 17 new home sites. The total area of the subject property is 3.8 acres.

This report analyzes the Pre-Development and Post-Development stormwater runoff conditions for the various storm events to determine the net increase in runoff produced by the development. Stormwater pipes between manholes, drainages swales, and culverts were also analyzed to determine their efficacy and capacity during the different storm events.

PROCEDURE

In Appendix F of the ODOT Hydraulic Manual, it states that the rational method is recommended for small projects (less than 200 acres). The study area for this drainage report is 3.8 acres, so therefore the rational method was used. The design storm will be the 25-year event, and the 100 year storm event was used to size all components for possible high-water conditions.

To use the Rational Method, there are several steps to follow to achieve a (Tt) Travel Time, (Tc) Time of Concentration, (I) Intensity, ($\sum$CA) Summation of Runoff Coefficients, areas and (Q) Flow (cfs).

Tc in this report was developed by using the TR-55 method which uses known quantities for length of the segment in feet, the slope of the segment in feet per feet, and type of storm water conveyance device, and cover coefficients and storm intensity based upon the 24 hr, 2 year storm event from the Oregon Atlas 2 Volume 10 stormwater reference manual.

To find the intensity for the various storm events for the calculated Tc, the Intensity Frequency and Duration Curve for zone 5 was used attained from Appendix A of the ODOT Hydraulic Manual. Both rainfall intensity references are located in Appendix D of this report.

Using drainage areas from the construction plans, along with the Rational Method, runoff flows were developed for various drainage segments deemed necessary for analysis. The AutoCAD HydraFlow Express program was used for the reports and calculation generation.

EXISTING CONDITIONS

The 3.8 acre project site area is primarily comprised of Hazelair Silty Clay Loam, a class C soil. The site is covered mainly with grass, and shrubs and a general westerly slope of roughly 7%-10%

with areas of steeper slopes. Stormwater runoff currently drains to either the northern or southern drainages, or sheet flows to the west towards the first phase of the development.

The southern drainage course can drain a sizable area to the east and can carry a proportionally large amount of water during storm events. This drainage heads to larger drainages to the south that eventually travels to the Dexter Reservoir. This drainage can be seen in Exhibit 1 of this report. The area that develops the offsite flow to this drainage is shown in Appendix D of this report.

A stormwater manhole was placed at the easternmost edge of the first phase development boundary to accept the stormwater flow for the second phase. The existing storm line heads to the west and towards an existing drainage to the north.

There is a modular home located beyond the subject property to the east and a rocked access road and utility service lines currently cross the property to the modular home. The existing conditions can be seen in Exhibit 1 of this report.

Pre-Developed Flows

AREA	Runoff Coeff - C	Tc	25 yr Rainfall Intensity	25 yr Flow (Q)	100 yr Rainfall Intensity	100 yr Flow (Q)
(acres)	(cfs)	(min)	(in/hr)	(cfs)	(in/hr)	(cfs)
3.8	0.30	14	2.723	3.10	4.217	4.81

DEVELOPED CONDITIONS

The developed conditions of the property will be an extension of the existing roads and 17 new homes. The home sites will be graded to allow drainage away from the homes and towards the road or to the designated onsite drainage swales such as drainage swale 2 on Exhibit 2 of this report. The road sections will have curb and gutters to convey the runoff towards curb inlet that drain the stormwater to the storm pipes and manholes. The new infrastructure will head to the west and connect with the existing stormwater manhole.

Impervious surfaces in the form of roads, driveways, sidewalks and roofs will be constructed for this development which will impact the weighted runoff coefficient in the rational method calculation leading to shorter times of concentrations and increase the total runoff generated.

No additional flows from offsite or surcharge drainage areas will enter this stormwater drainage system. Drainage swales near the eastern property lines will collect the additional offsite flow and redirect them to existing drainages to the north and south. Exhibit 2 of this report shows the proposed swale locations and where they direct the flow. The southern drainage course diversion swale will intercept the south drainage and carry it around the home sites, under the road, and through its natural discharge point.

Post-Developed Flows

AREA	Runoff Coeff - C	Tc	25 yr Rainfall Intensity	25 yr Flow (Q)	100 yr Rainfall Intensity	100 yr Flow (Q)
(acres)	(cfs)	(min)	(in/hr)	(cfs)	(in/hr)	(cfs)
3.8	0.63	9	2.33	5.58	3.425	8.2

The extra runoff generated by the development does not require mitigation, or treatment prior to discharge into the existing storm system. Calculations for these pre and post development storm events are located in Appendix A.

DIVERSION SWALE AND CULVERT

The storm/drainage design for this subdivision includes a diversion swale that will capture the Southern Drainage Course and divert it around the property to the south as explained in the previous section. To allow the southern drainage course to discharge to its existing drainage path, a culvert is needed under the proposed road as shown in Exhibit 2. Both the swale and culvert will be analyzed for proper conveyance and capacities.

Diversion Swale Design

ITEM	BOTTOM WIDTH (ft)	SIDE SLOPE H:V (ft)	SLOPE ('/FT)	LENGTH (ft)	DEPTH (ft)
SWALE	1	1:1	0.07	260	1.0

Diversion Swale Calculation Results

ITEM	25-YEAR	100-YEAR
Area (ac)	6.04	6.04
Tc (min)	7	7
Rainfall Intensity (I)	2.57	3.41
Weighted C Coefficient	0.30	0.30
Q – FLOW (cfs)	4.66	6.17
D- Depth of Water (ft)	0.47	0.54
V – Velocity (fps)	6.74	7.42
T – Time (sec)	38.6	35.0

18-in Culvert Analysis Results

ITEM	25-YEAR	100-YEAR
S – SLOPE (ft/')	0.02	0.02
N – Manning's Number	0.012	0.012
Q – Flow (cfs)	4.66	6.17
V – Velocity (fps)	3.17	3.98
Capacity - Hw/D	0.80	0.97

Based on the analysis results, the swale and 18-in culvert as designed have the capacity to handle the flows generated by the offsite drainage basin for the 25 and 100 year storm events without overtopping or causing flooding conditions to the subdivision. Calculations for both elements are located in Appendix B.

STORM WATER COVEYANCE PIPE

As a critical element to stormwater conveyance and site drainage, the stormwater pipe sizes were checked to determine the correct size of the pipe to handle a design storm event and to check for high water conditions during a 100 year storm event.

The storm system will include two new storm manholes and several different area drains along the curb and gutter. The four segments that will be analyzed will be the runs of pipe between the storm manholes and to the furthest area drains.

8-in PVC Storm Conveyance Pipe – Drop Inlet #5 to Drop Inlet #3

S_{MIN} '/ft	N	Area (ac)	Q_{25} (cfs)	Q_{25} d/D	V_{25} (fps)	Q_{100} (cfs)	Q_{100} d/D	V_{100} (fps)
0.1	0.01	0.70	1.03	0.31	10.86	1.51	0.39	11.84

8-in PVC Storm Conveyance Pipe – Drop Inlet #3 to Drop Inlet #1

S_{MIN} '/ft	N	Area (ac)	Q_{25} (cfs)	Q_{25} d/D	V_{25} (fps)	Q_{100} (cfs)	Q_{100} d/D	V_{100} (fps)
0.1	0.01	1.71	2.51	0.28	13.79	3.69	0.34	15.52

8-in PVC Storm Conveyance Pipe – Drop Inlet #1 to Existing 12" STM Line

S_{MIN} '/ft	N	Area (ac)	Q_{25} (cfs)	Q_{25} d/D	V_{25} (fps)	Q_{100} (cfs)	Q_{100} d/D	V_{100} (fps)
0.1	0.01	3.51	4.93	0.40	16.79	7.16	0.50	18.14

Using the 25 year and 100 year storm event for measuring pipe conveyance, the storm water piping for the 17 lot subdivision meets and exceeds design requirements and shows the capacity to handle larger storm events. Calculations for pipe conveyances are located in Appendix C.

CONCLUSION

Using Rational Method for determining the storm runoff flows for The Sunset View 17 unit Subdivision the pre-development and post-development flows for the 25 year and 100 year storm events were determined. The storm system will handle the design storm event and won't cause flooding conditions for the 100 year storm event. The southern drainage course diversion swale and culvert were both analyzed for depth of flow and capacity and both are deemed acceptable. The results of these analyses supported the inputs for the swales, pipes, and culvert and demonstrated that the system is capable of handling a design storm event and has the capacity to handle larger storm events.

It is the recommendation of this report that the storm report for the 17 unit subdivision be approved as designed.

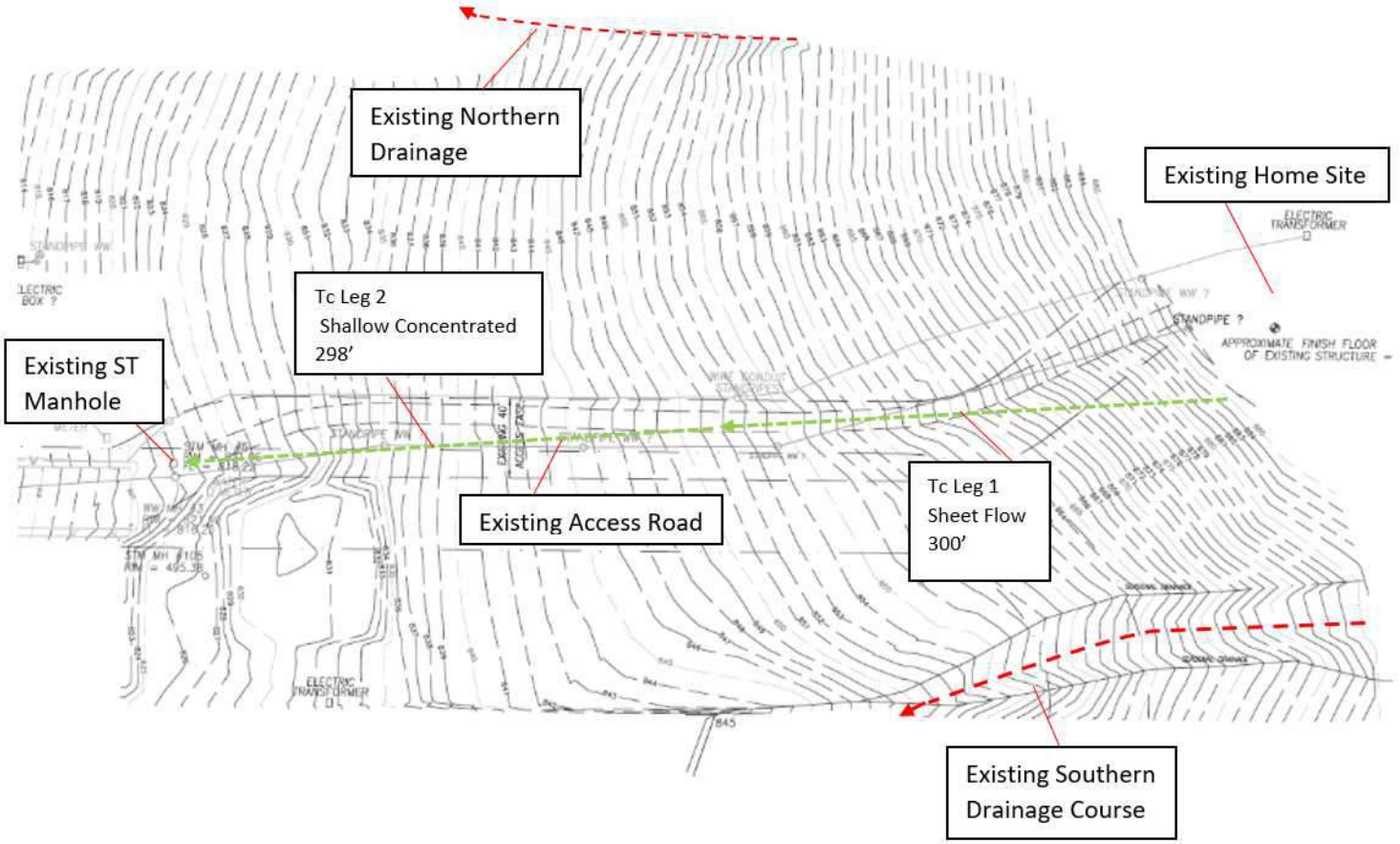

Existing Northern Drainage
Existing Home Site
Tc Leg 2
Shallow Concentrated
298'
Existing ST Manhole
Existing Access Road
Tc Leg 1
Sheet Flow
300'
Existing Southern Drainage Course
STANDPIPE ?
APPROXIMATE FINISH FLOOR OF EXISTING STRUCTURE
ELECTRIC TRANSFORMER

EXHIBIT 1

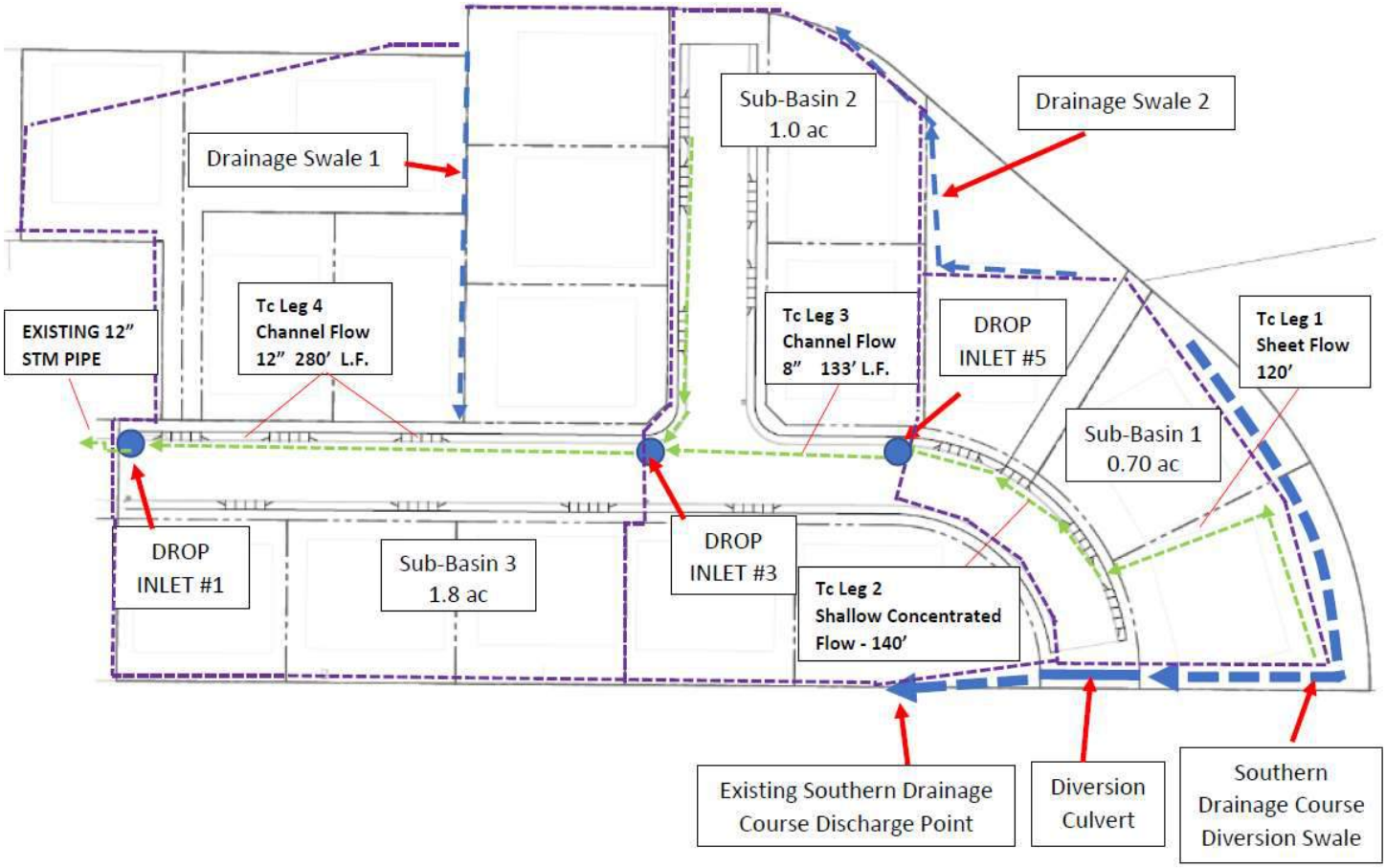

Drainage Swale 1
Sub-Basin 2
1.0 ac
Drainage Swale 2
EXISTING 12"
STM PIPE
Tc Leg 4
Channel Flow
12" 280' L.F.
Tc Leg 3
Channel Flow
8" 133' L.F.
DROP
INLET #5
Tc Leg 1
Sheet Flow
120'
Sub-Basin 1
0.70 ac
DROP
INLET #1
Sub-Basin 3
1.8 ac
DROP
INLET #3
Tc Leg 2
Shallow Concentrated
Flow - 140'
Existing Southern Drainage
Course Discharge Point
Diversion
Culvert
Southern
Drainage Course
Diversion Swale

EXHIBIT 2

APPENDIX A:

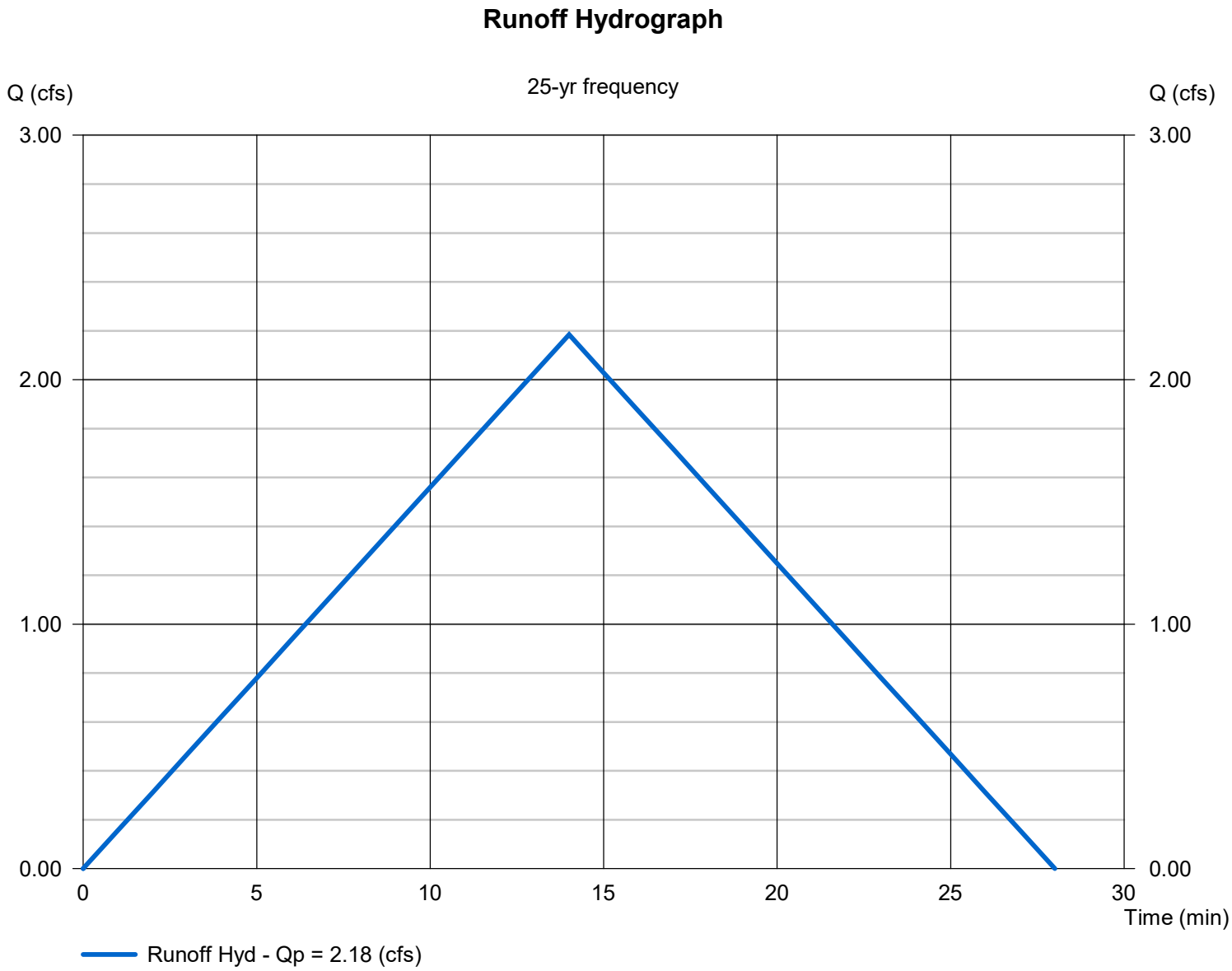
Pre and Post Development Storm Events

Hydrology Report

Pre Dev Discharge 25 yr

Hydrograph type	= Rational	Peak discharge (cfs)	= 2.184
Storm frequency (yrs)	= 25	Time interval (min)	= 1
Drainage area (ac)	= 3.800	Runoff coeff. (C)	= 0.3
Rainfall Inten (in/hr)	= 1.916	Tc by TR55 (min)	= 14
IDF Curve	= zone 5 IDF.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 1,835 (cuft); 0.042 (acft)



TR55 Tc Worksheet

Rational

Pre Dev Discharge 25 yr

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.050		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. ((in))	=	3.30		0.00		0.00		
Land slope (%)	=	1.00		0.00		0.00		
Travel Time (min)	**=**	**12.73**	**+**	**0.00**	**+**	**0.00**	**=**	**12.73**
Shallow Concentrated Flow								
Flow length (ft)	=	420.00		0.00		0.00		
Watercourse slope (%)	=	11.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	5.35		0.00		0.00		
Travel Time (min)	**=**	**1.31**	**+**	**0.00**	**+**	**0.00**	**=**	**1.31**
Channel Flow								
X sectional flow area ((sqft))	=	0.00		0.00		0.00		
Wetted perimeter ((ft))	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.011		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0**	**+**	**0**	**+**	**0**	**=**	**0.00**

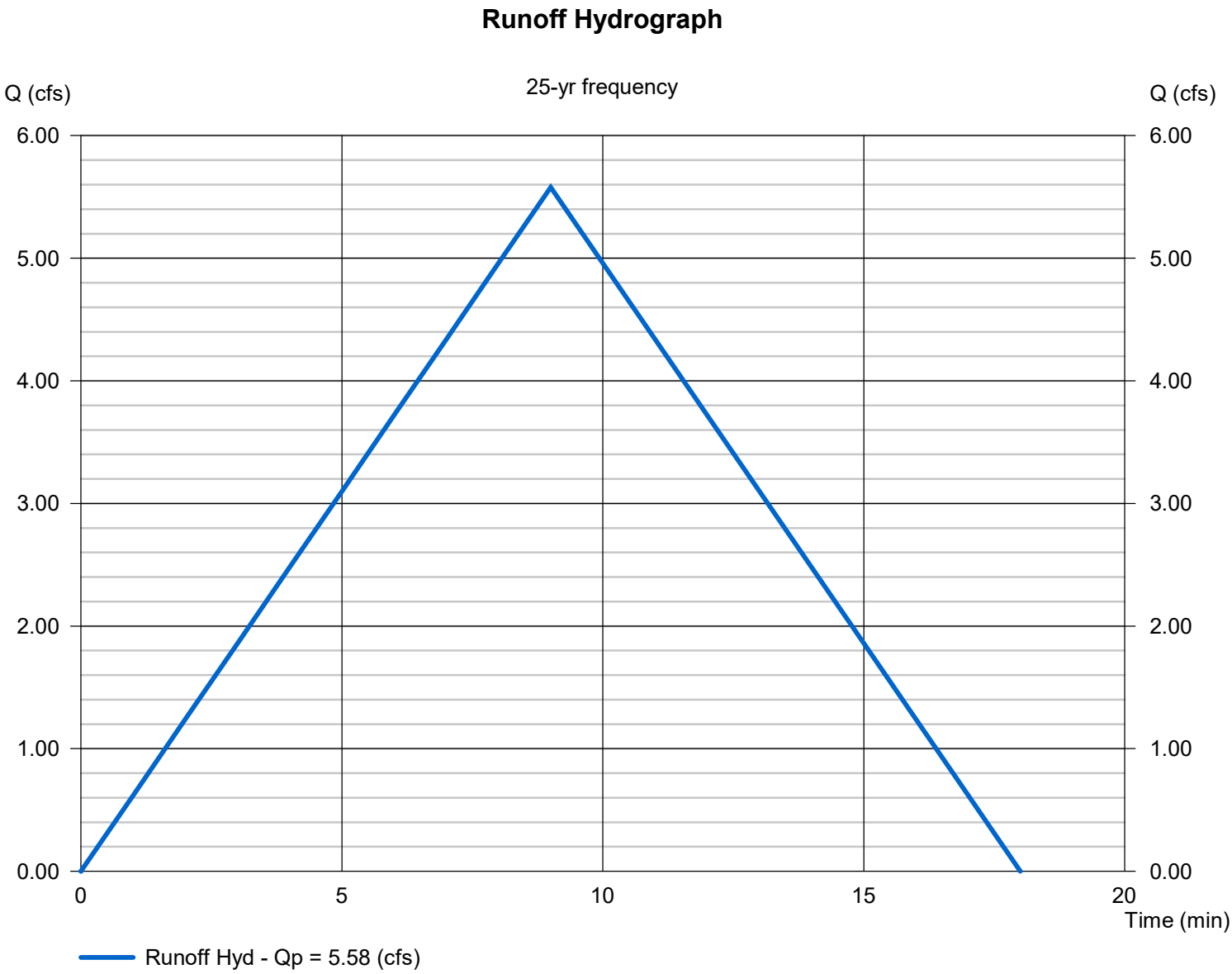
Total Travel Time, Tc ..... 14.00 min

Hydrology Report

Post-Dev Discharge 25 yr

Hydrograph type	= Rational	Peak discharge (cfs)	= 5.578
Storm frequency (yrs)	= 25	Time interval (min)	= 1
Drainage area (ac)	= 3.800	Runoff coeff. (C)	= 0.63
Rainfall Inten (in/hr)	= 2.330	Tc by TR55 (min)	= 9
IDF Curve	= zone 5 IDF.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 3,012 (cuft); 0.069 (acft)



TR55 Tc Worksheet

Rational

Post-Dev Discharge 25 yr

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.050		0.011		0.011		
Flow length (ft)	=	120.0		0.0		0.0		
Two-year 24-hr precip. ((in))	=	3.10		0.00		0.00		
Land slope (%)	=	0.50		0.00		0.00		
Travel Time (min)	**=**	**8.33**	**+**	**0.00**	**+**	**0.00**	**=**	**8.33**
Shallow Concentrated Flow								
Flow length (ft)	=	140.00		0.00		0.00		
Watercourse slope (%)	=	10.00		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	6.43		0.00		0.00		
Travel Time (min)	**=**	**0.36**	**+**	**0.00**	**+**	**0.00**	**=**	**0.36**
Channel Flow								
X sectional flow area ((sqft))	=	0.35		0.79		0.00		
Wetted perimeter ((ft))	=	2.09		3.14		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.011		0.011		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	125.0		300.0		0.0		
Travel Time (min)	**=**	**∞0.00**	**+**	**∞0.00**	**+**	**0**	**=**	**inf.00**

Total Travel Time, Tc ..... 9.00 min

APPENDIX B:
Stormwater Pipe Conveyances

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Apr 15 2019

25 yr- Post Dev- Drop Inlet #5 to #3

Circular

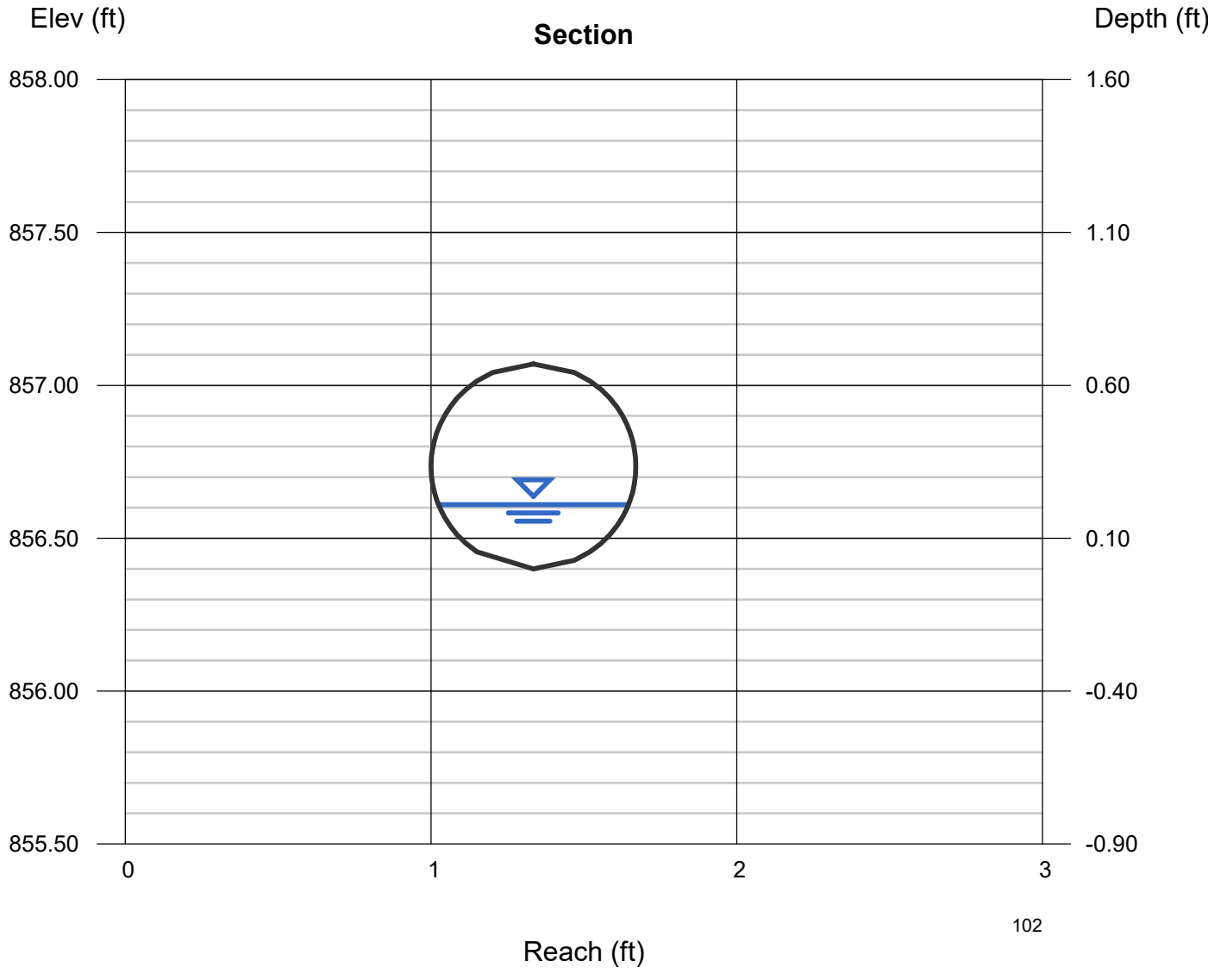
Diameter (ft)	= 0.67
Invert Elev (ft)	= 856.40
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 1.03

Highlighted

Depth (ft)	= 0.21
Q (cfs)	= 1.030
Area (sqft)	= 0.09
Velocity (ft/s)	= 10.86
Wetted Perim (ft)	= 0.80
Crit Depth, Yc (ft)	= 0.49
Top Width (ft)	= 0.62
EGL (ft)	= 2.04



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Apr 15 2019

100 yr- Post Dev- Drop Inlet #5 to #3

Circular

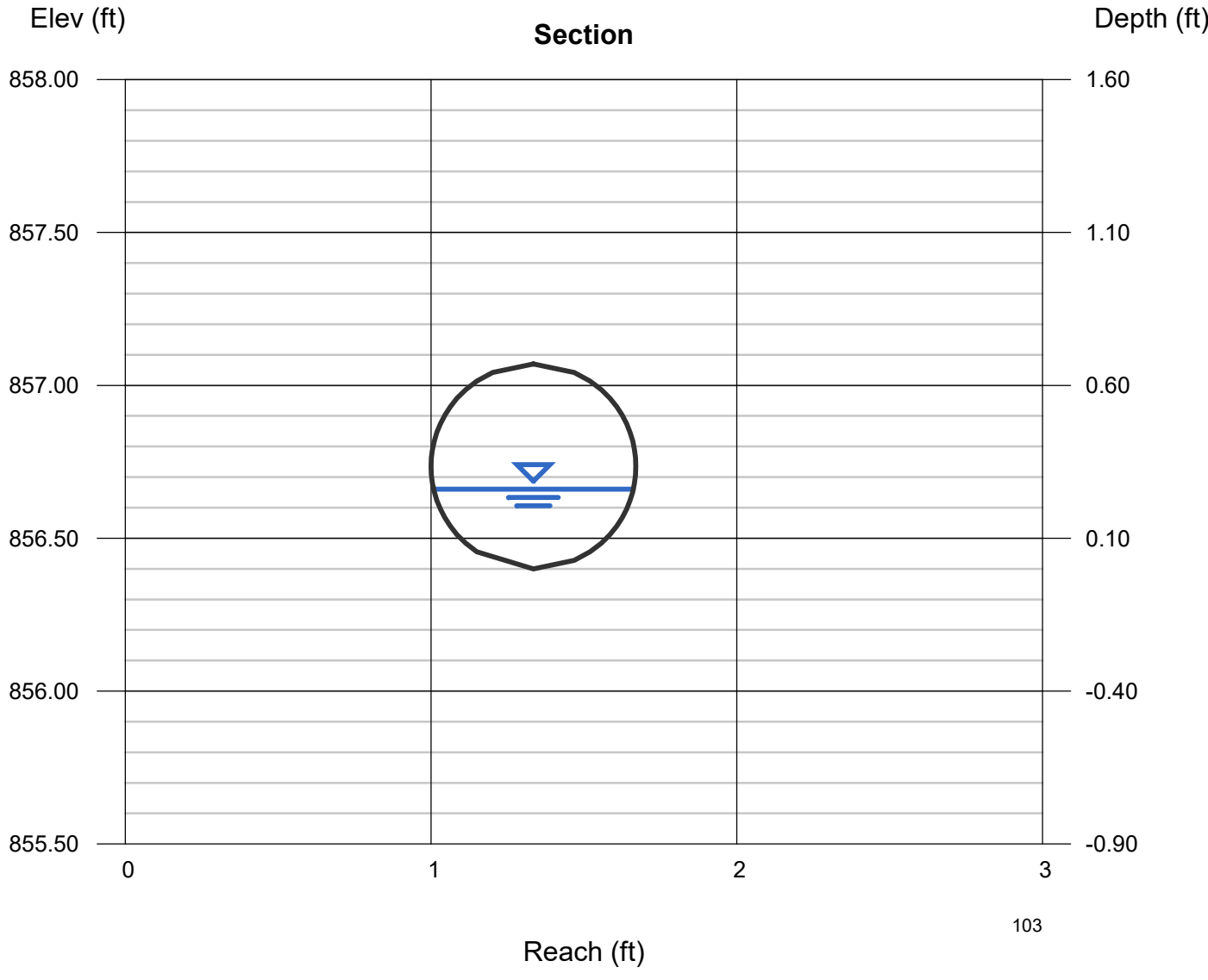
Diameter (ft)	= 0.67
Invert Elev (ft)	= 856.40
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 1.51

Highlighted

Depth (ft)	= 0.26
Q (cfs)	= 1.510
Area (sqft)	= 0.13
Velocity (ft/s)	= 11.84
Wetted Perim (ft)	= 0.90
Crit Depth, Yc (ft)	= 0.58
Top Width (ft)	= 0.65
EGL (ft)	= 2.44



Channel Report

25 yr- Post Dev- Drop Inlet #3 to #1

Circular

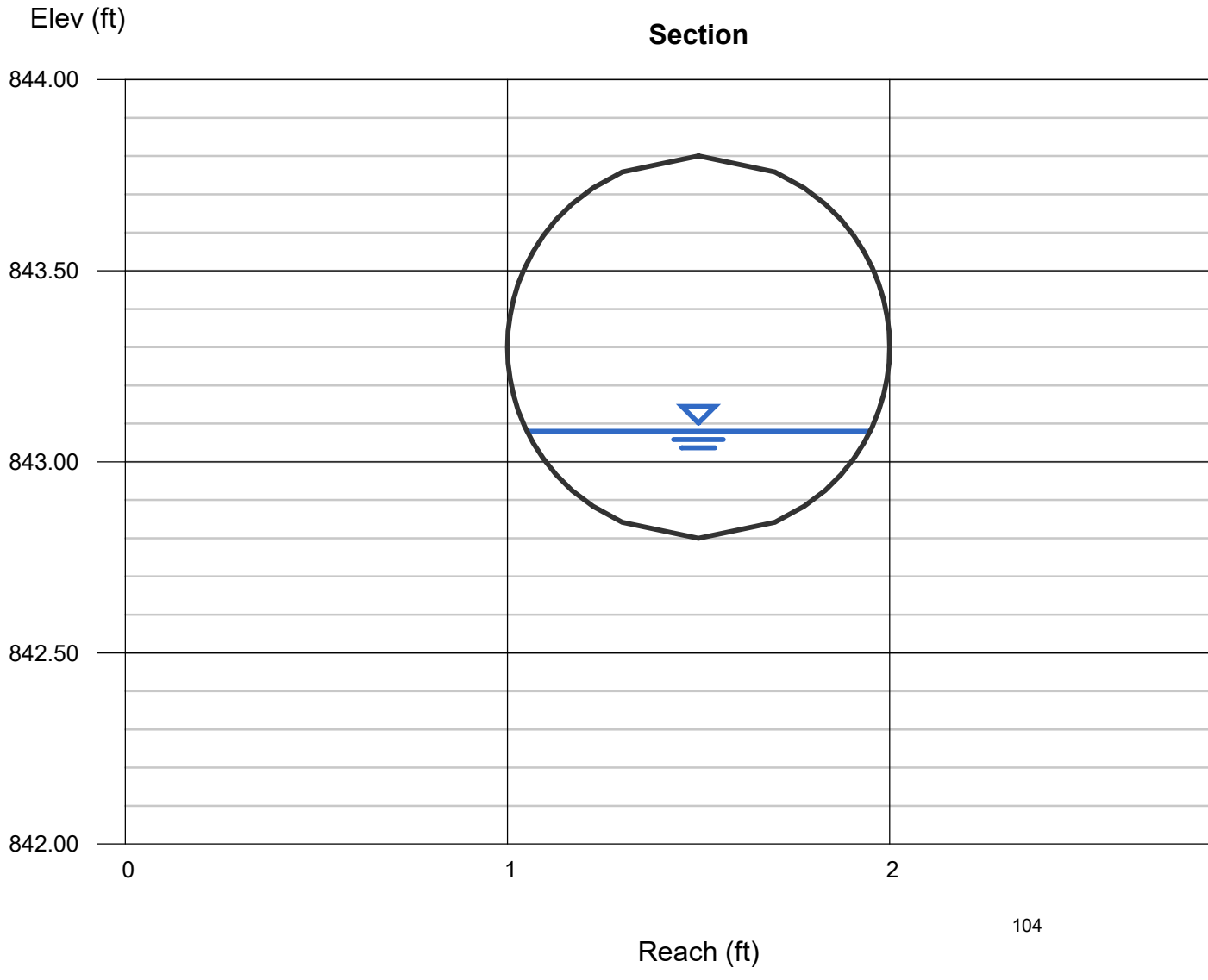
Diameter (ft)	= 1.00
Invert Elev (ft)	= 842.80
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.51

Highlighted

Depth (ft)	= 0.28
Q (cfs)	= 2.510
Area (sqft)	= 0.18
Velocity (ft/s)	= 13.79
Wetted Perim (ft)	= 1.12
Crit Depth, Yc (ft)	= 0.68
Top Width (ft)	= 0.90
EGL (ft)	= 3.24



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Apr 15 2019

100 yr- Post Dev- Drop Inlet #3 to #1

Circular

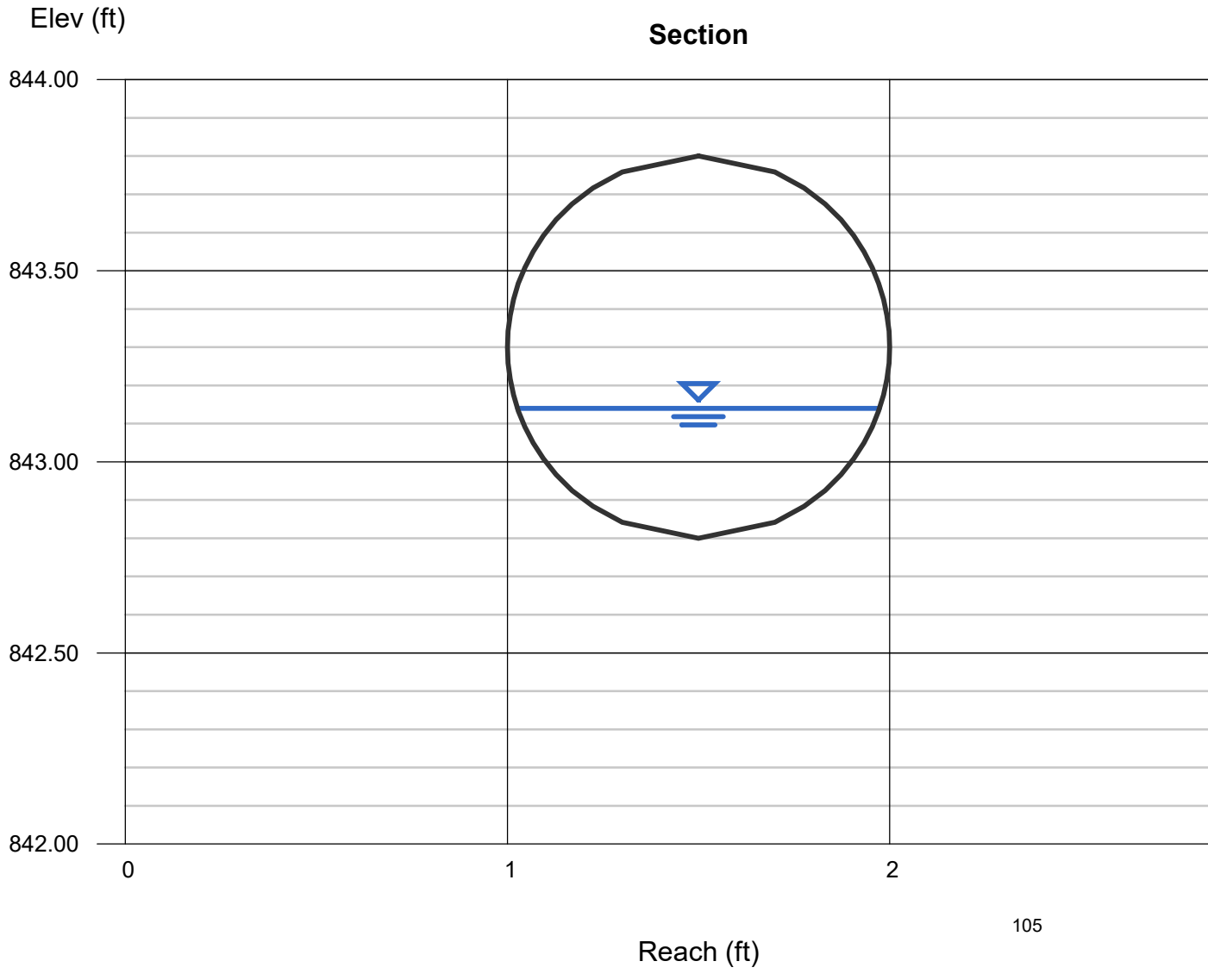
Diameter (ft)	= 1.00
Invert Elev (ft)	= 842.80
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 3.69

Highlighted

Depth (ft)	= 0.34
Q (cfs)	= 3.690
Area (sqft)	= 0.24
Velocity (ft/s)	= 15.52
Wetted Perim (ft)	= 1.25
Crit Depth, Yc (ft)	= 0.82
Top Width (ft)	= 0.95
EGL (ft)	= 4.09



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Apr 15 2019

25 yr- Post Dev- Drop Inlet #1 to Ex. 12in ST Line

Circular

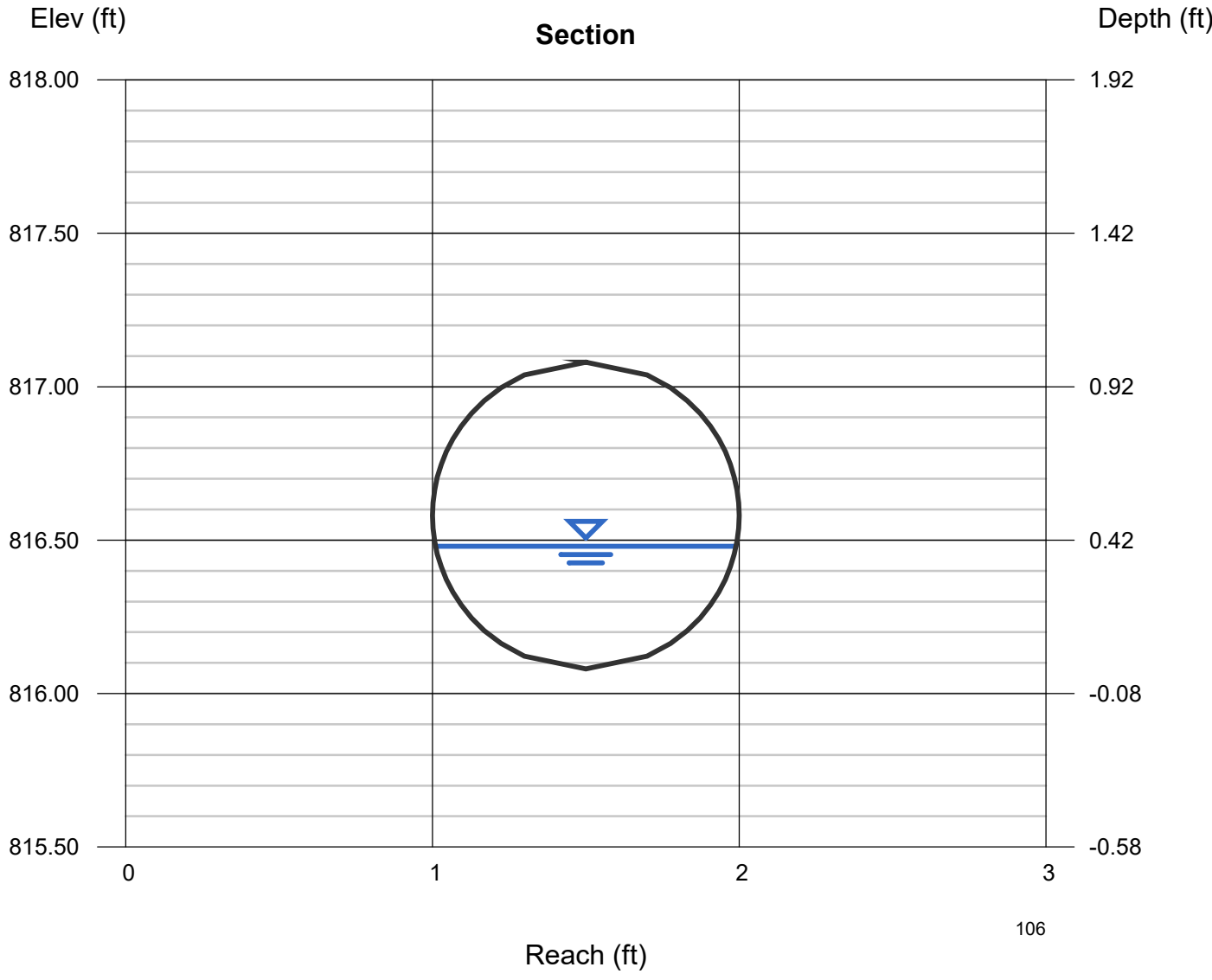
Diameter (ft)	= 1.00
Invert Elev (ft)	= 816.08
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 4.93

Highlighted

Depth (ft)	= 0.40
Q (cfs)	= 4.930
Area (sqft)	= 0.29
Velocity (ft/s)	= 16.79
Wetted Perim (ft)	= 1.37
Crit Depth, Yc (ft)	= 0.92
Top Width (ft)	= 0.98
EGL (ft)	= 4.78



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Apr 15 2019

100 yr- Post Dev- Drop Inlet #1 to Ex. 12in ST Line

Circular

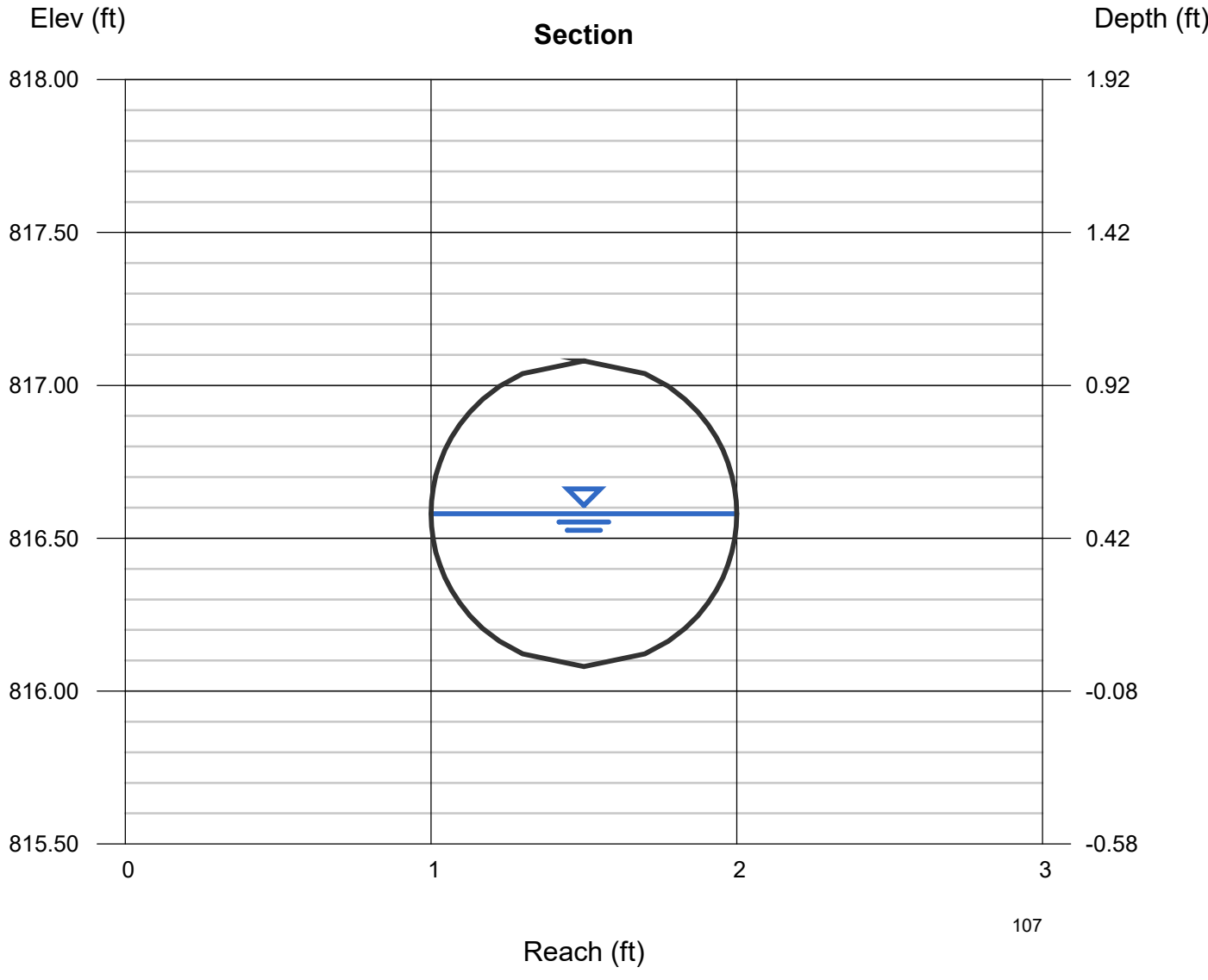
Diameter (ft)	= 1.00
Invert Elev (ft)	= 816.08
Slope (%)	= 10.00
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 7.16

Highlighted

Depth (ft)	= 0.50
Q (cfs)	= 7.160
Area (sqft)	= 0.39
Velocity (ft/s)	= 18.14
Wetted Perim (ft)	= 1.57
Crit Depth, Yc (ft)	= 0.98
Top Width (ft)	= 1.00
EGL (ft)	= 5.61



APPENDIX C:
Additional Onsite Flow Calculations

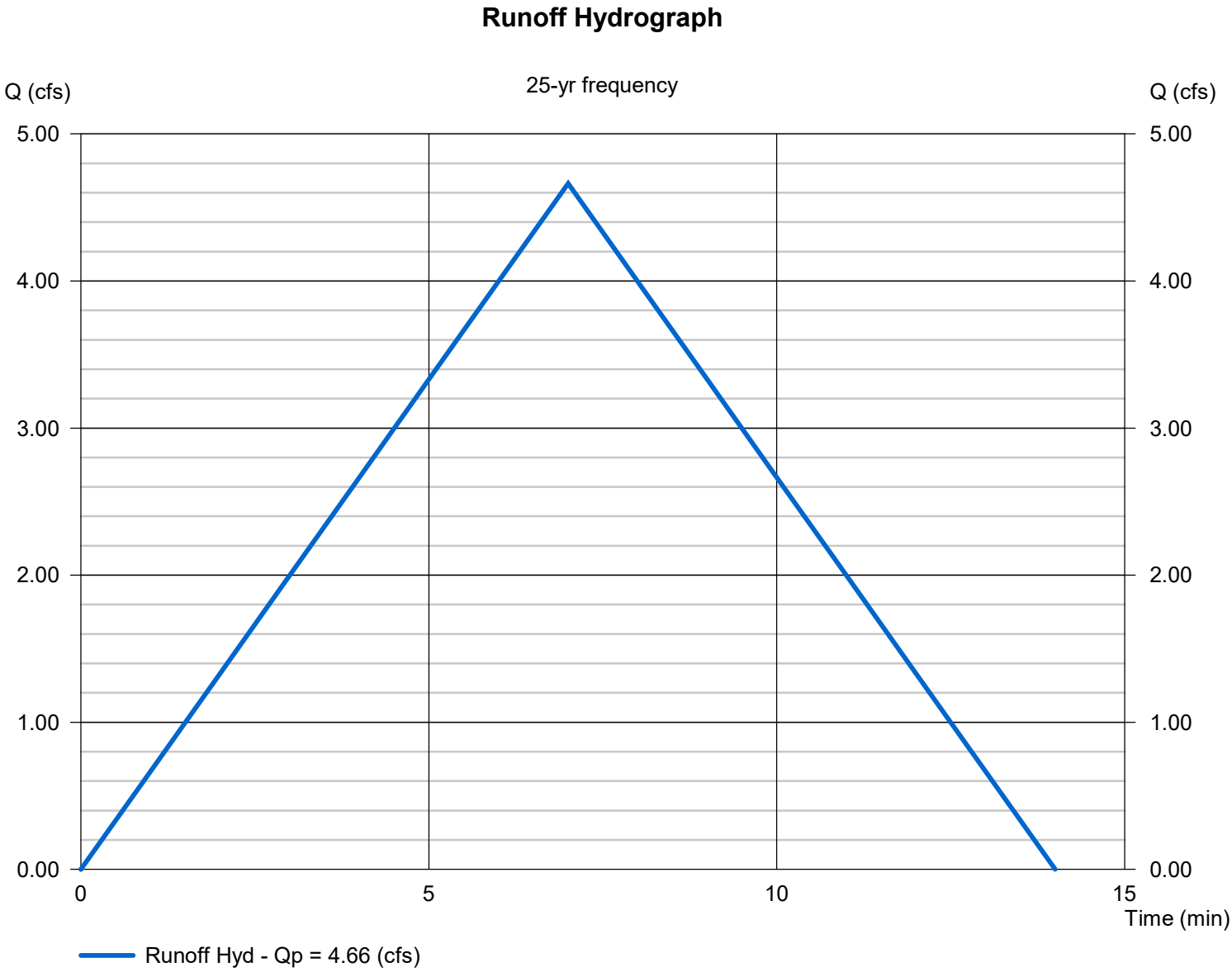
Hydrology Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Feb 11 2019

Southern Surcharge 25 year

Hydrograph type	= Rational	Peak discharge (cfs)	= 4.664
Storm frequency (yrs)	= 25	Time interval (min)	= 1
Drainage area (ac)	= 6.040	Runoff coeff. (C)	= 0.3
Rainfall Inten (in/hr)	= 2.574	Tc by TR55 (min)	= 7
IDF Curve	= zone 5 IDF.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 1,959 (cuft); 0.045 (acft)



TR55 Tc Worksheet

Rational

Southern Surcharge 25 year

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.075		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. ((in))	=	3.00		0.00		0.00		
Land slope (%)	=	14.00		0.00		0.00		
Travel Time (min)	**=**	**6.43**	**+**	**0.00**	**+**	**0.00**	**=**	**6.43**
Shallow Concentrated Flow								
Flow length (ft)	=	290.00		0.00		0.00		
Watercourse slope (%)	=	12.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	5.59		0.00		0.00		
Travel Time (min)	**=**	**0.86**	**+**	**0.00**	**+**	**0.00**	**=**	**0.86**
Channel Flow								
X sectional flow area ((sqft))	=	0.00		0.00		0.00		
Wetted perimeter ((ft))	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0**	**+**	**0**	**+**	**0**	**=**	**0.00**

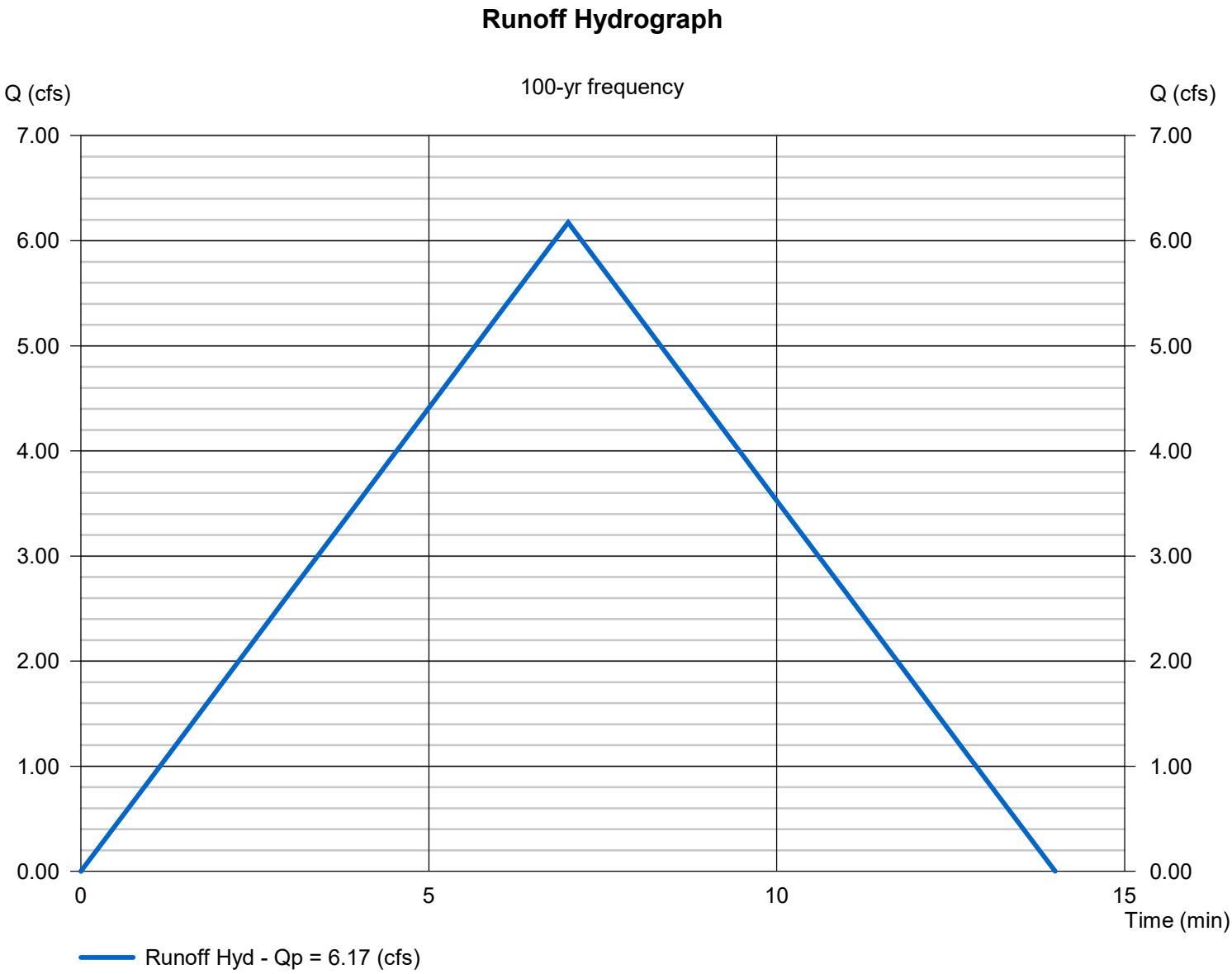
Total Travel Time, Tc ..... 7.00 min

Hydrology Report

Southern Surcharge 100 year

Hydrograph type	= Rational	Peak discharge (cfs)	= 6.174
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 6.040	Runoff coeff. (C)	= 0.3
Rainfall Inten (in/hr)	= 3.408	Tc by TR55 (min)	= 7
IDF Curve	= zone 5 IDF.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 2,593 (cuft); 0.060 (acft)



TR55 Tc Worksheet

Rational

Southern Surcharge 100 year

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.075		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. ((in))	=	3.00		0.00		0.00		
Land slope (%)	=	14.00		0.00		0.00		
Travel Time (min)	**=**	**6.43**	**+**	**0.00**	**+**	**0.00**	**=**	**6.43**
Shallow Concentrated Flow								
Flow length (ft)	=	290.00		0.00		0.00		
Watercourse slope (%)	=	12.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	5.59		0.00		0.00		
Travel Time (min)	**=**	**0.86**	**+**	**0.00**	**+**	**0.00**	**=**	**0.86**
Channel Flow								
X sectional flow area ((sqft))	=	0.00		0.00		0.00		
Wetted perimeter ((ft))	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0**	**+**	**0**	**+**	**0**	**=**	**0.00**

Total Travel Time, Tc ..... 7.00 min

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Feb 11 2019

Drainage Swale South 25 year

Trapezoidal

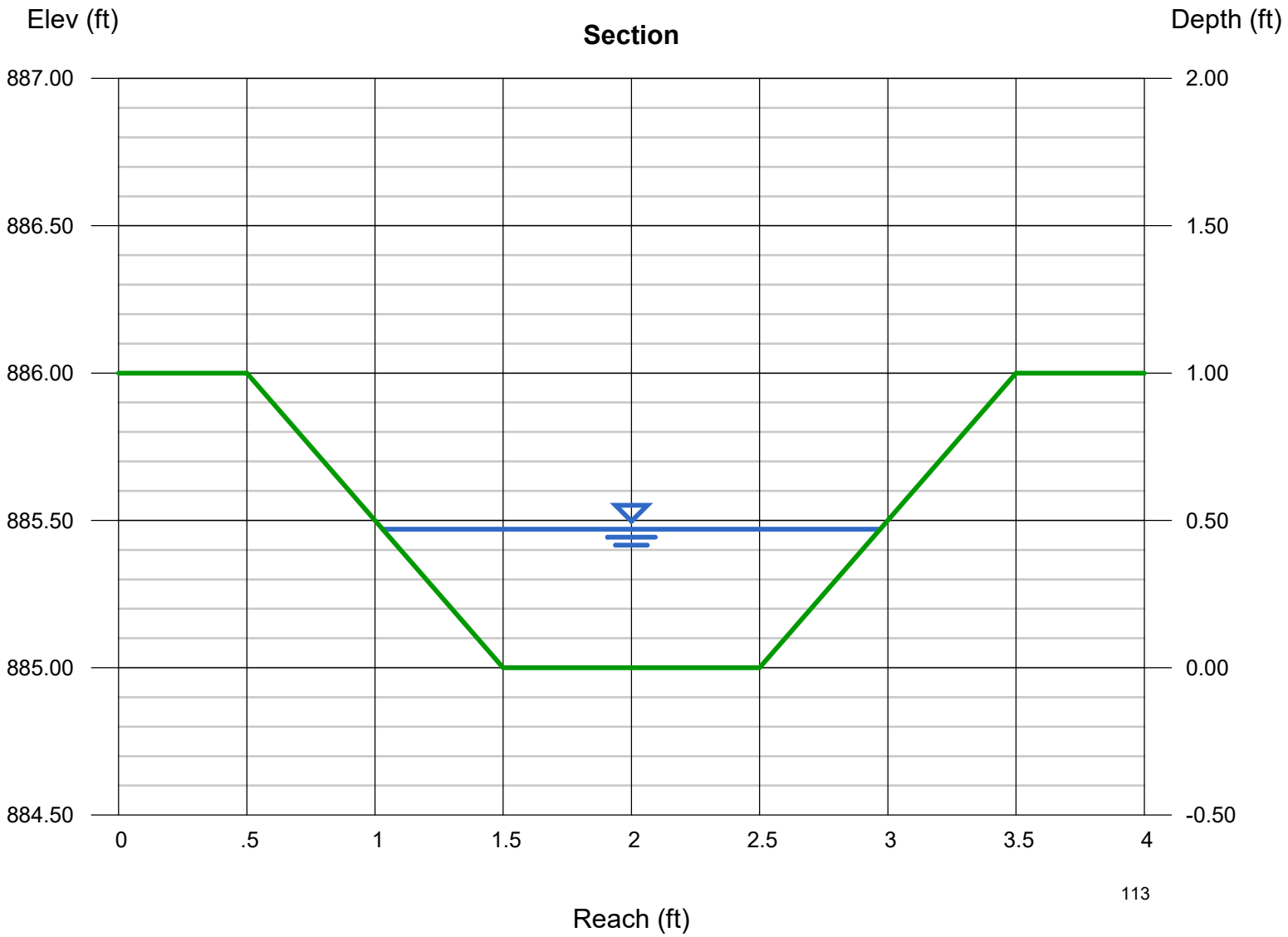
Bottom Width (ft)	= 1.00
Side Slopes (z:1)	= 1.00, 1.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 885.00
Slope (%)	= 7.00
N-Value	= 0.025

Calculations

Compute by:	Known Q
Known Q (cfs)	= 4.66

Highlighted

Depth (ft)	= 0.47
Q (cfs)	= 4.660
Area (sqft)	= 0.69
Velocity (ft/s)	= 6.74
Wetted Perim (ft)	= 2.33
Crit Depth, Yc (ft)	= 0.70
Top Width (ft)	= 1.94
EGL (ft)	= 1.18



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Feb 11 2019

Drainage Swale South 100 year

Trapezoidal

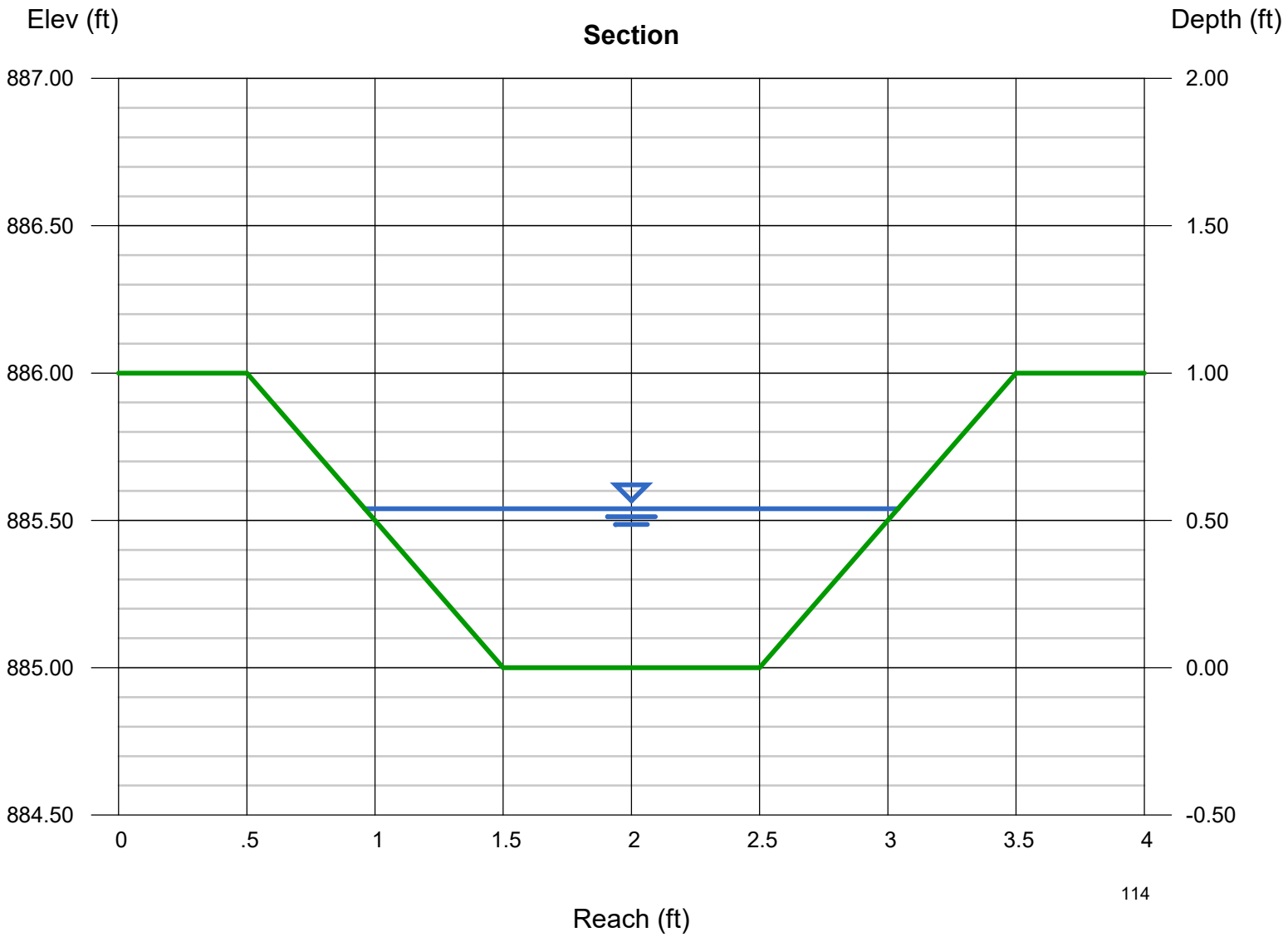
Bottom Width (ft)	= 1.00
Side Slopes (z:1)	= 1.00, 1.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 885.00
Slope (%)	= 7.00
N-Value	= 0.025

Calculations

Compute by:	Known Q
Known Q (cfs)	= 6.17

Highlighted

Depth (ft)	= 0.54
Q (cfs)	= 6.170
Area (sqft)	= 0.83
Velocity (ft/s)	= 7.42
Wetted Perim (ft)	= 2.53
Crit Depth, Yc (ft)	= 0.81
Top Width (ft)	= 2.08
EGL (ft)	= 1.40



Culvert Report

Drainage Culvert 25 Year

Invert Elev Dn (ft)	=	861.00
Pipe Length (ft)	=	52.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	862.04
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Headwall
Coeff. K,M,c,Y,k	=	0.0078, 2, 0.0379, 0.69, 0.5

Embankment

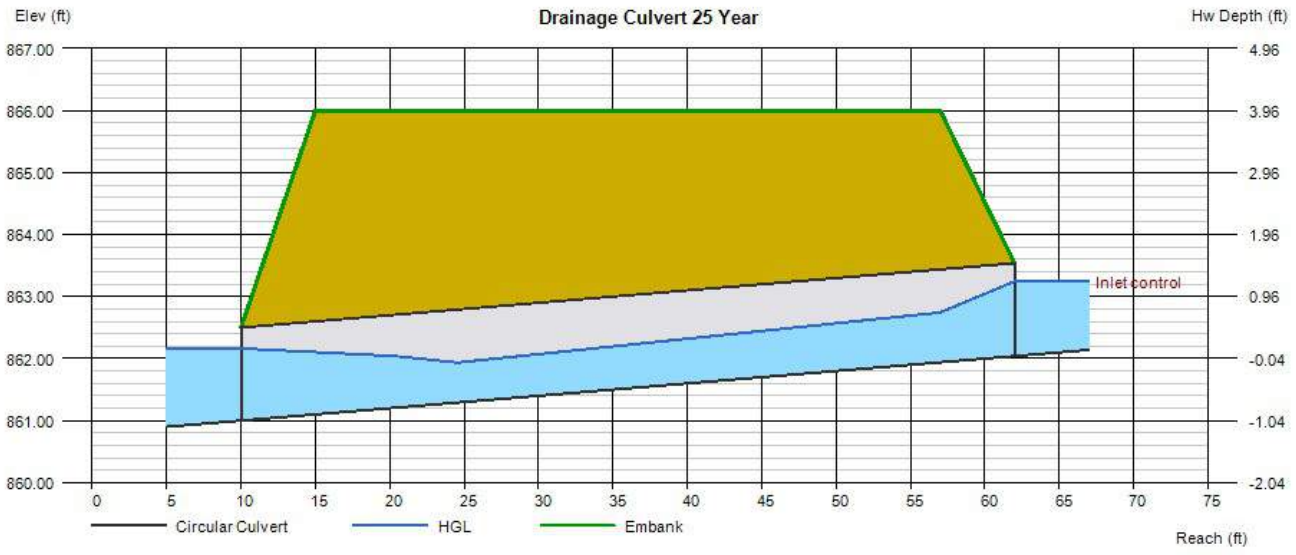
Top Elevation (ft)	=	866.00
Top Width (ft)	=	42.00
Crest Width (ft)	=	10.00

Calculations

Qmin (cfs)	=	4.66
Qmax (cfs)	=	6.17
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	4.66
Qpipe (cfs)	=	4.66
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	3.17
Veloc Up (ft/s)	=	4.66
HGL Dn (ft)	=	862.16
HGL Up (ft)	=	862.87
Hw Elev (ft)	=	863.24
Hw/D (ft)	=	0.80
Flow Regime	=	Inlet Control



Culvert Report

Drainage Culvert 100 Year

Invert Elev Dn (ft)	=	861.00
Pipe Length (ft)	=	52.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	862.04
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Headwall
Coeff. K,M,c,Y,k	=	0.0078, 2, 0.0379, 0.69, 0.5

Embankment

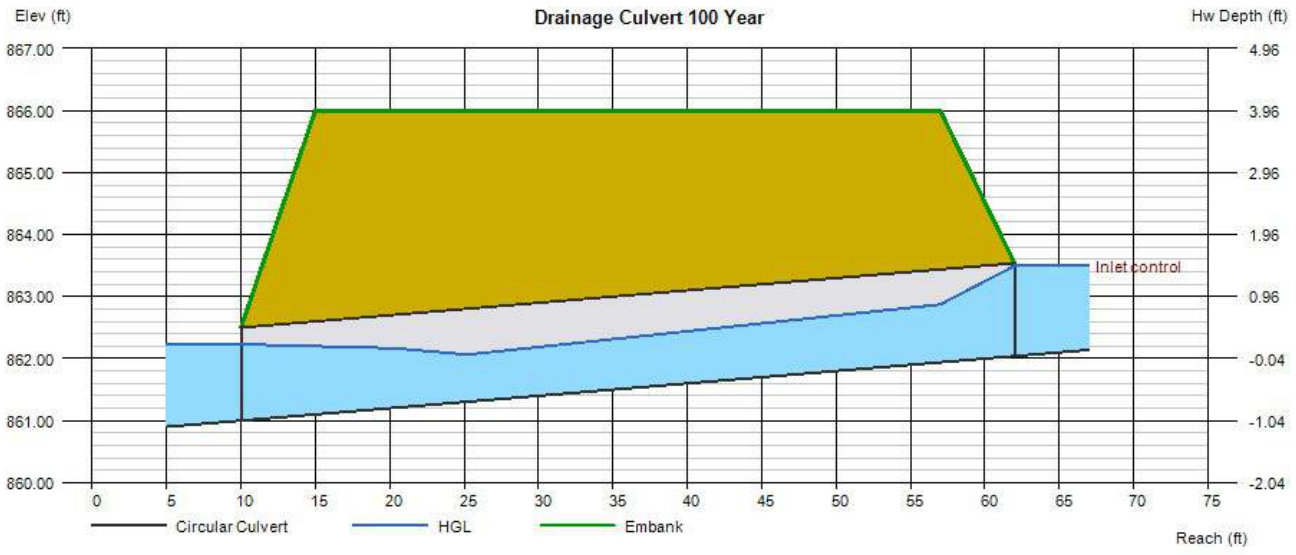
Top Elevation (ft)	=	866.00
Top Width (ft)	=	42.00
Crest Width (ft)	=	10.00

Calculations

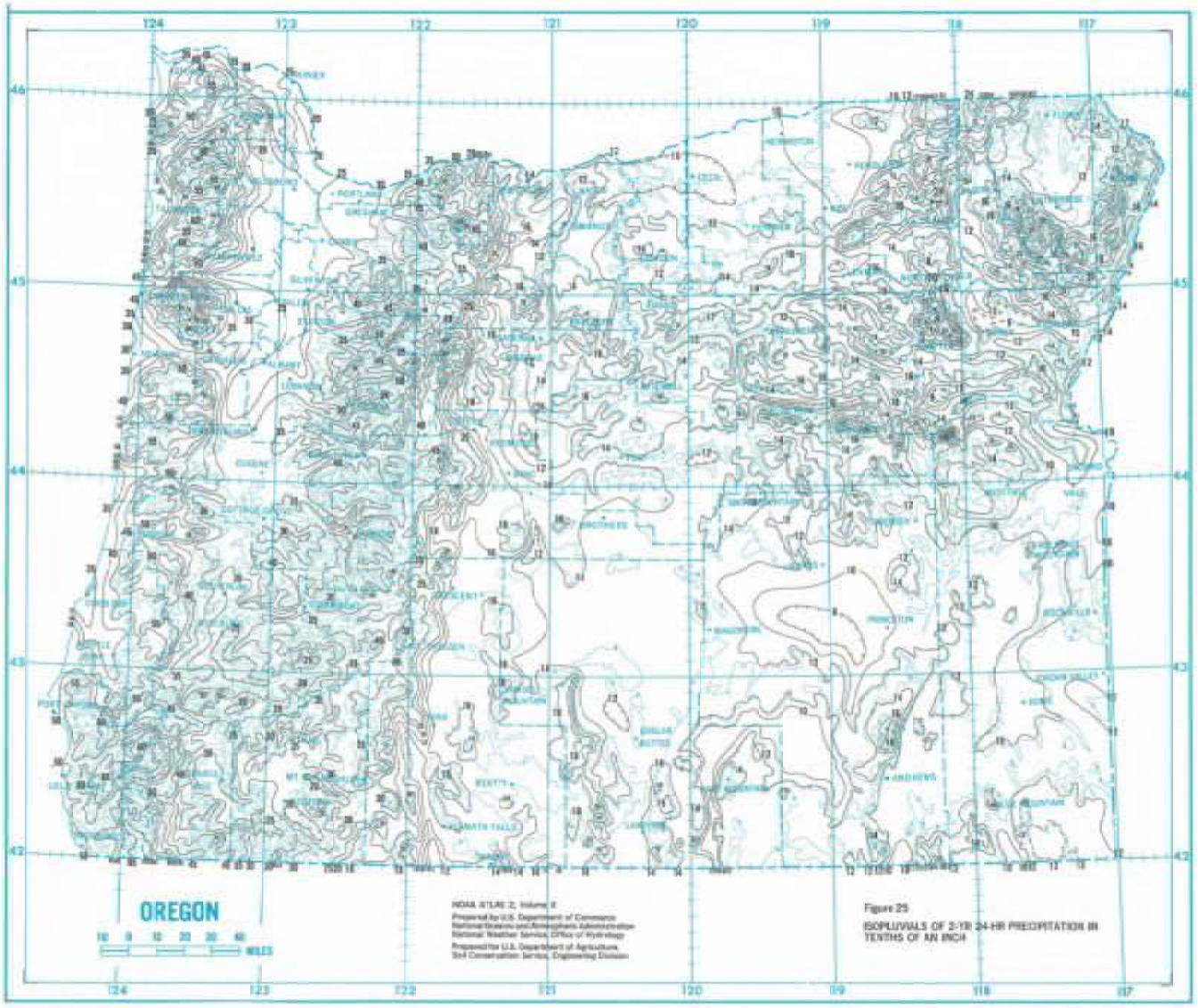
Qmin (cfs)	=	6.17
Qmax (cfs)	=	6.17
Tailwater Elev (ft)	=	(dc+D)/2

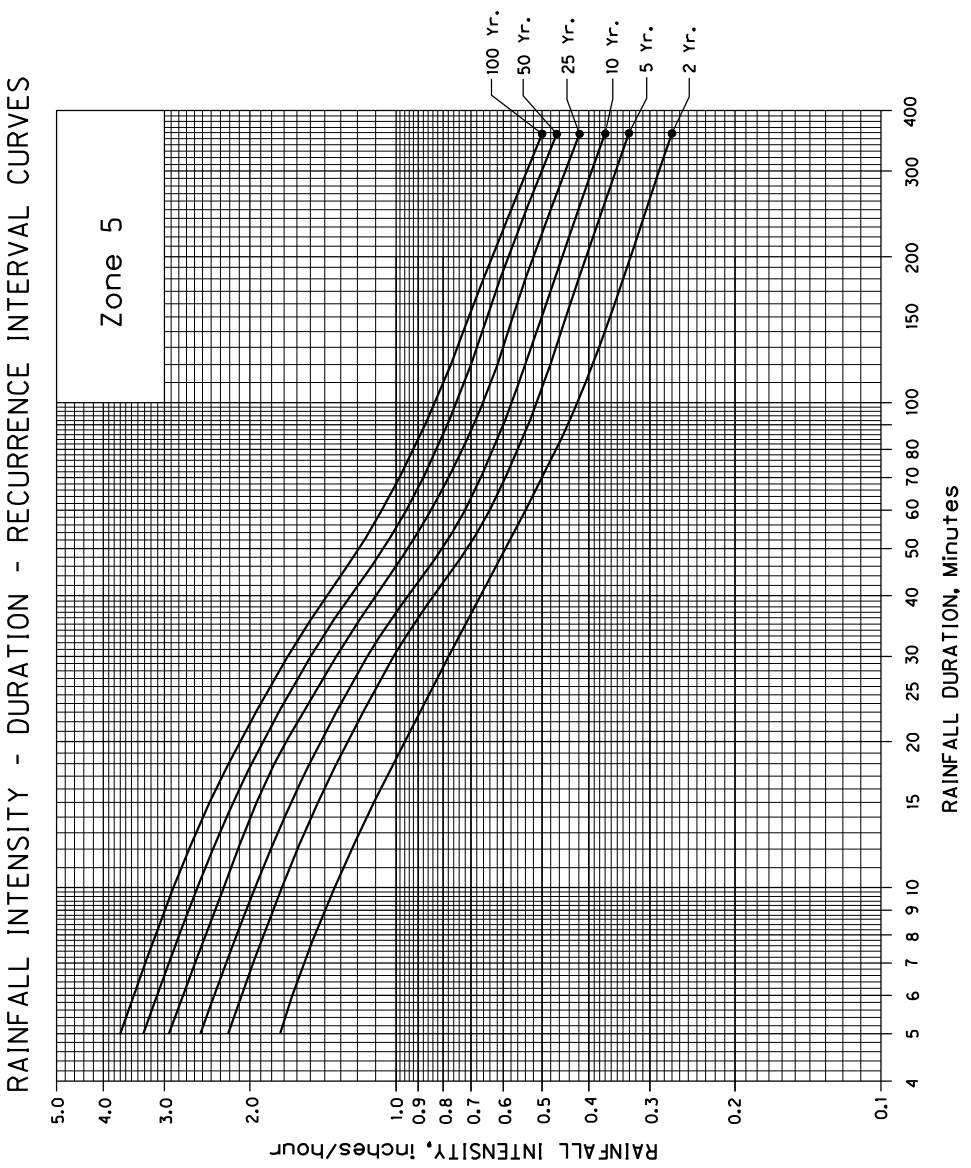
Highlighted

Qtotal (cfs)	=	6.17
Qpipe (cfs)	=	6.17
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	3.98
Veloc Up (ft/s)	=	5.17
HGL Dn (ft)	=	862.23
HGL Up (ft)	=	863.00
Hw Elev (ft)	=	863.49
Hw/D (ft)	=	0.97
Flow Regime	=	Inlet Control



APPENDIX D:
Supplemental Material


OREGON
NOAA ATLAS 2, Volume X
Prepared for U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service, Office of Hydrology
Prepared for U.S. Department of Agriculture
Soil Conservation Service, Engineering Division
Figure 25
ISOPLUVIALS OF 2-YR 24-HR PRECIPITATION IN TENTHS OF AN INCH


RAINFALL INTENSITY - DURATION - RECURRENCE INTERVAL CURVES
Zone 5
100 Yr.
50 Yr.
25 Yr.
10 Yr.
5 Yr.
2 Yr.
RAINFALL INTENSITY, inches/hour
5.0
4.0
3.0
2.0
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
4
5
6
7
8
9
10
15
20
25
30
40
50
60
70
80
100
150
200
300
400
RAINFALL DURATION, Minutes

Map Scale: 1:3,870 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
Survey Area Data: Version 15, Sep 18, 2018

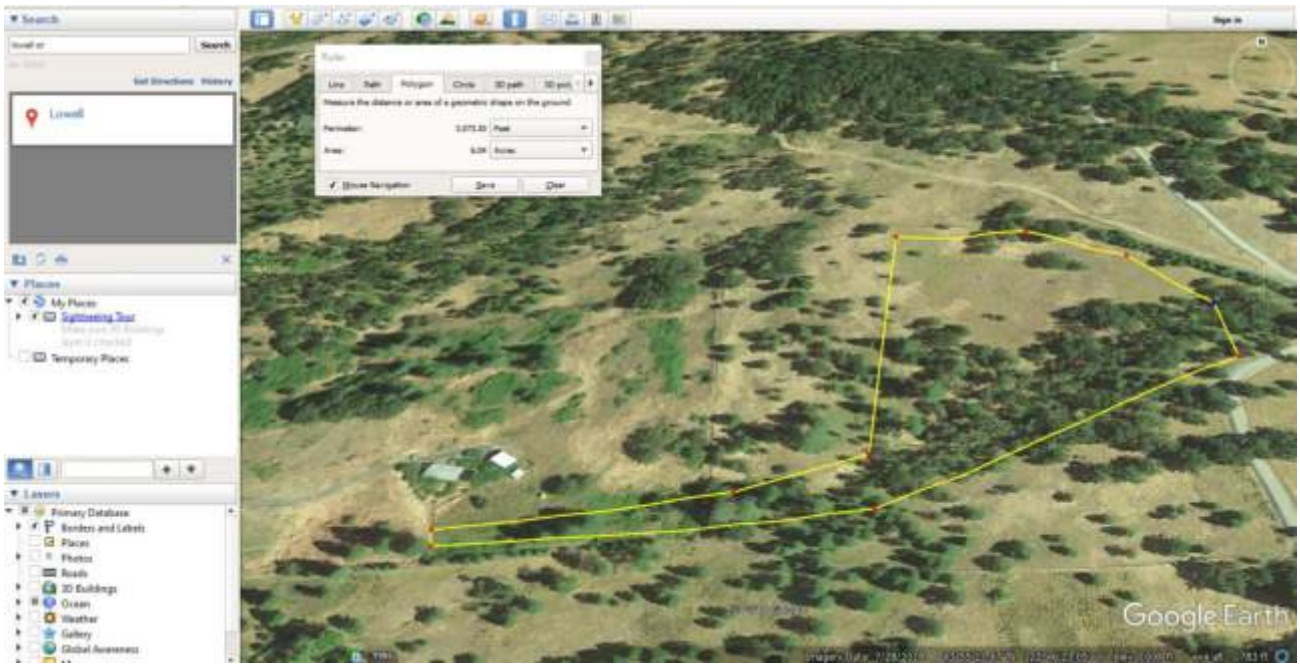
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 18, 2013—Sep 9, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
43E	Dixonville-Philomath-Hazelair complex, 12 to 35 percent slopes	32.1	42.6%
52B	Hazelair silty clay loam, 2 to 7 percent slopes	18.4	24.4%
52D	Hazelair silty clay loam, 7 to 20 percent slopes	18.6	24.7%
138G	Witzel very cobbly loam, 30 to 75 percent slopes	6.3	8.4%
Totals for Area of Interest		**75.5**	**100.0%**


Search
Lowell
Places
My Places
Temporary Places
Layers
Primary Database
Borders and Labels
Places
Photos
Roads
3D Buildings
Ocean
Weather
Gallery
Global Awareness
Google Earth

Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN# *

WN2019-0625

Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Henry Hearley	City	Lowell

Local case file #	County
LU 2019 04	Lane

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
19S	01W	14	AD	5000

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

Lane

Latitude	Longitude
43.922306	-122.776021

Wetland/Waterway/Other Water Features

☑ There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.

Your Activity

☑ It appears that the proposed project **may** impact wetlands and **may** require a State permit.

Applicable Oregon Removal-Fill Permit Requirement(s)

☑ A state permit is required for 50 cubic yards or more of fill removal or other ground alteration in wetlands, below ordinary high water of waterways, within other waters of the state, or below highest measured tide.

Closing Information

Additional Comments

Based on review of available information and submitted site plan, proposed construction may impact jurisdictional wetlands or other waters associated with feature delineated in WD1997-0473-2. A delineation report of this area is recommended prior to development to determine if jurisdictional wetlands/waters exist.

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

☑ A Federal permit may be required by The Army Corps of Engineers: (503)808-4373

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf

Response Date

11/8/2019

Response by:

Matthew Unitis

Response Phone:

503-986-5262

Wetland Land Use Notification

OREGON DEPARTMENT OF STATE LANDS
775 Summer Street NE, Suite 100, Salem, OR 97301-1279
Phone: (503) 986-5200

This form is to be completed by planning department staff for mapped wetlands and waterways.

Responsible Jurisdiction

*	**Municipality** *	**Date** *
(•) City of ( ) County of	Lowell	10/31/2019

Staff Contact

First Name *	**Last Name** *
Henry	Hearley
Phone *	**Email** *
5416823089	hhearley@lcog.org

Applicant

First Name *	**Last Name** *
Matt	Bahen

Mailing Address *

Street Address
195 Melton Rd
Address Line 2

City	State
Creswell	OR
Postal / Zip Code	Country
97426	USA

Phone	**Email** (?)
5415137623	speedylu@gmail.com

Is the Property Owner name and address the same as the Applicant? *

( ) No (•) Yes

Activity Location

Township * (?)	**Range** * (?)	**Section** * (?)
19S	01W	14

Quarter-quarter Section (?)

AD

Tax Lot(s) *

5000

You can enter multiple tax lot numbers within this field. i.e. 100, 200, 300, etc.

To add additional tax map and lot information, please click the "add" button below.

Address

Street Address

Address Line 2

City

State

Postal / Zip Code

Country

County *

Lane

Adjacent Waterbody

Proposed Activity

Local Case File # *

LU 2019 04

Zoning

R-1

Proposed

- ☐ Building Permit (new structures)
- ☐ Grading Permit
- ☐ Site Plan Approval
- ☐ Other (please describe)
- ☐ Conditional use Permit
- ☐ Planned Unit Development
- ☑ Subdivision

Project *

16-lot subdivision Sunset Hills (an expansion of an existing subdivision in Lowell). There are two wetland delineations near the development. See attached Exhibit A as submitted by the applicant's surveyor. I'll include the tentative plan and the applicant's narrative. This application is still in review and has not been deemed complete nor has a hearing been scheduled yet.

Required attachments with site marked: Tax map and site plan(s). (?)

Initial Application.pdf	1.06MB
1319_001.pdf	52.9KB
narrative.pdf	405.39KB
tentative map.pdf	179.75KB

Additional Attachments

Date

10/31/2019

HEARLEY Henry O

From: Max Baker <mbaker@ci.lowell.or.us>
Sent: August 14, 2020 10:43 AM
To: HEARLEY Henry O
Subject: turn arounds for 4th street extension

Hi Henry,

Just a reminder about the turn arounds on 4th street extension. Chief was saying anything over 150' requires a turn around. Both proposed streets are over 150'.

Best Regards,

Max Baker
Public Works Director
City of Lowell
107 East Third Street
Lowell, OR 97452
Office: 541-937-2776
mbaker@ci.lowell.or.us

Oregon Fire Code

APPENDIX D
FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are adopted by the State of Oregon.

SECTION D101
GENERAL

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*. The fire code official may be guided by the Oregon Department of Land Conservation and Development's Neighborhood Street Design Guidelines, June 2001.

SECTION D102
REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an *approved* fire apparatus access road with an asphalt, concrete or other *approved* driving surface capable of supporting the imposed load of fire apparatus weighing at least 60,000 pounds (27 240 kg).

Exception: The minimum weight specified in Section D102.1 may be increased by the fire code official based upon the actual weight of fire apparatus vehicles serving the jurisdiction that provides structural fire protection services to the location including fire apparatus vehicles that respond under automatic and mutual aid agreements.

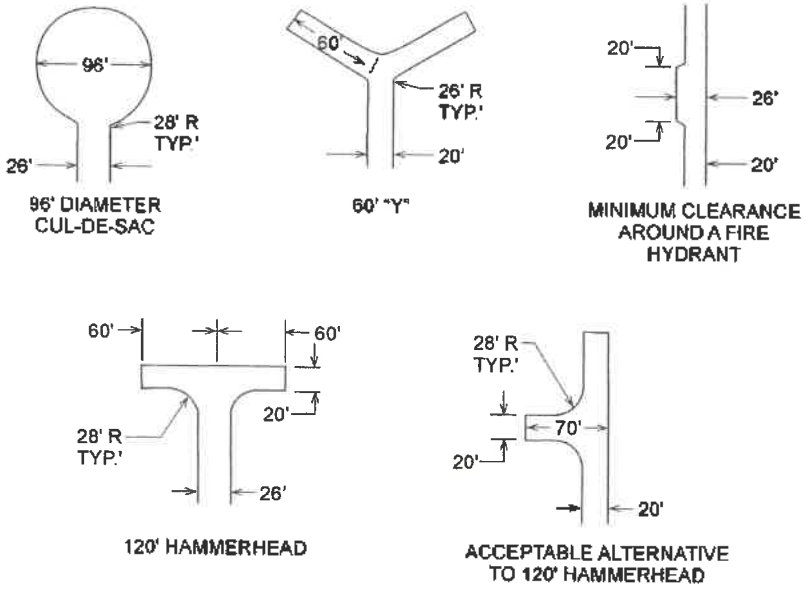
D102.1.1 Access in wildland-urban interface areas. For egress and access concerns in wildland-urban interface locations, the fire code official may be guided by the *International Wildland-Urban Interface Code*.

SECTION D103
MINIMUM SPECIFICATIONS

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure D103.1).

Exceptions: The fire code official is authorized to modify the provisions of Section D103.1 when:

1. In accordance with OAR 918-480-0100, all buildings are completely protected with an approved automatic fire sprinkler system;
2. Provisions are made for the emergency use of sidewalks by such means as rolled or mountable curbs capable of supporting the fire department's apparatus;
3. Streets or roadways are identified for one-way circulating flow of traffic or pullouts are provided every 150 feet (45 720 mm) on streets or roadways identified for two-way traffic; or
4. A grid system for traffic flow is provided and streets or roadways in the grid do not exceed 300 feet (91 400 mm) in length but are accessible at each end from approved access roadways or streets.



For SI: 1 foot = 304.8 mm.

FIGURE D103.1
DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as *approved* by the fire chief.

D103.3 Turning radius. The minimum turning radius shall be determined by the *fire code official*.

D103.3.2 Drainage. When subject to run-off damage, the fire code official is authorized to require approved drainage.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

TABLE D103.4
REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0–150	20	None required
151–500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
501–750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
Over 750	Special approval required	

For SI: 1 foot = 304.8 mm.

D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).
2. Gates shall be of the swinging or sliding type.
3. Construction of gates shall be of materials that allow manual operation by one *person*.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be *approved* by the *fire code official*.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
7. Locking device specifications shall be submitted for approval by the *fire code official*.
8. Electric gate operators, where provided, shall be *listed* in accordance with UL 325.
9. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

D103.6 Signs. Where required by the *fire code official*, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.

D103.6.1 Roads 20 to 26 feet in width. Fire apparatus access roads 20 to 26 feet wide (6096 to 7925 mm) shall be posted on both sides as a *fire lane*.

D103.6.2 Roads more than 26 feet in width. Fire apparatus access roads more than 26 feet wide (7925 mm) to 32 feet wide (9754 mm) shall be posted on one side of the road as a *fire lane*.

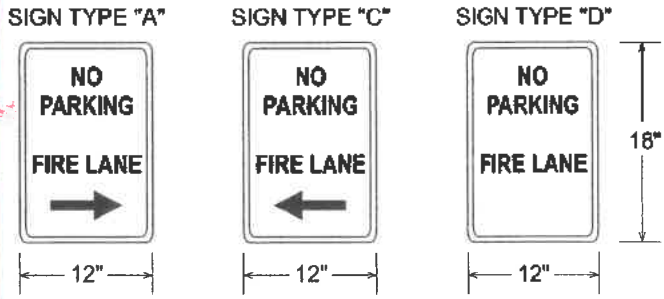


FIGURE D103.6
FIRE LANE SIGNS

SECTION D104
COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have at least two means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross *building area* of more than 62,000 square feet (5760 m²) shall be provided with two separate and *approved* fire apparatus access roads.

Exception: Projects having a gross *building area* of up to 124,000 square feet (11 520 m²) that have a single *approved* fire apparatus access road when all buildings are equipped throughout with *approved automatic sprinkler systems*.

D104.3 Remoteness. Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

SECTION D105
AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the low-

(8) The developer is responsible for all pavement structure testing requirements. *(Revised by Ordinance 10-04, Effective 6.4.04)*

15.708 Turnaround Areas.

(1) Turnarounds are required on dead-end roads over 200 feet in length. If insufficient right-of-way exists to construct a turnaround to the required specifications, a temporary, non-exclusive easement dedicated to the public will be required on the property to be developed or other property where the turnaround will be located, to provide for improvement and maintenance of the required turnaround area. The easement may be removed when and if the road is extended.

(a) Cul-de-sacs. A cul-de-sac is a "bulb"-shaped design at the closed end of a dead-end road that allows vehicles to turn around without backing up. Diagram 6 in LC 15.710 illustrates the cul-de-sac design standard.

(i) Cul-de-sacs shall have a minimum 36 foot improved surface turning radius with sufficient right-of-way to provide improvements matching those of the intersecting road, except that bicycle facility improvements are not required within the cul-de-sac.

(ii) The radii of the intersecting road and cul-de-sac turnaround shall be a minimum 20 feet.

(iii) Other designs will be considered provided they allow for 40 foot long, single turning axis emergency vehicles to turn around without backing up.

(iv) The road intersecting the cul-de-sac shall meet the applicable road design standards for its functional classification.

(b) Hammerhead Turnarounds. Hammerhead turnarounds consist of a "three-legged" road design generally shaped like a "T" at the closed end of a dead-end road, that allows vehicles to turn around with minimal backing up. Diagram 7 in LC 15.710 illustrates minimum dimensions required for hammerhead turnarounds.

(i) The hammerhead turnaround area extends from an intersecting dead-end road and may include a driveway as one of the three road legs. No gate or fencing is allowed across the driveway within the turnaround area.

(ii) Hammerhead turnarounds shall be designed to allow large emergency equipment to negotiate a maximum three-point turning on dead-end roads.

(iii) One of the following combinations of road width and radius dimensions shall be used:

(aa) The "T" at the terminus of the hammerhead shall be a minimum 100 feet in length. Each of the three legs shall be a minimum 20 feet in width, and the radii of the intersecting road and hammerhead shall be 30 feet; or

(bb) The "T" at the terminus of the hammerhead shall be a minimum 115 feet in length. Each of the three legs shall be a minimum 12 feet in width, and the radii of the intersecting road and hammerhead shall be 50 feet; or

(cc) Other designs will be considered provided they allow for three-point turnarounds by 40 feet long, single axle turning emergency vehicles.

(iv) The road intersecting the hammerhead turnaround shall meet the applicable standards for its functional classification. The hammerhead road surface shall match the surface of the intersecting road and shall have adequate right-of-way to provide improvements matching those of the intersecting road, except that bicycle facility improvements are not required in the hammerhead turnaround. *(Revised by Ordinance 10-04, Effective 6.4.04)*

ATTACHMENT G

HEARLEY Henry O

From: The Bahens <speedylu@gmail.com>
Sent: September 14, 2020 10:29 AM
To: HEARLEY Henry O
Subject: Re: Thanks for talking with me

Henry,
Thank you for taking the time to discuss the upcoming city council meeting. I am formally requesting a 60 day extension on the public meeting to allow my team some more time to address any concerns that have come up.
I appreciate your work on this matter.
Dr. Bahen

On Mon, Sep 14, 2020 at 10:05 AM HEARLEY Henry O <HHEARLEY@lcog.org> wrote:

> Dr. Bahen,
>
> Thanks for taking the time to talk with me. I spoke with Jake Callister here at LCOG, he agrees the simplest way to resolve these issues is just to allow for more time for all parties to review and address the information. We don't want to work through these things during a hearing.
>
> For the extension you can just send me a note indicating you'd like a 60-day extension on your application. I'll file it away for the record and let the City know. I'll coordinate with Marsha (City Administrator) for getting tomorrow's hearing cancelled.
>
> Regarding a response to Mia's comments. After you and your team have a had a moment to review and discuss them, it would be best if a formal response from the applicant was submitted to the record, that way we can all see the issues that were raised and how they were addressed. Staff will include these into the staff report and associated findings, where applicable.
>
> Let me know if you need anything else.
>
> Henry

Henry O. Hearley

Associate Planner

Lane Council of Governments

hhearley@locg.org

541-682-3089

City of Lowell

Waiver/Extension of Statutory Timeline Requirements

Instructions: to waive or extend statutory timeline requirements applicable to your land use application, please complete all applicable fields, sign, date and return this form to the address listed below.

I, Matthew Baker, as owner or authorized representative of the

Applicant (Print Name)

property known as Assessor's Map and Tax Lot(s) 19-01-14-21 lot 5000 and is the subject of this request, do hereby voluntarily **(Check only One Box):**

☐ **Waive** the statutory timeline requirements of ORS 215.427, including any rights to a refund as provided for by ORS 215.427(8), and the associated right to seek mandamas as provided for by ORS 215.429(1). Furthermore, I hereby voluntarily request that the City delay processing the application until

_____. **(6 months maximum)**

☒ **Extend** the statutory timeline requirements of ORS 215.427 for 60 days in order to submit additional information. Ffurthermore, I do hereby voluntarily request the City delay processing of the application for the same number of days as above.

I understand:

1. By signing this form, I am making an irrevocable decision to extend/waive the statutory timeline requirements of ORS 215.427. I may not change my mind later except by withdrawing my application, filing a new application and paying the associated fees.
2. This statutory timeline waiver/extension is given freely and without compulsion by the City and is not conditioned on any City action apart from granting the delay requested for processing the application, if any.
3. I may request that the City resume processing my application at any time and understand that any such request has no effect on the statutory timeline extension/waiver granted.
4. The City of Lowell is not obligated to accept this statutory timeline waiver/extension request.

Matt Baker — 11-09-2020

Signature (Authorized Representative/Owner) **Date Signed**

Return to: City of Lowell

P.O. Box 490, Lowell, OR, 97452

July 10, 2019

Civil West
Engineering Services, Inc.
213 Water Ave. NW, Ste. 100
Albany, OR 97321
p 541.223.5130

Boeger & Associates, LLC
P.O. Box 21623
Eugene, OR 97402

RE: Sunset Hills Subdivision

Mr Brenner,

Civil West Engineering has reviewed the plans for the Sunset Hills Subdivision on behalf of the City of Lowell. The plans, titled "Sunset Hills Residential Subdivision" were received by Civil West Engineering on June 10, 2019.

Some of our comments are merely drafting, or typo, related, while others identify concerns with the design itself.

General Comments:

1. Drainage Report identifies the subdivision as "Sunset View Subdivision Phase 2", while the improvement plans identify it as "Sunset Hills Residential Subdivision".
2. The City will need a copy of the DEQ approved 1200-c permit prior to any ground disturbance.
3. Per City requirements, stormwater detention and quality infrastructure must be included in order to not increase flow or decrease water quality as compared to pre-development conditions. Development Code 9.520(g)

Sheet 1 of 12 (Cover Sheet)

4. General Notes #7, last sentence; typo - "thee".
5. General Notes #8, reference is made to "Golden Oaks Manufactured Home Park".
6. Concrete #10, Per City Construction Standards 215.2.03 &.04, Concrete shall have a minimum strength of 3300 psi.
7. Concrete #11, first sentence; typo "..concrete shall be coasted with a release agent."
8. Concrete #11, third sentence; typo "Concrete shall to be "overworked"…"
9. Site Safety #1, third sentence is missing the work "responsibility" after the word "exclusive".
10. Site Safety #1. Last sentence "responsibility" is misspelled.
11. Utilities #3; "Contracted" should be "Contractor"
12. Utilities #5; Please remove the word "Private".
13. Utilities: please add note that says "All materials in contact with drinking water shall be NSF approved."
14. Sheet index includes sheets 10-13 as Erosion and Sediment Control 1 – 4, however these sheets were not included in the plan set. Further, the Sheet index identifies 13 sheets, but the sheet number is 1 of 12.
15. Please identify the City Engineer as "Civil West Engineering Services" rather than just "Civil West".

Sheet 2 of 12 (Site Plan)

16. Please extend the window of the Typical Lot Drainage + Layout to show the sidewalk and driveway grades.
17. Drainage easements will be required wherever drainage from any lot drains onto, or across, any other lot. This would apply to lots 17, 19, 20, 21, 23, 27, 28, 29.
18. Label dashed line that runs through the site. Is this existing ROW?
19. Label north/south street.
20. Typical Street Section Detail; See Lowell Standard Detail 201 for local street detail, detail 202 for curb and gutter details, and 204 for sidewalk detail. Need an integral curb & gutter, base course should extend under curb, sidewalk should be a minimum of 5' wide, measured from back of curb.
21. Construction notes need to identify which detail they are referring to, rather than just the page.
22. Clarify on which lot the 16' easement to the existing house is on. Where is the PL?

Sheet 3 of 12 (Grading & Drainage 1)

23. Top of slopes between lots should be located at the property line or on the downhill lot. Otherwise a drainage easement is required.
24. Cross section is called out between lots 19 and 20 but needs to have a sheet number if the section is not on this sheet.
25. Detail "A" referenced at the intersection does not include a sheet number.

26. Calculations need to be included in the Drainage Report showing that the catch basins (Drop Inlet per Detail Sheet 7) will capture the entire runoff volume. Catch basins on a continuous grade need to be calculated differently than those in a sag.
27. Paving, Grading & Miscellaneous note #71; Driveways (at least the public portion and ramps) need to be 6" concrete.
28. Section B shown at the back of lot 27 does not refer to where the detail is shown. Add sheet number.
29. At the east end of the street, add inlet and outlet grades to the 18" CMP. Show that the road extension will be able to cross over the culvert with appropriate cover.
30. Note in bottom right corner of plan sheet has typo. "… around NE development…"
31. Show water and sewer pipes (lightly) and call out crossing separations between all utilities.

Sheet 4 of 12 (Grading & Drainage 2)

32. Show slopes of street grades.
33. Flat grade at end of "North/South Road" is not acceptable. Minimum street grade is 0.5%.
34. Provide stationing for "North/South Road".
35. Proposed topography line in Detail A intersecting the west curb return, does not show that the valley gutter continues to the end of the curb return.
36. Grades shown at the access ramp on the NE corner indicate a cross slope of the ramp of 4.4%. Per ADA requirements, cross slope should be below 2%.

Sheet 5 of 12 (Site Utilities)

37. Show (lightly) stormdrain pipes and label all utility crossings & vertical separation.
38. Waterline to fire hydrant needs a 6" valve. This connection is mis-labeled as #29. Maybe should be #26.
39. Label (#43) all sewer laterals.
40. Water services for lots 25 and 26 appear to attach to the main at bends. Show service connections offset from fittings.
41. Label watermain fittings (bends).
42. Existing water line serving the existing house linetype does not match legend.
43. Sewer line running north from MH#1 is not accessible by the City and therefore is not acceptable.
44. The end of the sewer lines (behind lot 22, in front of lot 23, and in front of lot 27) are currently designed with a cleanout. Per City standards, these all need to be manholes.
45. Sewer lateral to serve existing house is shown going all the way to the edge of the property. As this is an easement, the public portion of the lateral ends at the property line. Indicate that a cleanout will be required at the edge of ROW and the remaining lateral is private.
46. I can't find a sewer lateral shown for lot 17.
47. There may need to be a larger scale detail of the area in front of lots 16/17 and lot 32. There is a lot going on and it's unclear.
48. Ensure with the Fire Department that the fire hydrant spacing is allowable.

Sheet 6 of 12 (Site Utilities)

49. Water shown in North/South Road profile appears too shallow. Maintain 36" cover.
50. Manhole invert elevations are all labeled as 4". Should be 8"
51. All Sewer pipe shall be 8" diameter.
52. Show and label utility crossings in profiles.

Sheet 7 of 12 (Details #1)

53. 4" cleanout detail should refer to SD 311 on sheet 8 for additional requirements.
54. 4" cleanout detail should show a temporary plug or cap in the lateral.
55. .Custom Catch Basin Inlet #1 should have an access over the pipe. Access can be a vault style door, or a manhole. Blind connections are not allowed.
56. Sidewalk and Curb Drain detail. Provide calculations that show that a 12" x 3" tube will convey the peak stormwater beneath the sidewalk.
57. Sidewalk and Curb Drain detail. Provide reinforcement of concrete above the tube. At 2½" to 3" thick, the concrete will crack.

Sheet 9 of 12 (Details #3)

58. Water service details shall be City of Lowell Standard Details.

Drainage Report (Dated March 21, 2019)

59. Project Title doesn't match plans
60. Project will require detention. Provide calculations.
61. Provide calculations for continuous grade inlet capacity. See comment #26.
62. Table on page 3 shows Runoff Coeff – C with a unit of cfs. C is unitless.
63. Why is rainfall intensity different in pre vs. post development? See tables on pages 3 and 4.
64. What is the Time identified in the bottom table on page 4? This seems very low.

Please let me know if you have any comments or questions regarding our comments above. Feel free to contact me at 541-223-5130 or by email at mwadlington@civilwest.net.

Sincerely,

Matt Wadlington, P.E.
City of Lowell, City Engineer

ATTACHMENT N

HEARLEY Henry O

From: Matt Wadlington <Mwadlington@civilwest.net>
Sent: September 14, 2020 7:51 AM
To: HEARLEY Henry O
Cc: Marsha Miller; Marsha Miller; CALLISTER Jacob (LCOG)
Subject: RE: Grading Comments for Sunset Hills Sub

Hi Henry,

Answers to your questions are below in red.

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

Civil West Engineering Services, Inc.

Civil West Engineering Services, Inc.
213 Water Ave. NW, Suite 100, Albany, OR 97321
p 541.223.5130
www.civilwest.com

From: HEARLEY Henry O <HHEARLEY@Lcog.org>
Sent: Friday, September 11, 2020 3:49 PM
To: Matt Wadlington <Mwadlington@civilwest.net>
Cc: Marsha Miller <mmiller@ci.lowell.or.us>; Marsha Miller <mmiller@ci.lowell.or.us>; CALLISTER Jacob (LCOG) <jcallister@lcog.org>
Subject: Grading Comments for Sunset Hills Sub
Importance: High

Hi Matt,

I'm trying to address Mia's comments in the staff report. We know three lots have slopes of 15 percent or more, so hillside development standards will apply. In reading (c) Building Sites, it says *"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 fill."* Based on the information you've seen, is it feasible to find the lots are large enough to meet this standard? If so, I can incorporate that into the City's finding.

Yes, the lots are large enough to fit a reasonable structure, but I have not seen the "planned structure(s)" to know for sure that the grading plan will comply.

Regarding the plans for development on lots that contain slopes of 15 percent or greater. We know the applicants have submitted a grading and drainage plan (sheet 3). What will you need to see for development on those lots that contain steep slopes? Presently, I have it worded as *"Because Hillside Development Standards apply, prior to the commencement of any site preparation, grading, or fill, on lots 23, 25 or 26, 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."* Mia seems to think Sheet 3 is the final and only grading plan that will be submitted. I can revise the condition to be more clear and objective with respect to grading on hillsides, but would be looking to some suggested language from you as to what you'd need for your review.
I think your language is good. The plans that were submitted were not approved, so I certainly hope there is another version coming that will address both Mia's concerns and my original comments from last year.

Relatedly, for any other general grading, will you require a final plan to be submitted and approved before any grading occurs (for any lot)?
Absolutely. The plan that was submitted last year raised quite a few questions that still need to be addressed.

Below are Mia's comments -

The grading plan shows LDC 9.632 (a) and (c) prohibited mass pad grading and excessively large cut banks on the lots over 15% grade - what's proposed here is exactly what Lowell's code is intended to prevent. I am not sure how city staff reached a conclusion that this criterion could be met. And I'm not seeing how it benefits the applicant to punt this to a later time.
I agree with Mia. When this initial application came in, it was not identified as a Hillside Development, and was therefore not held to those standards. Since then, it has become apparent that because there are existing slopes greater than 15%, the development will need to comply with sections 9.630-9.635 of the Development Code.

The staff report says "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." But Sheet 3's proposed grading plan IS a specific construction plan, with detailed finished grades down to the foot, and it clearly violates the city's standards. We don't know what a compliant plan would look like. It may require a redesign of key aspects of the development.
Although a construction grading plan was submitted last year, it was not approved, and can therefore not be used as a construction document until it is approved.

Thanks for any clarification you can provide, Matt.

Henry

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

ATTACHMENT O

HEARLEY Henry O

From: Matt Wadlington <Mwadlington@civilwest.net>
Sent: December 29, 2020 2:56 PM
To: HEARLEY Henry O
Subject: RE: Tentative Utilities Plan

Hi Henry,

I hope to be able to be on the meeting on Jan 6th, but I have another meeting that starts at 6:00. My plan is to try to make sure I'm out of that one by 7:00 but there's a chance I won't be able to.

Regarding the utility sheet, it appears to be pretty similar to their original plan in that respect, so I would defer to my initial comments.

I do have a couple concerns about the way they're proposing to sewer lots 20-22:

- Sewer line extending north behind those lots will need to have a manhole at the end of it.
- The City will need to have access to this line, and particularly that manhole, so putting it at/in the slope behind lots makes it difficult to access. I would rather see the sewer in the north/south street even if those lots need to have private sewer pumps.

--
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 97321
p 541.223.5130
www.civilwest.com

From: HEARLEY Henry O <HHEARLEY@Lcog.org>
Sent: Tuesday, December 29, 2020 12:25 PM
To: Matt Wadlington <Mwadlington@civilwest.net>
Subject: FW: Tentative Utilities Plan

Matt,

Geotechnical Engineering Report

Proposed Sunset Ranch Residential Subdivision

Tax Lot 5000, Tax Map 19-01-14-21, Lane County

4th Street, Lowell, Oregon

Project: 19004

February 12, 2019

Prepared for:

Bahen Investment Group LLC

195 Melton Road

Creswell, OR 97426

Prepared by:

Michael Remboldt, P.E., G.E.

K & A Engineering, Inc.

Coburg, Oregon

K & A Engineering, Inc.
91051 S. Willamette Street
P. O. Box 8486, Coburg, OR 97408
(541) 684-9399 Voice
(541) 684-9358 FAX
kaengineers.com

February 12, 2019 **Project: 19004**

Bahen Investment Group LLC
Attn: Matthew Bahen
195 Melton Road
Creswell, OR 97426

Subject: Level II Geotechnical Engineering Report
Proposed Sunset Ranch Residential Subdivision
4th Street, Lowell, Oregon

K & A Engineering, Inc. is pleased to present our Geotechnical Engineering Report for the subject development.

Our Services were completed in accordance with our Contract for Engineering Services, dated January 2, 2019 and meet the requirements of 2014 Oregon Structural Specialty Code, Section 1803, Geotechnical Investigations.

Our report:

- Presents a summary of the existing subsurface conditions at the subject project site,
- Identifies and characterizes geologic hazards, and
- Presents recommendations for the design and construction for the proposed site developments.

Thank you for the opportunity to be involved with your project. Please call us if you have any questions.

Sincerely,

Michael Remboldt, P.E., G.E.
K & A Engineering, Inc.

GEOTECHNICAL REGISTERED PROFESSIONAL ENGINEER 19,474 OREGON SEPTEMBER 16, 1997 MICHAEL DENNIS REMBOLDT

EXPIRES: DECEMBER 31, 2020

Geotechnical Engineering Report

Proposed Sunset View Ranch Residential Subdivision

4th Street, Lowell, Oregon

February 12, 2019

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The soil profile at the site is relatively uniform, consisting of:

- 0 to 4.5-feet of undocumented FILL, over
- 0 to 3.5-feet of organic and non-organic, soft to moderately stiff, high plasticity, CLAY, over
- 0 to 5-feet of sandy-CLAY and clayey-SAND, over
- Basalt bedrock.

Due to the presence of undocumented FILL and soft, expansive CLAY we are recommending that foundation support consist conventional spread footing systems supported either directly on Approved subgrade consisting of non-organic CLAY or sandy-CLAY, or on Select Granular Fill that extends to Approved Subgrade.

Foundation pads should extend a minimum depth of 3-ft, below the soil “active zone” minimizing shrinking/swelling hazard associated with the high plasticity (expansive) CLAY found at the ground surface.

Other than the high plasticity CLAY found near the ground surface across the project site, there are no unusual hazards at the subject project site that would prohibit development including the proposed earthwork and conventional shallow spread footing foundation systems.

1 INTRODUCTION

This report provides Geotechnical engineering design criteria for the proposed 3.28-acre Sunset View Ranch Residential Subdivision which is centered on tan extension of 4th Street in Lowell, Oregon. Our understanding is that earthwork for the project site will consist of the construction of HMAC roads, utilities, and lot grading.

At your request, we have made a preliminary Level II geotechnical investigation for the purposes of:

- Characterizing site surface and subsurface conditions,
- Delineating geologic hazards at the site,
- Providing preliminary design recommendations for:
  - Suitable foundation systems, and
  - Geologic hazard mitigation.

The scope of our services included:

- Fieldwork including
  - Four (4) probes, and
  - Two (2) continuous-sample borings
- Laboratory analysis of boring samples,
- Analysis of field data,
- Development of geotechnical design and construction criteria, and
- This written Geotechnical Engineering Report.

Our services meet the requirements of the 2014 Oregon Structural Specialty Code, Section 1803 - Geotechnical Investigations.

2 PROJECT SITE DESCRIPTION

2.1 SITE LOCATION

The project site is located in the city of Lowell, 0.4-mi northeast of Jasper-Lowell Road and 1-mi north of Willamette Highway (OR-58). Nearby bodies of water include Dexter Reservoir, 0.5-mi south, and Fall Creek Lake, 1.5-mi northeast.

See the attached Vicinity Map.

2.2 SURFACE CONDITIONS

The project site is located on a gentle west facing slope with an average ground surface slope ranging approximately 10 to 15%. Small areas in the south part of the proposed development exceed 20-percent.

Two cut and fill embankments were noted in lots 31 and 32 in which approximately 3 to 4-ft of material was cut from the hillside in both lots and used as fill further downslope. Probe FC-3 was completed on the FILL portion of the embankment between lots 31 and 32.

Vegetation around the project site consists some native grasses and blackberry bushes.

Other than what is noted, we observed no indication of unusual or unstable ground conditions at the time of our investigation.

2.3 SUBSURFACE CONDITIONS

We investigated subsurface soil conditions by making four (4) probes[1], and two (2) continuous sample borings[2] using our track-mounted geotechnical drill. Subsurface conditions, as observed in the probes and boring, generally consist of (approximately):

- **Undocumented FILL:** 0 to 4.5-ft of undocumented FILL consisting of
  - SAND and GRAVEL (FC-3 only), or
  - Loose to moderately stiff, dark brown and grayish-brown, moist, high plasticity, organic and non-organic, native CLAY (FC-1 only), over
- **CLAY:** 0 to 3.5-feet of
  - Dark brown, damp, soft to moderately stiff, high plasticity, *organic-laden* (roots) CLAY, and
  - Light brown & grayish-brown with variably colored clasts (generally orange, black, red white), damp to moist, soft to moderately stiff, high plasticity, *non-organic* sandy-CLAY or clayey-SAND, over
- **Decomposed Bedrock or Residual Sand & Clay:** 0 to 5-feet of light brown with variably colored clasts, damp, very stiff, low plasticity, sandy-CLAY or clayey-SAND (possible Mehama Formation), over
- **Bedrock:** Gray, dry, hard, weathered to fresh BASALT.

Groundwater was observed at FC-1 and FC-4, at 6.9 and 8.8-feet, respectively, on or just above the weathered basalt surface.

The approximate locations of the probes (FC-1 to FC-4) and borings (B-1 and B-4) are shown on the Geotechnical Site Plan in Appendix A Graphic logs of the probes and borings are found in Appendix B.

[1] A 3.55-in^2 cone is pushed into the soil using a 140-lb. hammer falling 30-in. The energy required to advance the cone is recorded in the field as the number of blows per 6-inches of penetration. Soil friction on the side of the cone is measured using a torque wrench. Calculated cone tip pressure is used to estimate soil engineering properties, and the ratio of side friction to tip pressure identifies soil behavior type.
[2] 1.5-in diameter x 3-foot continuous samples obtained using a G7 2-3/8" direct push dual tube system manufactured by AMS, Inc.

2.4 Local Geology

Geology at the project site is mapped[3] near the boundary of two units, "Miocene and Pliocene Volcanics" and "Mehama Volcanics" (Oligocene). The Miocene and Pliocene Volcanics are described as mainly being andesite and basalt flows interbedded with pebbly and lapilli tuffs. The Mehama Volcanics are described as consisting of coarse, indurated tuff and pebbly tuff breccia with interbedded basalt, flow breccia, and welded tuff flows.

In our opinion, the observed high plasticity CLAY and underlying sandy-CLAY and BASALT is consistent with the described geology. The high plasticity CLAY found near the ground surface of the project site appear to be of colluvial (gravity driven erosion) origin. The underlying gravel is consistent with the Mehama Volcanics units. Hard basalt or basalt fragments found at some probe and boring locations may either be interbedded basalts within the Mehama formation, or the Miocene and Pliocene Volcanics.

3 Recommendations for Design and Construction

3.1 Geologic Hazards

3.1.1 Design Earthquake

Based on the observed subsurface soil conditions and criteria in ASCE 7-10, the soil site class is "C" for stiff soil. While hard rock was observed across the project site, the site is more appropriately classified as "C" due to shallow BASALT bedrock.

The design earthquake was determined using criteria including an event having a 10-percent chance, or higher, of occurring within a 50-year period, and soil site class C. *Based on analysis using current modeling of local sources of earthquake ground motion (crustal, deep, and subduction zone)[4], the design earthquake is a Cascadia Megathrust event with a magnitude between 8.9 to 9.1 and peak ground acceleration of 0.13g.*

[3] Schlicker, H.G., and Dole, H.M., "Reconnaissance Geology of the Marcola, Leaburg, and Lowell Quadrangles, Oregon", Oregon Department of Geology and Mineral Industries, Ore.-Bin Vol. 19 No. 7 (1957).
[4] 2014 USGS dynamic conterminous PSHA, online at the USGS Earthquake Hazards Program: https://earthquake.usgs.gov/hazards/interactive/

3.1.2 Faulting and Lateral Spreading

Table 1 summarizes nearby mapped *active* faults[5, 6, 7] within a 50-mile radius of the project site. A few seismic events (M > 4.0) have occurred within 50-miles of the project site[8, 9, 10]. These events are summarized in Table 2 below.

Table 1. Nearby Quaternary Faults.

	Fault Name	Fault ID	Length (km)	Slip Rate (mm/yr)	Type[11]	Distance[12] and Direction from Site (miles)
Pacific Border Physiographic Zone	Unnamed Sutherlin Faults	862	28	< 0.2	N, T	31 SW
	Owl Creek Fault	870	15	< 0.2	R	43 N-NW
Cascade-Sierra Mountains	Unnamed Faults North of Diamond Lake	854	45	< 0.2	N	46 SE
	Upper Willamette River Fault Zone	863	44	< 0.2	RL, N	8 E-SE
	White Ranch Fault Zone	1809	18	< 0.2	N	40 E
	La Pine Graben Faults	838	40	< 0.2	N	47 E

The nearest mapped fault is the Upper Willamette River fault zone, a collection of lateral and normal faults forming the upper valley of the Middle Fork of the Willamette River, over 8-mi SE of the project site.

[5] Active defined as having ruptured within the current geologic age (Quaternary – 1.5Ma).
[6] Personius, S.F., Dark, R.L., Bradley, L.A., and Haller, K.M., "Map of Quaternary Faults and Folds in Oregon", U.S. Geologic Survey, OFR-03-095 (2003).
[7] U.S. Geological Survey, 2006, Quaternary fault and fold database for the United States, accessed May 9, 2018, from USGS web site: http//earthquake.usgs.gov/hazards/qfaults.
[8] University of Washington (1963): Pacific Northwest Seismic Network. International Federation of Digital Seismograph Networks. Other/Seismic Network. 10.7914/SN/UW
[9] Johnson, A.G., Schofield, D.H., and Madin, I.P., "Earthquake Database for Oregon, 1833 through October 25, 1993", Oregon Department of Geology and Mineral Industries, OFR 94-04 (1994).
[10] NCEDC (2016), Northern California Earthquake Data Center. UC Berkeley Seismological Laboratory. Dataset. doi:10.7932/NCEDC
[11] Types of Faults: T = thrust, LL = left lateral (strike-slip), RL = right lateral (strike slip), N = normal, R = reverse, A = anticline, H = homocline.
[12] Distance was measured from the site to the (approximate) closest location along the fault or collection of faults.

No active or inactive faults are mapped in the vicinity of the city of Lowell[13]. *As there are no active faults mapped through or in the near vicinity of the project site, there is not a significant hazard of ground rupture due to faulting.*

The Cascadia Subduction zone is the greatest contributor to seismic hazard. Local crustal faults, including those listed above are not major contributors to seismic hazard, but are considered in deaggregation for the project site. See the deaggregation summary for this project site, Appendix C.

Table 2. Nearby seismic events with M > 3.0.

Date	Time[14]	Latitude	Longitude	Magnitude	Nearby Fault(s)
July 4, 2015	15:42:18.10	44.0895	-122.8310	4.0	N/A
September 14, 1988	04:10:36.90	43.7750	-123.4940	5.4	N/A

These ground motions are not associated with nearby shallow crustal faults and are likely a result of ground motion occurring in the "Benioff Zone" of the Cascadia Subduction Zone.

Due to the absence of loose, saturated sands, there is not a significant hazard of lateral spreading at the project site.

3.1.3 Expansive Soils

The high plasticity organic and non-organic clays found in the soil profile are a moderate to high hazard of volume change for shallow spread footings due to seasonal changes in moisture content (i.e. high expansive soil hazard). Based on laboratory evaluation of water content, the active zone extends to a depth of approximately 3 to 4-feet below the ground surface.

This hazard increases the risk of heaving and damage to slabs-on-grade. Our recommendations in this report are made, in part, to mitigate this hazard.

3.1.4 Foundation Settlement

The surface layers of undocumented fill and soft, high plasticity, *organic-laden* CLAY presents a moderate to high hazard of total and differential settlement for conventional shallow spread footings due to long-term decomposition of organics, consolidation of soft clays, and immediate settlement of loose fill.

Conventional spread footings supported directly on undocumented FILL and *organic* CLAY will result in differential settlements limiting building serviceability and risking significant damage to finishes and moderate damage to structural connections.

Our recommendations in "Foundations" are made to mitigate this hazard.

[13] Schlicker, H.G., and Dole, H.M., "Reconnaissance Geology of the Marcola, Leaburg, and Lowell Quadrangles, Oregon", Oregon Department of Geology and Mineral Industries, Ore.-Bin Vol. 19 No. 7 (1957).
[14] Time expressed in coordinated universal time (8-hrs ahead of PTS, 7-hrs ahead of PDT).

3.1.5 Liquefaction

Due to the absence of loose, saturated SAND, *there is a low hazard of liquefaction at the project site.*

3.1.6 Seismic Design Criteria

For designing lateral bracing systems and other structural elements for earthquake ground motion, we recommend that design criteria be selected based on a site class "C – Very Stiff Soil or Soft Rock". The recommended design spectral response acceleration parameters[15] are shown on Table 1.

Table 3 – Recommended Seismic Design Parameters

Design Parameter	Design Value
S_{MS} (site class "C")	0.741
S_{M1} (site class "C")	0.499
S_{DS} (site class "C")	0.494
S_{D1} (site class "C")	0.332

For design of "non-structural" elements and anchorages for lateral earthquake loads, we recommend a design peak ground acceleration of 0.13g (10% chance of exceedance in 50-years).

3.2 Slope Stability

Since basalts are relatively shallow across the project site, slope stability was modeled using the infinite slope model. This method is appropriate for sites having a relatively shallow and consistent "hard layer", and even and continuous slopes.

Slope stability modelling compares the ratio[16] of available shear resistance (which in this case is cohesion and friction stress) to driving forces (self-weight of the slope).

We modelled the "worst-case scenario" which considered:

- The steepest slope at the project site, 23% or 13-degrees (Lot 23), having
- The deepest "weak or soft" soil of 6.5-ft (see FC-1), with
- Groundwater perched 1-ft above the hard, weathered basalt, with
- Dynamic lateral loading due to the design ground motion described above.

The "weak or soft" soil layer was modelled as a CLAY having ϕ' = 25-degrees, and c' = 50-psf.

Under static conditions (i.e. no lateral seismic loading), we calculated the FOS of the site to be 2.3. With dynamic loading (PGA = 0.13g), we calculated FOS = 1.4. These FOS meet our minimum requirements of 1.5 and 1.1 for static and transient conditions, respectively. Therefore, *we recommend that there* is *not a significant hazard of slope movement at the project site in the current condition.*

[15] http://earthquake.usgs.gov/designmaps/us/application.php?
[16] This ratio, FOS = resisting forces / driving forces, is the Factor of Safety (FOS) of the slope. FOS greater than 1.0 implies that the slope is stable, while FOS less than 1.0 implies unstable conditions may exist.

However, Fill or Cut embankments that are not made according to our recommendations below could present hazards of local slope movement, and we recommend carefully implementing our recommendations in this report for earthwork to minimize this hazard.

3.3 EARTHWORK

3.3.1 General Discussion

It is our assumption that the proposed development will require conventional excavation and grading for construction of roadways, utilities, and general site grading for foundation pads.

Due to the relatively gentle gradient (from east to west) on the project site, we anticipate that some small cuts or fills will be required for general grading and road building.

We do not recommend construction of structural fill using native clayey-soils due to the difficulty in maintaining an optimum water content and the variability of organic content of clay materials found on the site. We recommend that foundations be supported on native, undisturbed, non-organic CLAY, sandy-CLAY, clayey-SAND, or bedrock, or on Select Granular Fill that extends to these non-organic native undisturbed soils.

3.3.2 Utility Trenches

Utility excavations may be deep, depending on required gradients and elevation for sanitary and storm systems. Trenching in the weathered Basalt may be challenging at some locations of the project site.

Due to the cohesive nature of the clayey soils found at the site, utility trench excavations may be vertical for unsupported heights of 4-feet or less. Unsupported (i.e. un-shored) trenches having a height exceeding 4-feet to a maximum of 8-feet shall have a maximum slope of 0.5 H : 1V.

Trenches exceeding 8-feet in depth shall be shored.

3.3.3 Cut Embankments

3.3.3.1 Temporary Cut Embankments

Temporary cut embankments may be vertical for cuts less than 4-ft in height.

During hot, dry weather conditions, cuts that are to remain open and unsupported for more than 10-days should be either dampened on a daily basis or covered with plastic to maintain moisture content.

K & A Engineering, Inc. should be consulted for specific review and additional recommendations for temporary cut embankments that exceed 4-ft height.

3.3.3.2 Permanent Cut Embankments

Permanent cut embankments above groundwater in native, undisturbed CLAY and having heights of 8-feet or less should have a final slope not exceeding 2H : 1V. If cut embankments exceed 8-ft in height, K & A Engineering, Inc. should be consulted for further review and additional recommendations.

3.3.4 Fill Embankments

Permanent fills shall be constructed of either:

- Native non-organic CLAY, sandy-CLAY, or clayey-SAND excavated from the project site, or
- Non-organic imported materials approved by K & A Engineering, Inc.

Fill embankments constructed of non-organic CLAY, sandy-CLAY, or clayey-SAND materials shall be used only for non-load bearing fills, such as pond embankments or landscaping. Fill embankments constructed if non-organic CLAY, sandy-CLAY, or clayey-SAND materials are not recommended for structural, or load-bearing fills.

Permanents fills embankments constructed using on-site, non-organic CLAY, sandy-CLAY, or clayey-SAND shall be constructed by placing excavated soils in layers not exceeding 6-inches and compacted using a vibratory sheepsfoot roller until "walk-out" is achieved, based on observation and approval by representative of K & A Engineering, Inc.

Fill embankments constructed of non-organic CLAY, sandy-CLAY, or clayey-SAND materials shall have a maximum slope of 3H : 1V.

Fill embankments shall be over-built and compacted laterally a minimum distance equal to the finish height of the embankment. The over-built embankment should then be pulled-back and shaped using a smooth bucket excavator for finish grading.

K & A Engineering, Inc. shall provide additional recommendations for geometry and construction of permanent fills constructed of imported materials, prior to placement.

3.4 Foundation Support

3.4.1 General Discussion

Conventional spread footing systems, if supported on the undocumented FILL and/or soft, high-plasticity organic-laden and non-organic CLAY are likely to experience significant total and differential settlement over the lifetime of the proposed structure.

Additionally, the underlying CLAY soils are moderately to highly expansive. Our field and laboratory data suggest that mitigation of this hazard for spread footings would require excavation to a depth of approximately 3-feet and replacement with select granular fill to footing grade.

We are recommending that conventional spread footing systems are suitable to provide foundation support if foundation loads are placed either:

- Directly on Approved Subgrade consisting of native, undisturbed, non-organic moderately stiff CLAY or stiff sandy-CLAY, at a minimum depth of 3-feet below final grade; or
- On Select Granular Fill that extends to Approved Subgrade that is a minimum depth of 3-feet below final grade.

Subdivision grading and drainage should be designed to ensure that stormwater runoff does not pond or run into the foundations.

3.4.2 Conventional Spread Footing Systems

3.4.2.1 Design Criteria

For conventional spread footing systems supported as recommended in this report, we recommend a maximum allowable design bearing pressure of:

- 1.5-kips per square foot for load combinations NOT including transient wind and earthquake loads, and
- 2.0-kips per square foot for load combinations including transient wind and earthquake loads.

3.4.2.2 Recommendations for Construction

For conventional, cast-in-place, concrete isolated and continuous "strip" footings, we recommend that the foundation pad(s) supporting foundations be constructed as follows:

- Excavate and remove of all undocumented fill and organic-CLAY, exposing underlying native undisturbed moderately stiff non-organic CLAY or stiff sandy-CLAY. Excavation should extend a minimum depth of 3-ft below final grade or to native Approved Subgrade, whichever is greater;
- Grade the Approved Subgrade. We recommend excavation using a smooth bucket to minimize disturbance to the subgrade. The foundation Subgrade shall be a minimum depth of 3-ft below final grade for perimeter strip footings or 3-ft below final floor elevation for interior strip or isolated footings.
- Place Select Granular Fill on the Approved foundation pad subgrade to the specified footing elevation(s) and compact.

The prepared foundation pad subgrade shall extend, laterally, from the outside edges of the perimeter footings a minimum horizontal distance equivalent to the vertical distance between footing grade and Approved Subgrade. See Figure 1.

K & A Engineering, Inc. should be on site to inspect foundation pad preparation and verify suitable subgrade prior to the placement Select Granular Fill or construction of foundations.

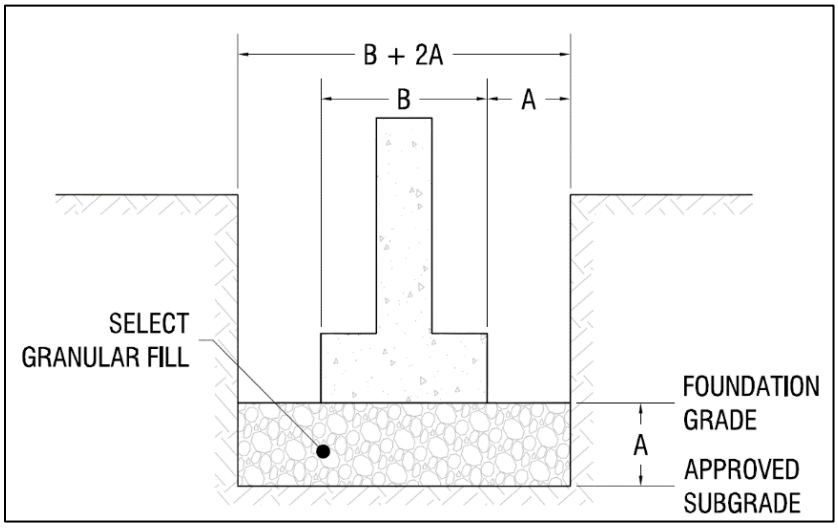


Figure 1- Lateral Excavation Requirement for New Footings.

3.5 SLABS-ON-GRADE

Due to the expansive nature of the CLAY soil at the project site, slabs-on-grade may be affected by seasonal changes in water content. Even if our recommendations are implemented, some minor cracking is expected. Our recommendations below are to control cracking to the extent possible and limit heaving to serviceable ranges.

Slabs-on-grade shall be constructed on Select Granular Fill that extends to non-organic moderately stiff CLAY soils at an elevation that is a minimum of 3-ft below final floor elevation (slab-grade). The slab-on-grade area shall be prepared as follows:

- Excavate and remove loose undocumented FILL and organic CLAY to Approved Subgrade to the depth described above. K & A Engineering, Inc. shall inspect and approve of the Subgrade for slabs-on-grade.
- Cover the CLAY Subgrade with Select Granular Fill immediately to avoid drying. If the CLAY Subgrade cannot be covered immediately with Select Granular Fill, the Subgrade shall be covered with plastic to maintain soil moisture.

Additionally, we recommend that slabs-on-grade shall be designed and constructed to include:

- A minimum thickness of 4-inches,
- Reinforcement consisting of Grade 40 No. 4 deformed reinforcing bar spaced at 24-inches O.C. each way, in the middle of the slab. Bar chairs or blocks are required to ensure that the reinforcement is in the middle of the slab.
- Control joints spaced no further apart than 10-feet each way.

3.6 PAVEMENTS

3.6.1 Preliminary Pavement Design Structure

At the time of our field work and this Report, we do not have enough information to evaluate expected traffic. However, based on our experience with similar developments we recommend the following pavement structure for use in preliminary design and cost estimating:

- 3-in of HMAC Pavement, over
- 12-in of Aggregate Base Rock, over
- Pavement Geotextile.

These recommendations take into consideration that the underlying CLAY has a relatively low modulus of resilience and is poorly-drained.

After the pavement requirements have been finalized, K & A Engineering, Inc. should be consulted to issue a final recommended pavement structure.

3.6.2 Preparation of Pavement Subgrade

Organic CLAY should be stripped and removed from paved areas and nonorganic soils graded to the specified subgrade. The underlying subgrade shall be inspected and approved by K & A Engineering, Inc. prior to the placement of pavement geotextile.

Disturbed subgrade soils, or native non-organic CLAY fills, shall be compacted using a sheepsfoot roller until "walk-out" is achieved. Proctor testing and in-place density testing is not required. Strength and consistency of compacted subgrade shall be evaluated by making "proof-roll" tests, observed by K & A engineering, Inc. using a loaded 40-kip conventional tandem axle dump truck. Soft areas identified shall be removed and replaced with Coarse Select Granular Fill or Aggregate Base Rock.

3.7 Retaining Walls

3.7.1 Retaining Wall Design Criteria

The final location and required lengths and heights required for retaining walls in the subdivision have not yet been finalized. At your request, we are providing preliminary design recommendations for 6-ft tall retaining walls with retained soils having a maximum 2H : 1V gradient. For our analyses we assumed:

- Retained backfill will consist of soft, native, disturbed and undisturbed CLAY,
- Foundation soil will consist of moderately stiff, native, non-organic CLAY.
- Our analyses do not consider surcharge loading, if any, from adjacent structures.

We recommend the following design criteria for gravity retaining wall systems:

- **Passive earth pressure**: An equivalent fluid pressure (EFP) of 250-pcf/ft
- **Active earth pressure**: Including earthquake PGA of 0.13-g, the recommended design active earth pressure (EFP) 75-pcf/ft. This assumes a maximum back slope behind the wall of 26-degrees.
- **At-rest earth pressure:** (for basement retaining walls restrained at top and bottom) EFP of 53-pcf/ft. This assumes level backfill, no earthquake loading.
- **Coefficient of friction against sliding**: 0.30
- **Allowable bearing capacity**: 1,500-psf

As the scope of the design is refined, K & A Engineering, Inc. can provide additional design recommendations for the retaining wall structure. K & A Engineering, Inc. shall be onsite during retaining wall excavation to inspect and approve of subgrade.

3.7.2 Retaining Wall Drainage

Drainage system for retaining walls shall consist of:

- 4-inch schedule 40 PVC pipe with 1/2-inch diameter holes spaced every 6-in, placed at the heel of the retaining wall,
- 12-inches of Drain Rock surrounded by Separation Geotextile shall be placed to cover the drain pipe and envelope the vertical composite drain.
- The drain pipe shall be placed with holes facing down.

- Connect the perforated drain pipe to a solid schedule 40 PVC collector Drainpipe that routes away from the retaining wall system and terminates at an appropriate disposal area, as determined by the project Civil Engineer.

4 SPECIFICATIONS

4.1 SUBGRADE

Approved Subgrade for all foundation elements shall consist of:

- Native, undisturbed, moderately stiff CLAY or
- Native, undisturbed, stiff sandy-CLAY.

Excavation for spread footings shall extend a minimum depth of 3-ft below finish grade or to Approved Subgrade, whichever is greater. All Subgrades shall be inspected and approved by K & A Engineering, Inc. prior to placement of fills or foundation forms.

4.2 SELECT GRANULAR FILL

4.2.1 General Requirements

Select granular fill may consist entirely of fine select granular fill or a minimum of 9-inches of coarse select granular fill covered with a minimum of 3-inches of fine select granular fill.

4.2.2 Coarse Select Granular Fill

Coarse select granular fill shall consist of clean, well-graded quarry stone having a maximum particle size of 5-inches. Quarry stone should be durable and have 100-percent fractured faces.

4.2.3 Fine Select Granular Fill

Fine select granular fill should consist of clean, durable, well-graded material with a maximum particle size of 3/4-inches and a maximum of 10-percent passing the no. 200 sieve. Select granular fill shall be placed in layers not to exceed 12-inches (loose) and mechanically compacted to a dry density exceeding 95-percent of maximum as determined by ASTM D698 (Std. Proctor).

4.3 AGGREGATE BASE ROCK

Aggregate base rock, *used to support pavements*, shall consist of clean, durable, well-graded material having a maximum particle size of 1.5-inches and a maximum of 5% passing the no. 200 sieve. Aggregate Base rock shall be placed in layers not exceeding 12-inches (loose) and mechanically compacted to a dry density exceeding 95-percent of maximum as determined by ASTM D1557 (Modified Proctor).

4.4 Drainage Rock

Drain rock should consist of clean, durable, 1 ½-inch round rock. The rock should be placed over and to the side of the perforated pipe so that the pipe has a minimum of 12-inches of cover. The drain rock should be wrapped with separation geotextile.

4.5 Pavement Geotextile

Pavement geotextile should consist of a woven, polypropylene fabric having minimum average roll values meeting the specifications in Table 4.

Table 4. Pavement Geotextile Specifications.

Property		Test Method	Specification
Hydraulic Properties	Apparent Opening Size (AOS)	ASTM D4751	< U.S. Std. Sieve 30
	Permittivity	ASTM D4491	> 0.05-sec^{-1}
	Flow Rate	ASTM D4491	> 4-gal/min/ft^2
Mechanical Properties	Puncture Strength	ASTM D6241	> 700-lb
	Trapezoid Tear Strength	ASTM D4533	> 75-lb
	Grab Tensile Strength	ASTM D4632	> 200-lb
	Grab Tensile Elongation	ASTM D4632	< 50%
	UV Resistance	ASTM D4355	> 50% strength retained after 500 hr. exposed

A manufacturer's printed certification is acceptable as proof of compliance in lieu of laboratory testing.

Subgrade geotextile should be placed free of wrinkles or other discontinuities. Torn, punctured, or damaged fabric should be replaced. Subgrade geotextile should have a minimum overlap at the seams of 12-inches.

4.6 Separation Geotextile

Separation geotextile should consist of a non-woven, needle-punched, polypropylene fabric having minimum average roll values meeting the specifications in Table 5.

Table 5. Separation Geotextile Specifications.

Property		Test Method	Specification
Hydraulic Properti	Apparent Opening Size (AOS)	ASTM D4751	< U.S. Std. Sieve 70
	Permittivity	ASTM D4491	> 1.5-sec^{-1}

Property		Test Method	Specification
	Flow Rate	ASTM D4491	> 110-gal/min/ft^2
Mechanical Properties	Puncture Strength	ASTM D6241	> 410-lb
	Trapezoid Tear Strength	ASTM D4533	> 60-lb
	Grab Tensile Strength	ASTM D4632	> 160-lb
	Grab Tensile Elongation	ASTM D4632	> 50%
	UV Resistance	ASTM D4355	> 50% strength retained after 500 hr. exposed

A manufacturer's printed certification is acceptable as proof of compliance in lieu of laboratory testing.

Drainage geotextile should be placed free of wrinkles or other discontinuities. Torn, punctured, or damaged fabric should be replaced. Drainage geotextile should have a minimum overlap at the seams of 12-inches.

5 LIMITATION AND USE OF GEOTECHNICAL RECOMMENDATIONS

This report has been prepared for the exclusive use of the Bahen Investment Group LLC for the subject project.

This geotechnical investigation, analysis, and recommendations meet the standards of care of competent geotechnical engineers providing similar services at the time these services were provided.

We do not warrant or guarantee site surface subsurface conditions. Exploration test holes indicate soil conditions only at specific locations (i.e. the test hole locations) to the depths penetrated. They do not necessarily reflect soil/rock materials or groundwater conditions that exist between or beyond exploration locations or limits.

The scope of our services does not include construction safety precautions, techniques, sequences, or procedures, except as specifically recommended in this report. Our services should not be interpreted as an environmental assessment of site conditions.

Appendix A

Maps

- Vicinity Map
- Probe Location Plan
- Field Developed Cross Section

Level II Geotechnical Engineering Report

Proposed Sunset Ranch Residential Subdivision

4th Street, Lowell, Oregon

Project: 19004

February 12, 2019

Prepared for:

Bahen Investment Group LLC

195 Melton Road

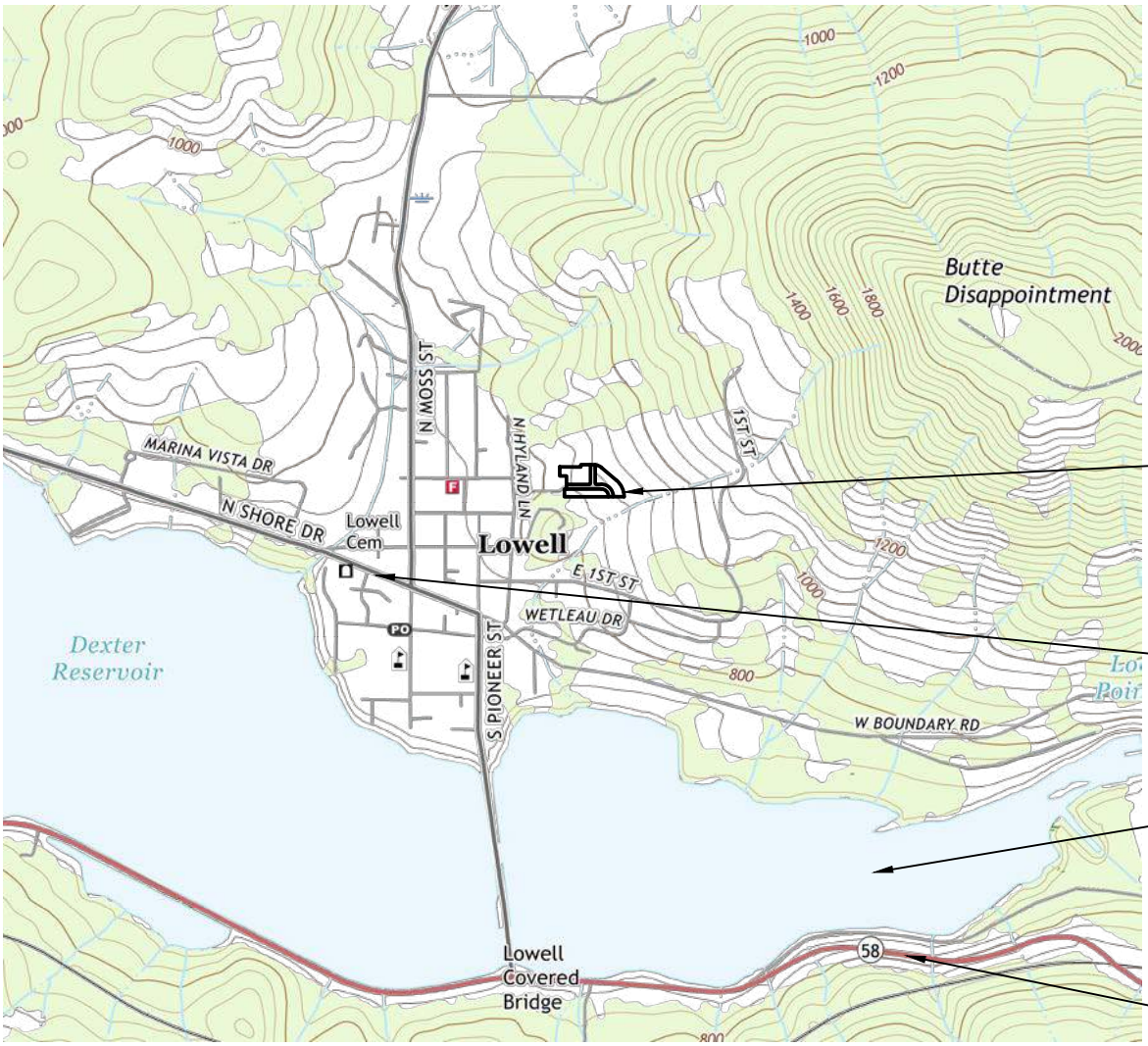
Creswell, OR 97426

Prepared by:

Michael Remboldt, P.E., G.E.

K & A Engineering, Inc.

Coburg, Oregon

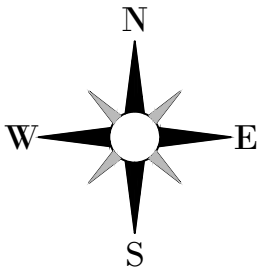


PROJECT SITE LOCATION:
TAX LOT 5000, MAP 19-01-14-21
LANE COUNTY
LOWELL, OREGON

JASPER-LOWELL ROAD

DEXTER RESERVOIR

HIGHWAY 58 (OR-58)



0 2000' 4000'

Scale: 1" = 2000'

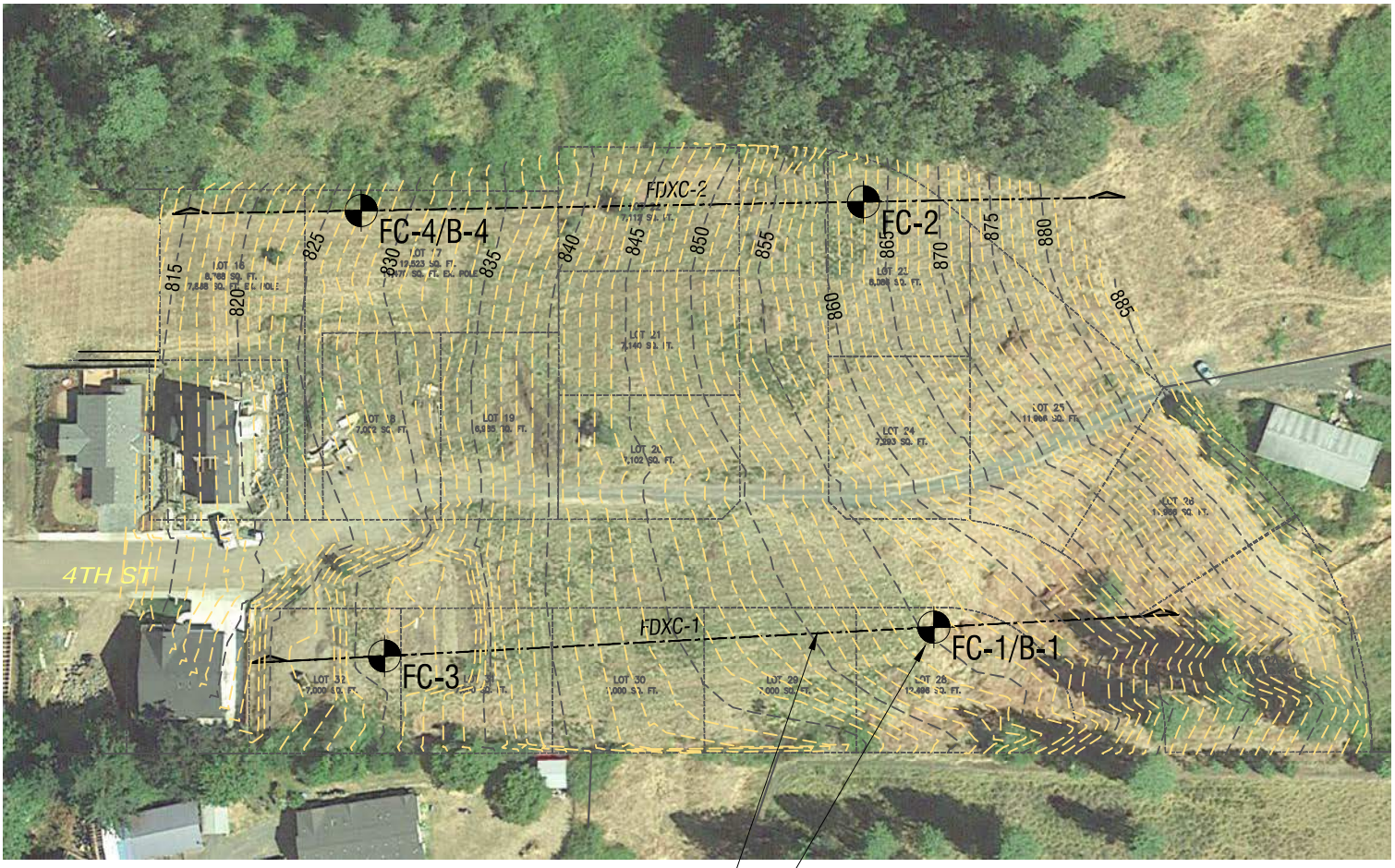
K & A Engineering,Inc
91051 S. Willamette St.
Coburg, OR 97408
541 684 9399 541 684 9358 fax

k·a engineering

VICINITY MAP
Geotechnical Site Investigation
Sunset View Ranch Subdivision
4th Street, Lowell, Oregon

1/31/19 Project: 19004 Drawing 1 / 3

GEOTECHNICAL REGISTERED PROFESSIONAL ENGINEER
19,474
OREGON
SEPTEMBER 16, 1997
MICHAEL DENNIS REMBOLDT
EXPIRES: DECEMBER 31, 2020



FIELD-DEVELOPED CROSS SECTION

GEOTECHNICAL PROBE/BORING (TYP.)
(4) LOCATIONS TOTAL

N

W E

S

0 100' 200'

Scale: 1" = 100'

K & A Engineering,Inc
91051 S. Willamette St.
Coburg, OR 97408
541 684 9399 541 684 9358 fax

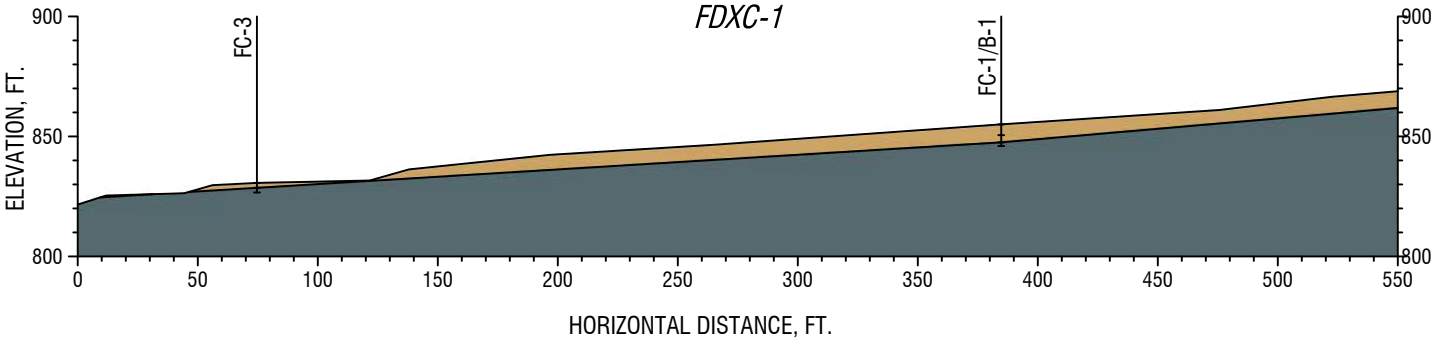
k·a engineering

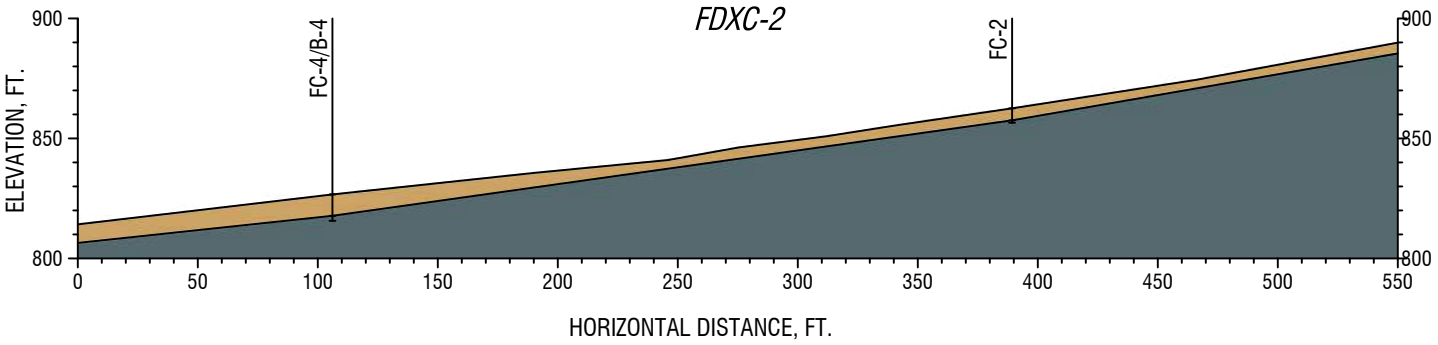
GEOTECHNICAL SITE PLAN
Geotechnical Site Investigation
Sunset View Ranch Subdivision
4th Street, Lowell, Oregon

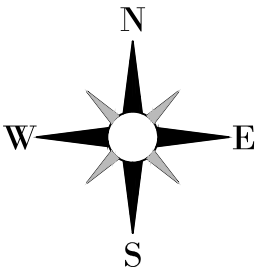
2/12/19 Project: 19004 Drawing 2 / 3

GEOTECHNICAL
REGISTERED PROFESSIONAL
ENGINEER
19,474
OREGON
SEPTEMBER 16, 1997
MICHAEL DENNIS REMBOLDT

EXPIRES: DECEMBER 31, 2020







0 80' 160'

Scale: 1" = 80'

LEGEND

SURFICIAL SOIL - CLAY, CLAYEY-SAND, FILL

BEDROCK - MEHAMA FORMATION, WEATHERED BASALT

K & A Engineering,Inc
91051 S. Willamette St.
Coburg, OR 97408
541 684 9399 541 684 9358 fax

k·a engineering

FIELD DEVELOPED CROSS SECTIONS
Geotechnical Site Investigation
Sunset View Ranch Subdivision
4th Street, Lowell, Oregon

2/12/19 Project: 19004 Drawing 3 / 3

EXPIRES: DECEMBER 31, 2020

Appendix B

Probes and Borings

- Probe Logs
- Boring Logs
- Atterberg Limits

Level II Geotechnical Engineering Report

Proposed Sunset Ranch Residential Subdivision

4th Street, Lowell, Oregon

Project: 19004

February 12, 2019

Prepared for:

Bahen Investment Group LLC

195 Melton Road

Creswell, OR 97426

Prepared by:

Michael Remboldt, P.E., G.E.

K & A Engineering, Inc.

Coburg, Oregon

K & A Engineering, Inc.
PO Box 8486
Coburg, OR 97408
Telephone: 541-852-6939

Job No. 19004

CLIENT: **Bahen Investment Group LLC**

PROJECT: **Sunset View Ranch Residential Subdivision**

SITE ADDRESS: **4th Street, Lowell, OR**

BORING NUMBER **B-1** **Sheet 1 of 1**

SURFACE ELEVATION

NORTH | EAST

DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50 60 70 80 90

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	PERCENT RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	UNIT DRY WT. LBS./FT.^{3}	DEPTH m.
0.0					Dark brown to brown, moist, soft, high plasticity, organic CLAY with some thin roots throughout layer (Undocumented FILL).		
1.0	1		28				
2.0							
3.0					Light brown with varying color clasts (orange, black, white), damp, soft, high plasticity, non-organic CLAY with some basalt gravels and cobbles (Undocumented FILL).		1.0
4.0	2		50				
5.0					Dark brown, damp, soft, high plasticity, organic CLAY with some or trace thin roots throughout layer.		
6.0					Light brown or grayish-brown with variable colored clasts (orange, black, white), damp, soft to moderately stiff, high plasticity, non-organic CLAY with trace thin roots near top of layer.		2.0
ACR	3		83		Light brown with variable colored clasts (red, white, black), damp, very stiff to hard, low plasticity, clayey-SAND (possible decomposed Mehama formation).		
7.0					End of Boring @ 7.5 feet		
8.0							

Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
1/25/19	**16:45**	**ACR**			**6.9**

BORING STARTED **1/25/19**

BORING COMPLETED **1/25/19**

DRILLER **K&A** | RIG **Dando**

ENGINEER **JDB** | APPROVED

LOG A GNGN03 SUNSET VIEW RANCH BORING LOGS 1 29 19.GPJ LOG A GNGN03.GDT 1/31/19

K & A Engineering, Inc.
PO Box 8486
Coburg, OR 97408
Telephone: 541-852-6939

Job No. 19004

CLIENT: **Bahen Investment Group LLC**

PROJECT: **Sunset View Ranch Residential Subdivision**

SITE ADDRESS: **4th Street, Lowell, OR**

BORING NUMBER **B-4** **Sheet 1 of 1**

SURFACE ELEVATION

NORTH | EAST

DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)

Unconfined Compressive Strength, tons/ft.^{2}

PL MC LL

N VALUE, blows/ft.

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	PERCENT RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	UNIT DRY WT. LBS./FT.^{3}	DEPTH m.
0.0					Dark brown, moist, soft, high plasticity, organic CLAY with some thin roots throughout layer.		
1.0	1		40		Grayish-brown, moist to damp, soft grading to stiff, high plasticity, CLAY with trace thin roots.		
4.0	2		38		Light brown with variably colored clasts, damp, very stiff, low plasticity, clayey-SAND and sandy-CLAY.		1.0
8.0	3		75		Light brown with variably colored clasts, moist, stiff, low plasticity, sandy-CLAY. Possible groundwater locations (softer and moister to touch).		2.0
9.0					End of Boring @ 9 feet		3.0
10.0							

Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
1/25/19	**16:45**	**ACR**		**8.8**	

BORING STARTED **1/25/19**

BORING COMPLETED **1/25/19**

DRILLER **K&A** RIG **Dando**

ENGINEER **JDB** APPROVED

LOG A GNGN03 SUNSET VIEW RANCH BORING LOGS 1 29 19.GPJ LOG A GNGN03.GDT 1/31/19

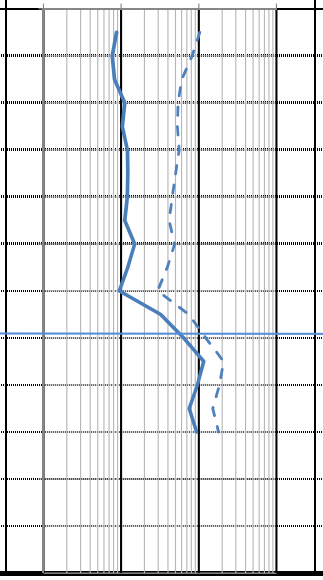
DYNAMIC PROBE LOG
FC-1

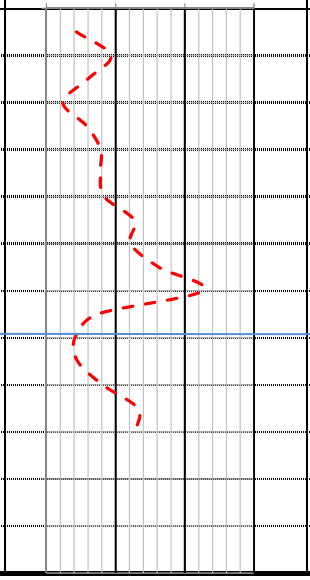
K & A Engineering, Inc.
541-684-6966
kaengineers.com

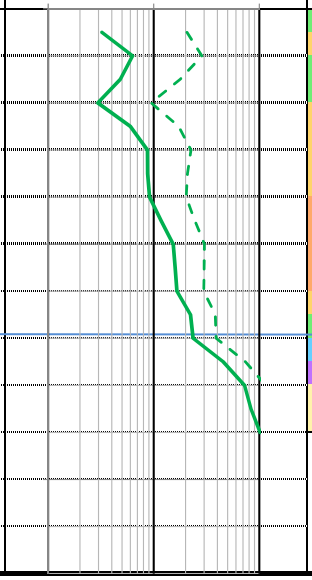
HOLE #: FC-1
CREW: K & A Engineering, Inc.
PROJECT: Sunset View Ranch Residential Subdivision
ADDRESS: Tax Lot 5000, Tax Map 19-01-14-21, Lane County
LOCATION: Lowell, Oregon

PROJECT NUMBER:	19004
DATE STARTED:	01-25-2019
DATE COMPLETED:	01-25-2019
DEPTH COMPLETED (ft):	9.0
SURFACE ELEVATION:	N/A
STATIC WATER DEPTH ON COMPLETION (ft):	6.9
FIRST ENCOUNTERED WATER DEPTH (ft):	6.9
HAMMER WEIGHT:	63.5 kg
CONE AREA:	25.7 sq. cm

DEPTH ft.	BLOWS PER 6-in.	SLEEVE TORQUE ft.-lbs.	SOIL BEHAVIOUR TYPE (SBT) ZONE[1, 3]	REMARKS
-	0	5	5	
- 1	0	8	4	
-	0	6	5	Soft to Mod. Stiff CLAY, Sandy-CLAY (Undocumented FILL)
- 2	1	4	5	
-	1	7	4	
- 3	2	11	4	
-	2	12	4	
- 4	2	12	4	
-	2	17	3	
- 5	4	21	3	
-	3	23	3	Stiff to Very Stiff CLAY (Native)
- 6	2	24	3	
-	12	27	4	
- 7	26	30	5	
-	51	58	6	
- 8	45	86	8	Weathered Basalt
-	38	109	9	
- 9	48	131	9	
- 10				
- 11				
- 12				







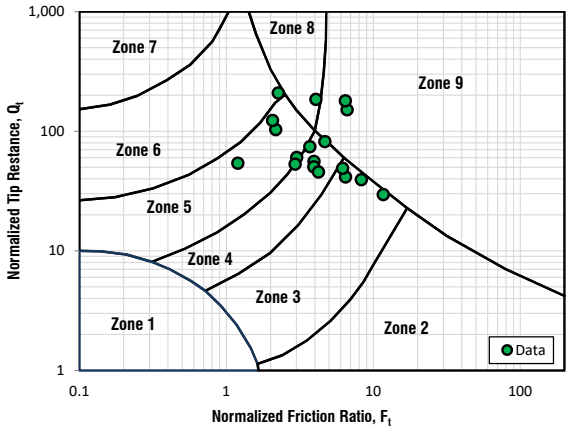
[1]P.K. Robertson, 2010. "Evaluation of flow liquefacton and liquefied strength using Cone Penetration Test." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 136, No. 6. and P.K. Robertson, 2000. "Soil classification using the cone penetration test," Canadian Geotechnical Journal, 27(1).

[2]John H. Schmertmann, "Statics of SPT", Journal of the Geotechnical Engineering Division, American Society of Civil Engineers. May 1979.

[3]P.K. Robertson, K.L. Cabal (Robertson), 2015. "Guide to Cone Penetration Testing for Geotechnical Engineering, 6th Edition" Gregg Drilling and Testing, Inc.

Note: Dashed lines show tip pressure and N normalized for overburden pressure

Zone	Soil Behaviour Type (SBT) Description
1	Sensitive, fine grained
2	Organic soils - clay
3	Clays - silty-clay to clay
4	Silt Mixtures - clayey-silt to silty-clay
5	Sand Mixtures - silty-sand to sandy-silt
6	Sands - clean sand to silty-sand
7	Gravelly sand to dense sand
8	Very stiff sand to clayey sand
9	Fine grained (weak rock, cemented, relic structure)



DYNAMIC PROBE LOG
FC-2

K & A Engineering, Inc.
541-684-6966
kaengineers.com

HOLE #: FC-2
CREW: K & A Engineering, Inc.
PROJECT: Sunset View Ranch Residential Subdivision
ADDRESS: Tax Lot 5000, Tax Map 19-01-14-21, Lane County
LOCATION: Lowell, Oregon

PROJECT NUMBER:	19004
DATE STARTED:	01-25-2019
DATE COMPLETED:	01-25-2019
DEPTH COMPLETED (ft):	6.0
SURFACE ELEVATION:	N/A
STATIC WATER DEPTH ON COMPLETION (ft):	None Observed
FIRST ENCOUNTERED WATER DEPTH (ft):	None Observed
HAMMER WEIGHT:	63.5 kg
CONE AREA:	25.7 sq. cm

DEPTH ft.	BLOWS PER 6-in.	SLEEVE TORQUE ft.-lbs.	SOIL BEHAVIOUR TYPE (SBT) ZONE[1, 3]	REMARKS
-	0	6	5	
- 1	0	8	4	
-	0	12	9	Soft to Mod. Stiff
- 2	0	16	9	CLAY
-	0	17	9	
- 3	1	18	9	
-	8	24	9	
- 4	10	30	9	Stiff
-	14	24	5	CLAY, Sandy-CLAY
- 5	33	19	6	
-	53	210	9	Weathered
- 6	200	402	8	BASALT
- 7				Refusal @ 5.75-ft
- 8				100 blows for 3-inches
- 9				
- 10				
- 11				
- 12				

Tip Pressure q_c kg/cm2 (Raw and Normalized): 1, 10, 100, 1000
Friction Ratio, %: 0%, 5%, 10%, 15%
Equiv. SPT N_{60} [2] (Raw and Normalized): 1, 10, 100

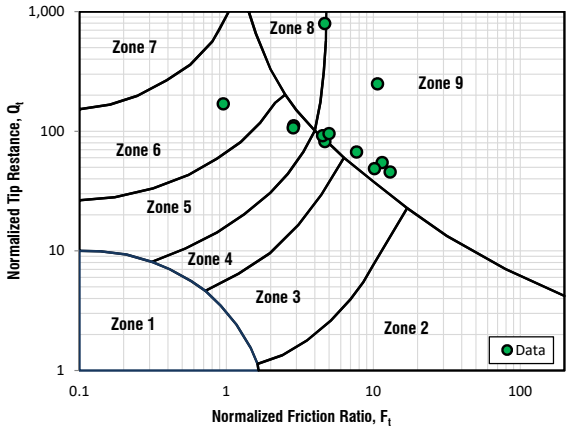
[1]P.K. Robertson, 2010. "Evaluation of flow liquefacton and liquefied strength using Cone Penetration Test." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 136, No. 6. and P.K. Robertson, 2000. "Soil classification using the cone penetration test," Canadian Geotechnical Journal, 27(1).

[2]John H. Schmertmann, "Statics of SPT", Journal of the Geotechnical Engineering Division, American Society of Civil Engineers. May 1979.

[3]P.K. Robertson, K.L. Cabal (Robertson), 2015. "Guide to Cone Penetration Testing for Geotechnical Engineering, 6th Edition" Gregg Drilling and Testing, Inc.

Note: Dashed lines show tip pressure and N normalized for overburden pressure

Zone	Soil Behaviour Type (SBT) Description
1	Sensitive, fine grained
2	Organic soils - clay
3	Clays - silty-clay to clay
4	Silt Mixtures - clayey-silt to silty-clay
5	Sand Mixtures - silty-sand to sandy-silt
6	Sands - clean sand to silty-sand
7	Gravelly sand to dense sand
8	Very stiff sand to clayey sand
9	Fine grained (weak rock, cemented, relic structure)



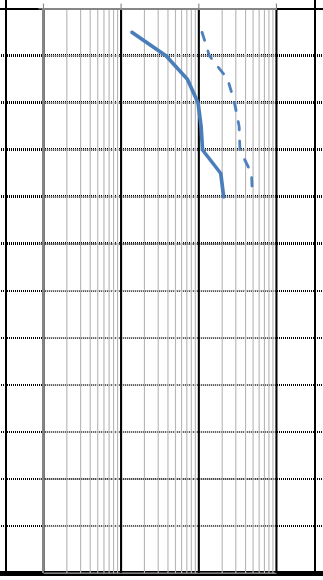
DYNAMIC PROBE LOG
FC-3

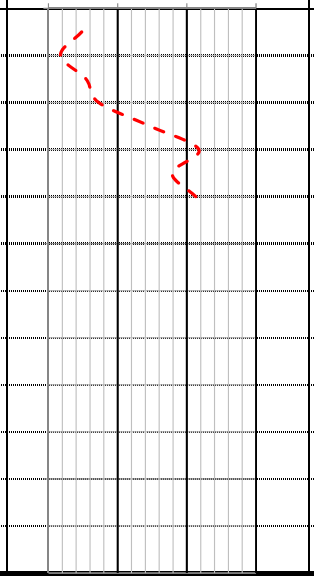
K & A Engineering, Inc.
541-684-6966
kaengineers.com

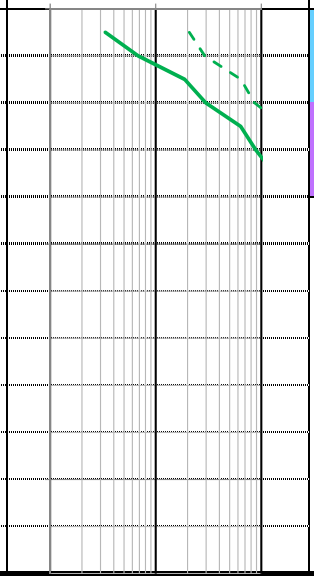
HOLE #: FC-3
CREW: K & A Engineering, Inc.
PROJECT: Sunset View Ranch Residential Subdivision
ADDRESS: Tax Lot 5000, Tax Map 19-01-14-21, Lane County
LOCATION: Lowell, Oregon

PROJECT NUMBER:	19004
DATE STARTED:	01-25-2019
DATE COMPLETED:	01-25-2019
DEPTH COMPLETED (ft):	4.0
SURFACE ELEVATION:	N/A
STATIC WATER DEPTH ON COMPLETION (ft):	None Observed
FIRST ENCOUNTERED WATER DEPTH (ft):	None Observed
HAMMER WEIGHT:	63.5 kg
CONE AREA:	25.7 sq. cm

DEPTH ft.	BLOWS PER 6-in.	SLEEVE TORQUE ft.-lbs.	SOIL BEHAVIOUR TYPE (SBT) ZONE[1, 3]	REMARKS
-	2	4	6	Loose to Mod. Dense
- 1	12	4	6	Granular FILL?
-	27	17	6	Stiff
- 2	39	31	6	Clayey-SAND
-	46	68	8	
- 3	51	105	8	Weathered to Fresh
-	90	149	8	BASALT
- 4	101	193	8	
- 5				
- 6				
- 7				
- 8				
- 9				
- 10				
- 11				
- 12				







[1]P.K. Robertson, 2010. "Evaluation of flow liquefacton and liquefied strength using Cone Penetration Test." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 136, No. 6. and P.K. Robertson, 2000. "Soil classification using the cone penetration test," Canadian Geotechnical Journal, 27(1).

[2]John H. Schmertmann, "Statics of SPT", Journal of the Geotechnical Engineering Division, American Society of Civil Engineers. May 1979.

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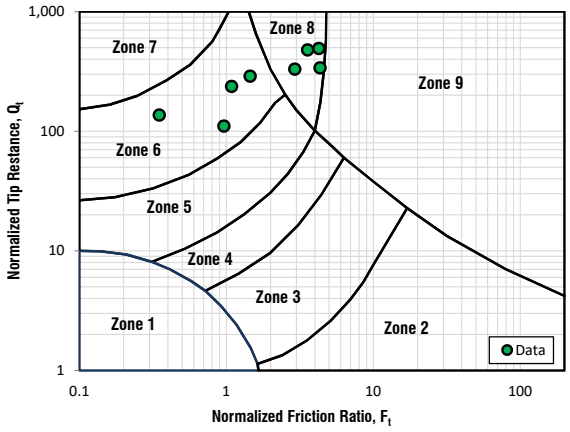
Note: Dashed lines show tip pressure and N normalized for overburden pressure

Zone	Soil Behaviour Type (SBT) Description
1	Sensitive, fine grained
2	Organic soils - clay
3	Clays - silty-clay to clay
4	Silt Mixtures - clayey-silt to silty-clay
5	Sand Mixtures - silty-sand to sandy-silt
6	Sands - clean sand to silty-sand
7	Gravelly sand to dense sand
8	Very stiff sand to clayey sand
9	Fine grained (weak rock, cemented, relic structure)



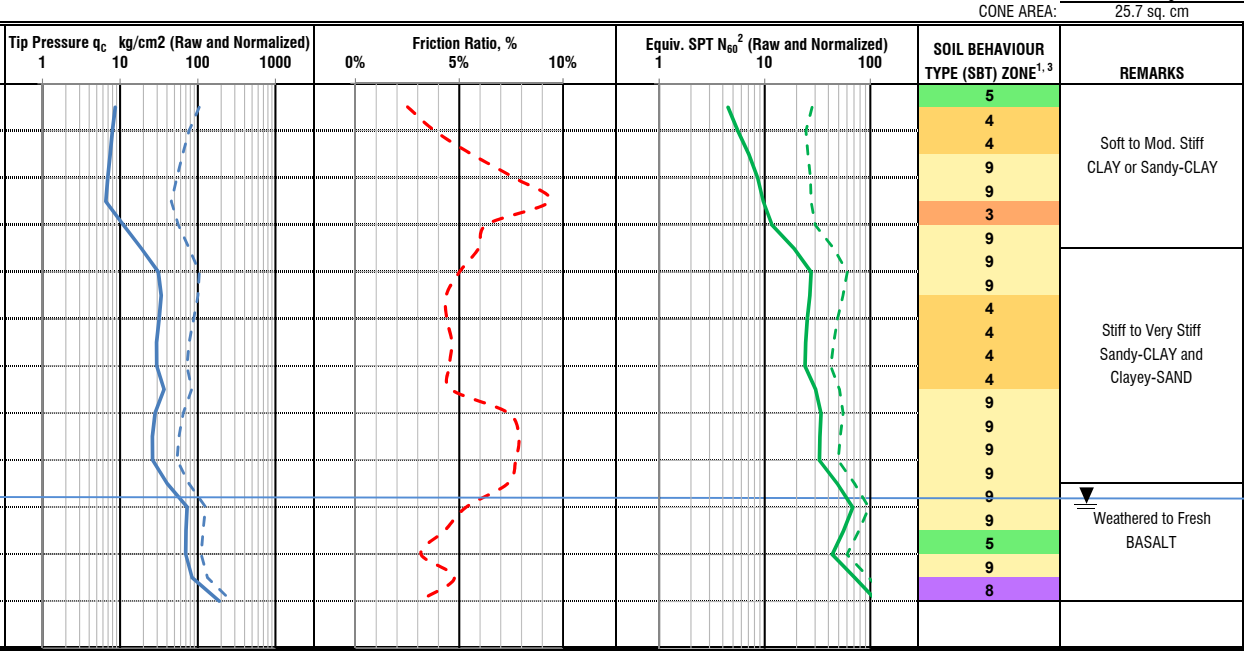
DYNAMIC PROBE LOG
FC-4

K & A Engineering, Inc.
541-684-6966
kaengineers.com

HOLE #: FC-4
CREW: K & A Engineering, Inc.
PROJECT: Sunset View Ranch Residential Subdivision
ADDRESS: Tax Lot 5000, Tax Map 19-01-14-21, Lane County
LOCATION: Lowell, Oregon

PROJECT NUMBER:	19004
DATE STARTED:	01-25-2019
DATE COMPLETED:	01-25-2019
DEPTH COMPLETED (ft):	11.0
SURFACE ELEVATION:	N/A
STATIC WATER DEPTH ON COMPLETION (ft):	8.8 est.
FIRST ENCOUNTERED WATER DEPTH (ft):	8.8 est.
HAMMER WEIGHT:	63.5 kg
CONE AREA:	25.7 sq. cm

DEPTH ft.	BLOWS PER 6-in.	SLEEVE TORQUE ft.-lbs.	SOIL BEHAVIOUR TYPE (SBT) ZONE[1, 3]	REMARKS
-	0	5	5	
- 1	0	7	4	
-	0	10	4	Soft to Mod. Stiff CLAY or Sandy-CLAY
- 2	0	12	9	
-	0	14	9	
- 3	2	16	3	
-	6	25	9	
- 4	12	35	9	
-	13	33	9	
- 5	12	31	4	
-	11	31	4	Stiff to Very Stiff Sandy-CLAY and Clayey-SAND
- 6	11	30	4	
-	15	38	4	
- 7	12	46	9	
-	11	46	9	
- 8	11	45	9	
-	19	66	9	
9	35	86	9	
-	33	68	9	Weathered to Fresh BASALT
- 10	31	50	5	
-	41	89	9	
- 11	91	128	8	
- 12				



[1]P.K. Robertson, 2010. "Evaluation of flow liquefacton and liquefied strength using Cone Penetration Test." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 136, No. 6. and P.K. Robertson, 2000. "Soil classification using the cone penetration test," Canadian Geotechnical Journal, 27(1).

[2]John H. Schmertmann, "Statics of SPT", Journal of the Geotechnical Engineering Division, American Society of Civil Engineers. May 1979.

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Note: Dashed lines show tip pressure and N normalized for overburden pressure

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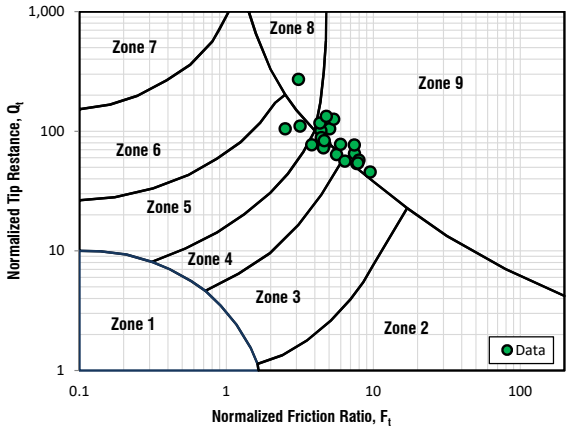
5	Sand Mixtures - silty-sand to sandy-silt
6	Sands - clean sand to silty-sand
7	Gravelly sand to dense sand
8	Very stiff sand to clayey sand
9	Fine grained (weak rock, cemented, relic structure)



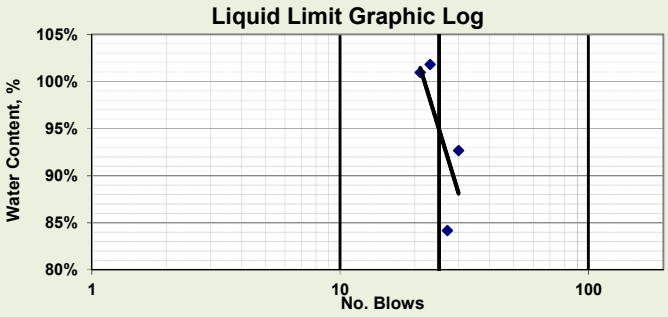
Atterberg Limits

Date: 1/28/2019
Sample No.: B-4 from 1.0 to 3.0-ft
Client: Bahen Investment Group LLC
Project: 19004

Liquid Limit

Test No	No Blows	Pan no.	Pan Weight, g	Pan+Wet Sample, g	Pan+Dry Sample, g	Water Content, %
1	27	25	12.1	34.2	24.1	84.2%
2	30	26	12.0	33.0	22.9	92.7%
3	21	17	11.7	32.8	22.2	101.0%
4	23	16	12.3	34.7	23.4	101.8%

Liquid Limit = 95%



Plastic Limit

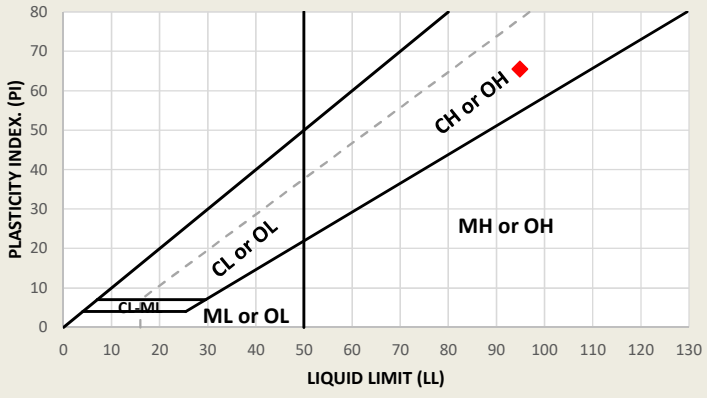
Test No	Pan No.	Pan Weight, g	Pan+Wet Sample, g	Pan+Dry Sample, g	Water Content, %
1	23	11.7	27.5	23.9	29.5%
2	24	12.0	31.0	26.7	29.3%
				Mean Plastic Limit =	29.4%

Natural Water Content

Depth	Pan No.	Pan Weight, g	Pan+Wet Sample, g	Pan+Dry Sample, g	Water Content, %
2.0	27	12.3	74.5	54.4	47.7%

Summary

Mean Plastic Limit (PL) =	29%
Liquid Limit (LL)=	95%
Natural Water Content =	48%
Plasticity Index (PI)=	66%
Liquidity Index =	28%



Appendix C

Reference Reports

- Design Earthquake Summary
- USGS Unified Hazard Deaggregation

Level II Geotechnical Engineering Report

Proposed Sunset Ranch Residential Subdivision

4th Street, Lowell, Oregon

Project: 19004

February 12, 2019

Prepared for:

Bahen Investment Group LLC

195 Melton Road

Creswell, OR 97426

.

Prepared by:

Michael Remboldt, P.E., G.E.

K & A Engineering, Inc.

Coburg, Oregon

Project Number:	19004
Report Title:	Sunset Ranch Residential Subdivision
Site Location:	43.922620°N, 122.776278°W
Site Soil Classifcation:	C - Very Stiff Soil or Soft Rock
Risk Category:	I/II/III
Design Document:	ASCE 7-10 (USGS 2008 Deaggregation)

Mapped Acceleration Parameters (Section 11.4.1)

S_S =	0.650 g	S_1 =	0.342 g

Site Coefficients (Tables 11.4-1 and 11.4-2)

F_a =	1.140	F_v =	1.458

Design Spectral Acceleration Parameters (Section 11.4.3 and 11.4.4)

S_{MS} =	0.741 g	S_{DS} =	0.494 g
S_{M1} =	0.499 g	S_{D1} =	0.332 g

Design Response Spectrum

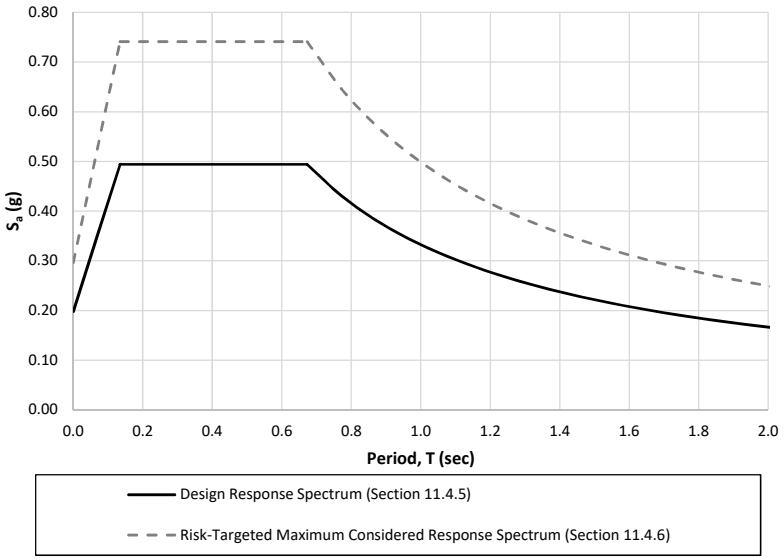


Table 11.4-1

Values of Site Coefficient F_a

Site Class	Mapped Spectral Response Acceleration at Short Period				
	$S_s \le 0.25$	$S_s = 0.50$	$S_s = 0.75$	$S_s = 1.00$	$S_s \ge 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_s

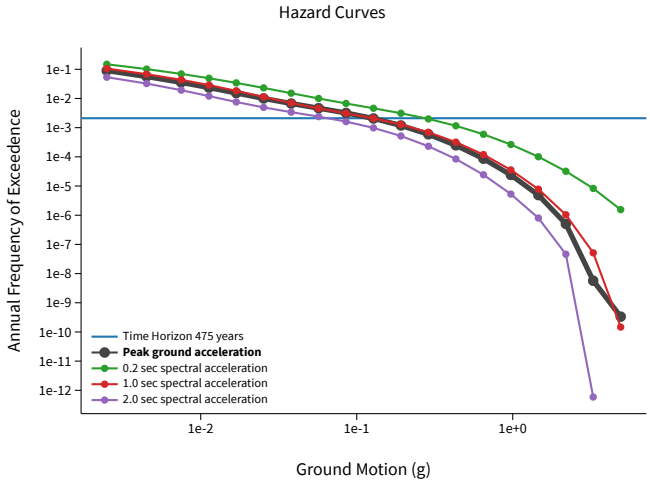
Table 11.4-2

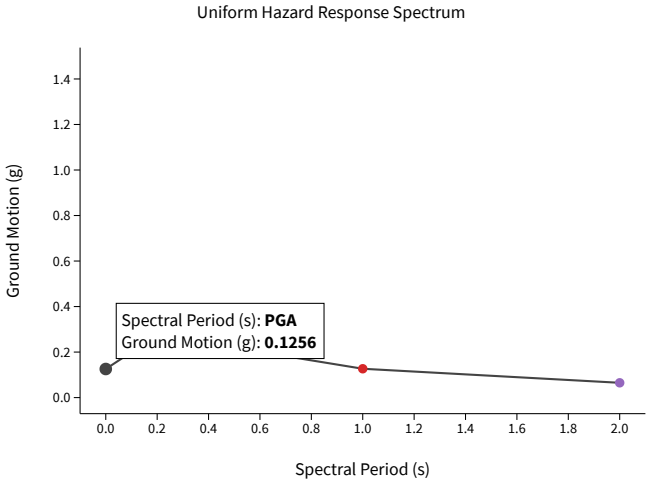
Values of Site Coefficient F_v

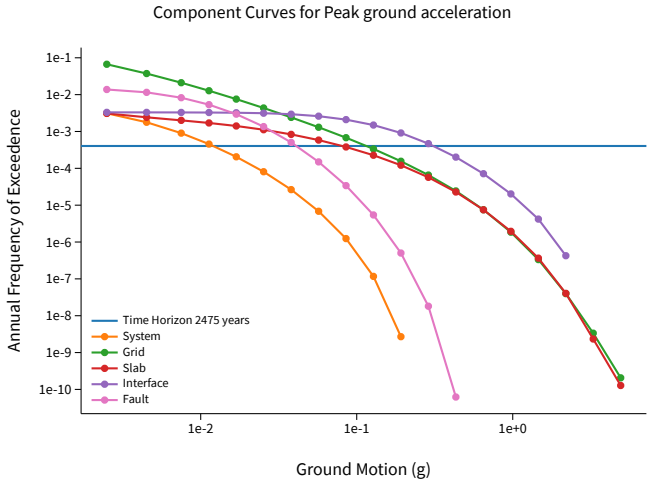
Site Class	Mapped Spectral Response Acceleration at Short Period				
	$S_1 \le 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \ge 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_1

Hazard Curve





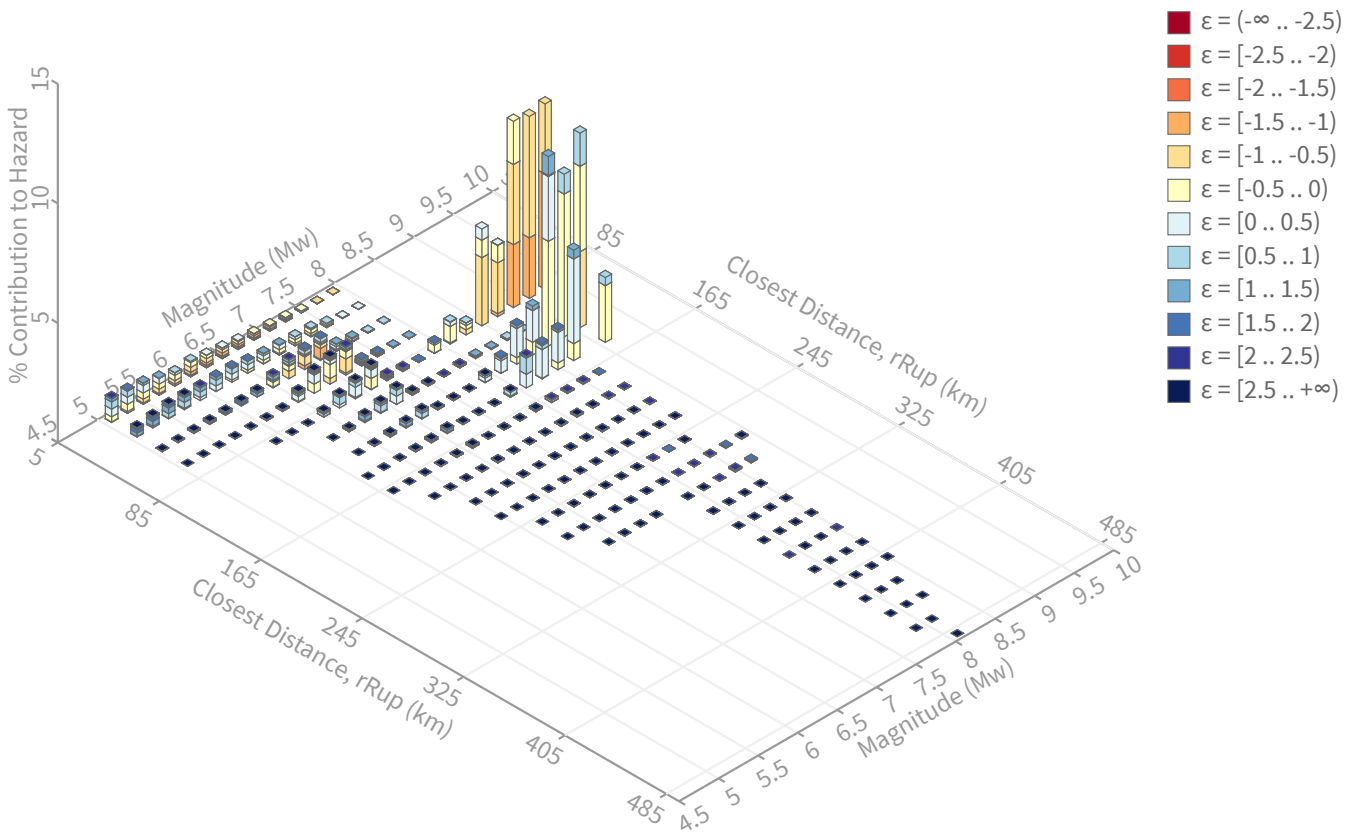


View Raw Data

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 475 yrs
Exceedance rate: 0.0021052632 yr^{-1}
PGA ground motion: 0.12564723 g

Recovered targets

Return period: 476.81487 yrs
Exceedance rate: 0.00209725 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 1.06 %

Mean (for all sources)

r: 99.21 km
m: 8.17
ε_0: -0.16 σ

Mode (largest r-m bin)

r: 137.03 km
m: 9.12
ε_0: -0.22 σ
Contribution: 8.14 %

Mode (largest ε_0 bin)

r: 137.03 km
m: 8.82
ε_0: -0.17 σ
Contribution: 5.97 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
sub0_ch_bot.in	Interface							21.88
Cascadia Megathrust - whole CSZ Characteristic		84.73	9.08	-0.92	123.764°W	43.882°N	267.04	21.88
sub0_ch_mid.in	Interface							21.21
Cascadia Megathrust - whole CSZ Characteristic		137.03	8.90	-0.09	124.492°W	43.863°N	267.82	21.21
sub0_ch_top.in	Interface							7.00
Cascadia Megathrust - whole CSZ Characteristic		148.63	8.80	0.09	124.630°W	43.858°N	267.89	7.00
coastalOR_deep.in	Slab							5.72
coastalOR_deep.in	Slab							3.74
sub3_ch_bot.in	Interface							2.48
Cascadia Megathrust - Goldfinger Case D Characteristic		88.74	8.56	-0.51	123.780°W	43.700°N	253.26	2.48
sub2_ch_bot.in	Interface							2.45
Cascadia Megathrust - Goldfinger Case C Characteristic		84.36	8.71	-0.68	123.764°W	43.882°N	267.04	2.45
sub2_ch_mid.in	Interface							1.96
Cascadia Megathrust - Goldfinger Case C Characteristic		136.81	8.46	0.18	124.492°W	43.863°N	267.82	1.96
sub1_GRb0_bot.in	Interface							1.85
Cascadia floater over southern zone - Goldfinger Case B		88.74	8.40	-0.40	123.764°W	43.882°N	267.04	1.85
noPuget_2014_adSm.ch.in (opt)	Grid							1.80
WUSmap_2014_adSm.ch.in (opt)	Grid							1.80
noPuget_2014_adSm.gr.in (opt)	Grid							1.80
WUSmap_2014_adSm.gr.in (opt)	Grid							1.80
sub3_ch_mid.in	Interface							1.75
Cascadia Megathrust - Goldfinger Case D Characteristic		142.05	8.29	0.37	124.509°W	43.700°N	260.50	1.75
WUSmap_2014_fixSm.ch.in (opt)	Grid							1.73
noPuget_2014_fixSm.ch.in (opt)	Grid							1.73
WUSmap_2014_fixSm.gr.in (opt)	Grid							1.73
noPuget_2014_fixSm.gr.in (opt)	Grid							1.73
sub1_GRb1_bot.in	Interface							1.65

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
Cascadia floater over southern zone - Goldfinger Case B		91.18	8.29	-0.29	123.764°W	43.882°N	267.04	1.65
sub1_GRb0_mid.in	Interface							1.59
Cascadia floater over southern zone - Goldfinger Case B		140.18	8.42	0.26	124.492°W	43.863°N	267.82	1.59
sub1_GRb1_mid.in	Interface							1.35
Cascadia floater over southern zone - Goldfinger Case B		142.14	8.30	0.37	124.492°W	43.863°N	267.82	1.35
sub1_ch_bot.in	Interface							1.13
Cascadia Megathrust - Goldfinger Case B Characteristic		84.33	8.84	-0.76	123.764°W	43.882°N	267.04	1.13

OWNER/APPLICANT
BAHEN INVESTMENT GROUP, LLC
195 MELTON RD
CRESWELL, OR 97426

LOT AREA
142,116 SQ. FT. / 3.26 ACRES

ZONING
R1 – SINGLE FAMILY RESIDENTIAL

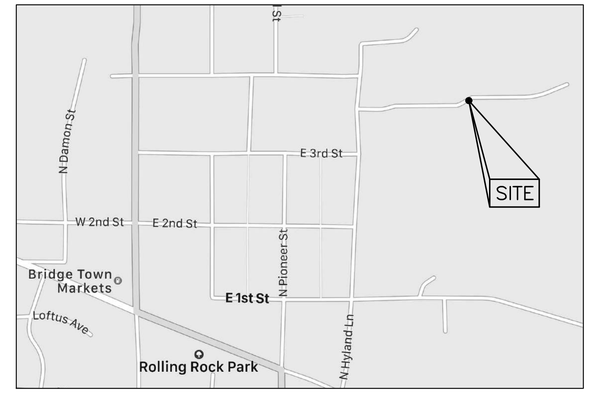
SURVEYOR
LLOYD L. TOLBERT, LS
TOLBERT ASSOCIATES, LLC
P.O. BOX 22603
EUGENE, OR 97402
541–359–8426

ENGINEER
DENNIS J. BOEGER, PE, CWRE
BOEGER & ASSOCIATES, LLC
P.O. BOX 21623
EUGENE, OR 97402
541–302–4996

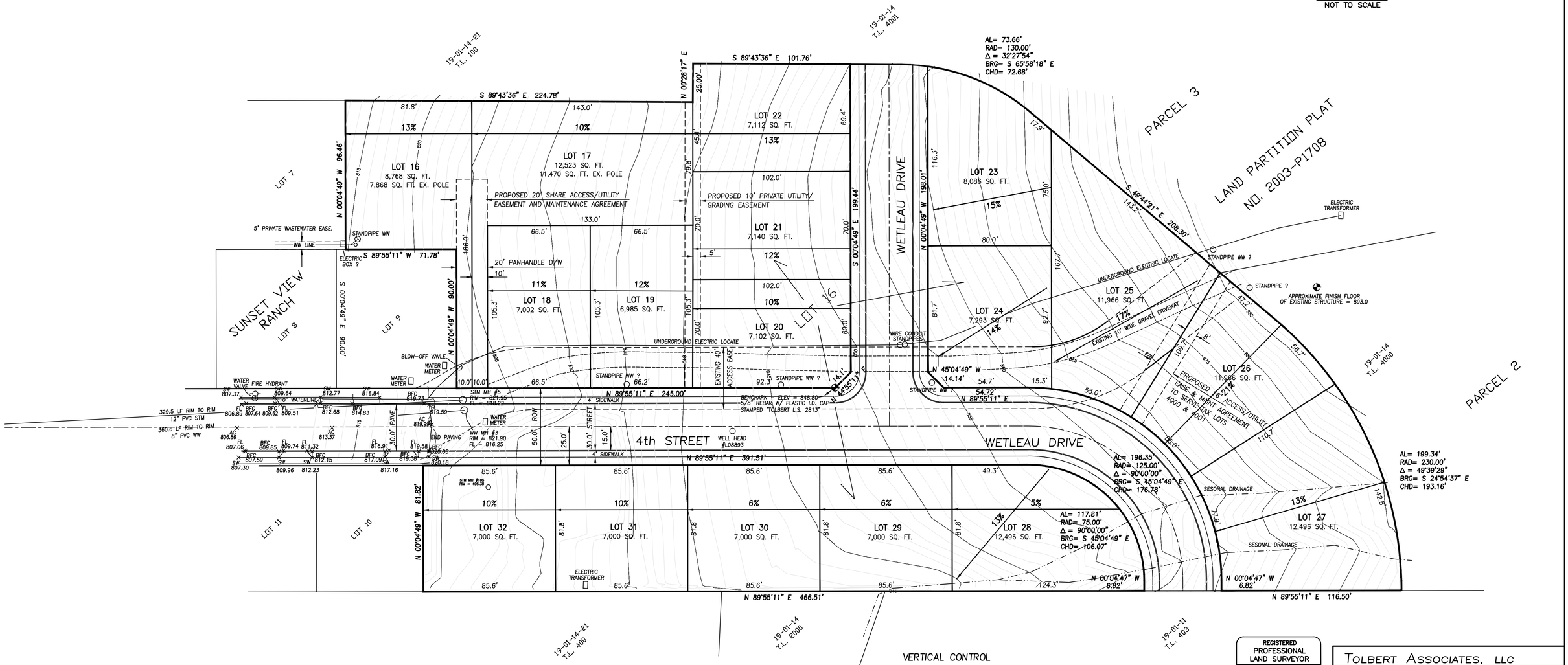
TENTATIVE SUBDIVISION PLAN
SUNSET HILLS

NE 1/4, NW 1/4, SECTION 14, T. 19 S., R. 1 W., W.M.
ASSESSOR'S MAP 19–01–14–21, TAX LOT 5000
LOWELL, LANE COUNTY, OREGON
OCTOBER 10, 2019

SCALE 1" = 30'
0 15 30 60



VICINITY MAP
NOT TO SCALE



VERTICAL CONTROL

ELEVATIONS ARE BASED ON LANE COUNTY BENCHMARK, LCCM 1177, ELEVATION 742.20 (NGVD29) – LOCATED AT THE INTERSECTION OF PENGRA ROAD AND JASPER–LOWELL ROAD.

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JUNE 30, 1997
LLOYD L. TOLBERT
2813

EXPIRES: JUNE 30, 2020

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 22603
EUGENE, OREGON 97402
(541) 359–8426
WWW.TOLBERTASSOCIATES.COM
CADD FILE–1485TENT.DWG DWN BY: LLT

ATTACHMENT K

HEARLEY Henry O

From: Lon Dragt <dragt2300@gmail.com>
Sent: July 31, 2020 10:45 AM
To: HEARLEY Henry O
Subject: Fwd: Message from KM_C308
Attachments: SKM_C30820073109290.pdf; LC 15.708 Turn around areas.pdf

I really hope everyone understands that I am in full support of these houses going in. However, there is a reason for the Fire Codes set the way they are. I cannot compromise the overall safety of the Fire personnel or the community members. I did address the issue back at the first meeting along with the City Manager. Oregon Fire Code is available for everyone to see. It is my job to point out these issues when I see them. The last set of plans did not show the proper turnaround at the dead end of either street. Attached is Oregon Fire Code Appendix D Section D103.4 Dead Ends as well as LC 15.708.

---------- Forwarded message ---------
From: <lowellfirecopier@gmail.com>
Date: Fri, Jul 31, 2020 at 9:20 AM
Subject: Message from KM_C308
To: <dragt2300@gmail.com>

--
Lon Dragt, Fire Chief
Lowell RFPD
389 N. Pioneer St.
Lowell, Or. 97452
541-937-3393
dragt2300@gmail.com

HEARLEY Henry O

From: STANKA Danielle E <danielle.stanka@lanecountyor.gov>
Sent: November 8, 2019 2:26 PM
To: HEARLEY Henry O; ODOTR2PLANMGR@odot.state.or.us
Cc: COBB Jared
Subject: RE: Referral Comment for Sunset Hills Subdivision

Follow Up Flag: Follow up
Flag Status: Flagged

Henry,

This subdivision is not taking direct access off of a Lane County road, which means we will not have any referral comments for it.

Danielle Stanka

From: HEARLEY Henry O [mailto:HHEARLEY@Lcog.org]
Sent: Thursday, November 7, 2019 2:30 PM
To: STANKA Danielle E <danielle.stanka@lanecountyor.gov>; ODOTR2PLANMGR@odot.state.or.us
Cc: COBB Jared <jcobb@ci.lowell.or.us>
Subject: Referral Comment for Sunset Hills Subdivision

[EXTERNAL ⚠]

Please see attached documents for a subdivision proposal in Lowell, Oregon.

Application is still in completeness review.

Please let me know if you need anything else.

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

ATTACHMENT M

December 30, 2020

Henry Hearley
Lane Council of Governments
859 Willamette Street, Suite 500
Eugene, OR 97401
Via email to hhearley@lcog.org

Re: Sunset Hills LU 2019-04

Dear Henry:

Please place these comments in the record of the Sunset Hills proceedings and provide copies to the planning commission and council. This letter details concerns I have with the one-page revised utility plan you sent me yesterday, which was not provided by the applicant until the night before after 6:00 pm. I may have other comments once the applicant provides a full set of plans; the revised road and utility profiles, grading plans and cross sections are still missing.

I'm dismayed to find that only a few of the prior infrastructure problems have been addressed. As you may recall, I detailed a large number of objections to the prior plan in my September 10 email, as did the City Engineer in his earlier review.

As before, the proposed infrastructure still seems focused on this one subdivision, just the bare minimum needed to serve these lots, with not enough thought to the future and with complete disregard for the city's construction standards, as expressed in both the code and the 1994 Standards for Public Improvements (hereafter "SPI"). Even clear violations of the law, duly pointed out by the City Engineer, have been left uncorrected.

DELEGATION OF AUTHORITY

Some of the previously suggested conditions of approval put off final utility plan approval until after the public tentative plan process is completed. For example, this condition was in the earlier staff report:

> Condition of Approval #19: The utilities plan as seen on Sheet 5 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 commencement of any construction activities with respect to water, sewer and utilities. (page 25, September 1, 2020 staff report)

I don't have any objections to conditions like this, and of course, the City Engineer does need to sign off on the final, detailed set of construction plans. However, kick-the-can conditions can't be a substitute for the applicant providing sufficiently detailed plans to permit me, as a participant in this process, to know exactly what it is they are proposing to build. Lowell's code is clear that ***now*** is the time for problems to be identified and addressed, and code compliance established:

> LDC 9.520 Storm Drainage. (a) General Provisions. * * * All proposed drainage systems must be approved by the City ***as part of the review and approval process***.
>
> LDC 9.521 Water. (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***.
>
> LDC 9.522 Sewer. (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***.

The applicant's infrastructure plans are incomplete and flawed. I understand why city staff might prefer to defer review of these issues until a later time. But this isn't allowed. Members of the public must retain their ability to raise issues and file appeals of problems that are not addressed. The city council has

decision-making authority and this part of the process cannot be delegated to the City Engineer. If the applicant cannot or will not supply a compliant set of infrastructure plans in a timely manner, the correct course of action is ***denial***. Let them try again. The city is not responsible for figuring out how to cure a flawed application, and basically re-engineer it, through extensive conditions of approval and impermissible decision delegation.

STREETS

The street improvements have been revised to extend to the external property lines (with the exception of the 4th Street stub). However, revised vertical road profiles have not been provided. These need to be extended a distance onto adjacent property (with consideration of that terrain) to establish correct alignments. Without revised vertical profiles, it isn't possible to know if the applicant has cured the previously identified defects.

The last known plan showed an unacceptable southern vertical alignment. It was much too high (the finished grade at the southern centerline would be 4 feet higher than the existing grade) and also rose too steeply to serve the adjacent property. It would have essentially been a road to nowhere.

Since acceptable revised plans have not been submitted, the applicant's vertical alignment plan does not conform to the following:

> LDC 9.228(d)(3): "The proposed street plan * * * Will not preclude the ***orderly extension of streets*** and utilities on undeveloped and underdeveloped portions of the subject property or ***on surrounding properties***."

A feasible alternative was described in the September 17, 2020 email from my civil engineer Clint Beecroft of EGR, attached as Exhibit A. The applicant should be required to conform to Mr. Beecroft's suggested vertical alignment: centerline elevation of approximately 862.5 at the property line, with a 0.5% centerline slope rising to the south.

Also, as explained my December 28 letter, paving, curbs, gutter and sidewalks need to extend east up the 4th Street stub to the eastern property line. Since this is hillside property, the street width could be reduced to 21' with sidewalks on only one side, per LDC 9.632(g)(2).

SANITARY SEWER

Multiple problems remain with the proposed sanitary sewer, despite the City Engineer's flagging of these issues in his July 10 review. From that letter:

> "43. Sewer line running north from MH#1 is not accessible by the City and therefore is not acceptable."
>
> "44. The end of the sewer lines (behind lot 22, in front of lot 23, and in front of lot 27) are currently designed with a cleanout. Per City standards, these all need to be manholes."

1. <u>North Wetleau Drive extension</u>. The proposed sewer main ends in a cleanout in front of Lot 23, almost 100' short of the northern property line. It must be extended to the north property line and terminate in a manhole. The current plan violates the following provisions:

> LDC 9.228(f) That proposed public utilities can be extended to accommodate future growth ***beyond the proposed land division***.
>
> LDC 9.522(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.

LDC 9.522(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.

SPI(III)(A)(2)(b): Sanitary sewer system improvements ***shall be extended through the development site to the edges of the property frontage*** and/or internal property lines so that future extensions can continue in an orderly fashion without disruption to the development site.

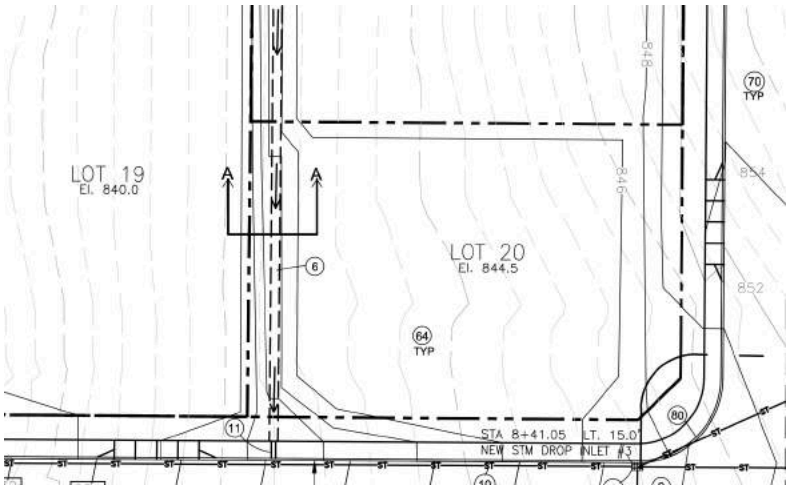
SPI(III)(D)(3) Cleanouts

a. ***Cleanouts are not acceptable as substitutes for manholes***.
b. Although not recommended, cleanouts may be permitted, with approval from the City Engineer, at the upper ends of laterals less than 250 feet in length ***which will not be extended***.

2. <u>Rear-line sewer behind Lots 20-22</u>. This rear-line sewer runs provides service to Lots 20-22, which are downhill from Wetleau Drive and thus cannot be served from the street. The sewer main runs along the property line between the west line of Lots 20-22 and the east line of Lot 17 and 19. The revised plans show this mainline ending in a cleanout near the middle of Lot 22. These problems remain:

a) This is not an acceptable location for the mainline. It must be moved to the east, off the common property line. Otherwise, it could not be extended to serve the future lots to the north unless the owner of the property north of Lot 17 provides an easement all along his west line. This is highly unlikely, given that that property is downhill of the future sewer line and so would not receive any benefit. This location therefore doesn't conform to LDC 9.228(f), which requires a finding that "proposed public utilities can be extended to accommodate future growth beyond the proposed land division."

b) The sewer main is located under a steep fill bank and will be inaccessible for maintenance. As can be seen on Sheet 3 of the original plans (which have not been updated), this sewer line is proposed to be located under a 1:1 fill bank, with a drainage swale on top of that. This city will not be able to access and maintain this line, unless the sewer line is moved to the east, well away from the fill bank and drainage swale. The proposal violates SPI(III)(B)(4).



SPI(III)(B)(4) Accessibility for Maintenance

a. Sanitary sewer mains shall be ***located to maximize accessibility*** for initial improvements and future maintenance activity.
b. Where side and rear lot line alignments are unavoidable, ***provision for initial and future maintenance vehicles shall be a consideration***.

c) The easement is too narrow. It is only 10' wide but Lowell requires 15' for a single line, and even more under special circumstances. That clearly seems to be the case here.

SPI(V)(A)(1) Easements: Widths

a. The minimum width required for a single utility line is fifteen (15) feet.

b. The minimum width required for two public utilities side-by-side (not in a common trench) is twenty (20) feet.

c. ***Wider easements may be required under special circumstances***.

d) The line doesn't extend to the north property line. It must be brought all the way to the property line, to conform with the above listed LDC 9.228(f), LDC 9.522(c), and SPI(III)(A)(2)(b).

e) The line ends in a cleanout. It must be a manhole, per the above listed SPI(III)(D)(3). This line will be extended in the future, to serve the adjacent property to the north.

3. <u>South Wetleau Drive extension</u>. My previous submittals demonstrated that the original proposed grade of the southern Wetleau Drive sewer extension is too high and too steep to provide service to the adjacent property; it would emerge out of the ground. A feasible alternative was described in the September 17, 2020 email from my civil engineer Clint Beecroft of EGR, attached as Exhibit A.

Since revised plans showing the correct invert elevation have not been submitted, the plan does not conform to LDC 9.228(f), which requires a finding that "proposed public utilities can be extended to accommodate future growth beyond the proposed land division."

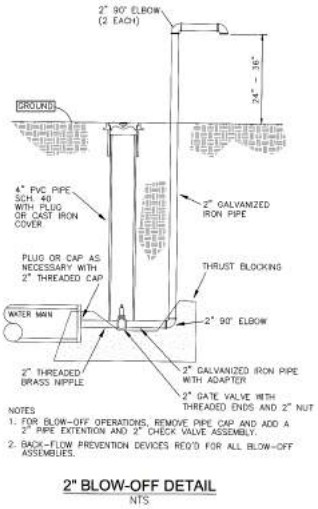
The applicant should be required to conform to Mr. Beecroft's suggested grade of 0.40% ending in an invert elevation of about 855 feet at the southern Wetleau Drive boundary.

4. <u>4th Street extension</u>. As explained my December 28 letter, an 8" sewer main must extend east up the 4th Street stub, all the way to the eastern subdivision boundary.

WATER

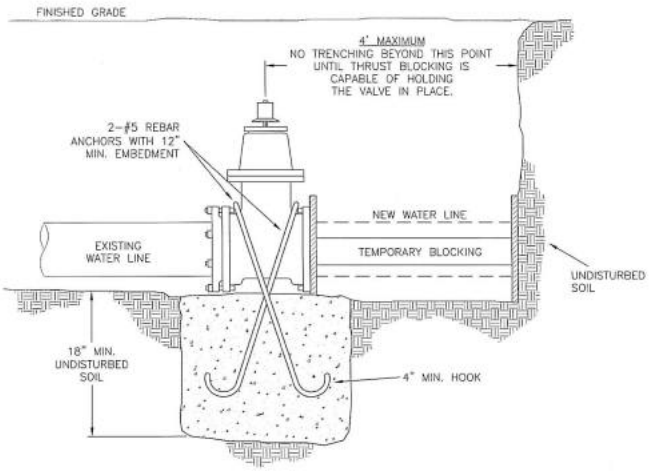
Multiple problems remain with the proposed water system:

1. <u>North Wetleau Drive extension</u>. The north water main extension still ends in a blowoff, about 20' short of the property line. Blowoffs are only supposed to be used on permanent dead end lines, because they prevent extension of the water main they are attached to. Below on the left is the applicant's proposed blowoff structure, from Sheet 7 of the original infrastructure plans (which have not been modified). The blowoff's concrete thrust block and 2" valve cannot be removed without shutting down the existing water main, and leaving it turned off while the new main is constructed. This is because water main pipe joints are gasketed, not glued, and will separate under pressure unless restrained.



2" BLOW-OFF DETAIL
NTS

WHAT APPLICANT PROPOSED



WHAT IS ACTUALLY NECESSARY

The proposed water main needs to be extended all the way to the north Wetleau Drive boundary, and end in a gate valve that is restrained with either a thrust block underneath the valve (as shown above on the right) or self-restraining joints (often called “megalugs”), to allow future extension without disrupting thrust protection or turning off service to existing homes.

In addition, the new utility plan deleted all the notes that were present on the original plan, including note 23, which stipulated that this water main was to be 10” in size. That is the size of the existing water main to the east, and that is the size that is required by Lowell’s Water System Master Plan. The applicant must be required to provide a 10” water main all the way to the northern property line.

The current proposal violates all of the following:

> LDC 9.228(a) That the proposed land division complies ***with applicable provisions of City Codes and Ordinances***, including zoning district standards.
>
> LDC 9.228(f) That proposed public utilities can be extended to accommodate future growth ***beyond the proposed land division***.
>
> LDC 9.521(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.
>
> LDC 9.521(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.
>
> SPI(II)(A)(4): Water system improvements ***shall be extended through the development site to the edges of the property frontage*** and/or internal property lines so that future extensions can continue in an orderly fashion without disruption to the development site.
>
> SPI(II)(B)(4): A water distribution main shall exist within public right-of-way for the ***full frontage of the property*** served by the system.
>
> SPI(II)(A)(2): Sizes for new water lines shall be consistent with the 1989-Lowell Water System Analysis or ***as modified by Water Study updates***.

2. <u>South Wetleau Drive extension</u>. The south water main extension now ends at the property line, but does not end in a valve. Instead, the line is shown just abruptly ending at the property line. This is not a workable plan. As described above, this type of water line needs to end in a gate valve that is restrained with either a thrust block or megalugs, to allow future extension without disrupting thrust protection or turning off service to existing homes. In addition, as for the northern Wetleau Drive extension, the applicant must be required to provide a 10” water main all the way to the southern property line.

The current plan violates the same code provisions as the northern Wetleau Drive extension, listed above.

3. <u>Fire hydrants</u>. Incredibly, despite the catastrophic wildfires our area has just experienced, the tinderbox nature of this dry, west-facing hillside, and the concerns that have already been raised by city staff, the Lowell Fire Chief, and myself as the immediate neighbor, the applicant still only proposes a single fire hydrant, located at the intersection.

The applicant proposes a potentially dangerous dead end development on a known high-risk site. This hillside has already been on fire four times since my family purchased it in 1992, and every year, the risk increases as our climate becomes drier. Traditionally, Lowell has taken a hard line stance against dead end hillside development and inadequate hydrant coverage. When my family developed Sunridge Subdivision to the south, the city required us to construct a secondary escape route until the dead end could be eliminated. In addition, many additional hydrants were required, with spacing under 200’ in some cases. The current proposal does not comply with the Oregon Fire Code and is dangerous.

The sole proposed fire hydrant is more than 200' from the ends of both the north and south Wetleau Drive extensions. Two additional hydrants are required to meet the Oregon Fire Code Table C105.1, footnote (d). As shown below, the "maximum distance from any point on street or road frontage to a hydrant" is normally 250', but per footnote (d), this is reduced to 200' when it's a dead end, as it is here.

FIRE HYDRANT NUMBER AND DISTRIBUTION: The minimum number and distribution of fire hydrants available to a building shall not be less than that listed in Table C 105.1.

TABLE C105.1
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS[a, b, c] (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT[d]
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more[e]	200	120

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.
a. Reduce by 100 feet for dead-end streets or roads.
b. Where streets are provided with median dividers which can be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
d. Reduce by 50 feet for dead-end streets or roads.
e. One hydrant for each 1,000 gallons per minute or fraction thereof

The city already required a second hydrant at the north end of Wetleau Drive, in this earlier condition of approval; unfortunately, the applicant still hasn't complied:

> Condition of Approval #6: Applicant shall install fire hydrant at or near the western edge of the northerly extension of Wetleau Drive. (page 12, September 1, 2020 staff report)

This was clearly necessary, but it appears the city missed the fact that the same situation exists on the southern end of Wetleau Drive. In fact, it is actually even ***farther*** from the intersection hydrant to the south end of Wetleau, than it is to the north end.

I urge you to recommend these two additional hydrants; it is a small expenditure that may wind up making a big difference someday. It is only a matter of time before there is another fire on this hill. When there was a fire at 183 Wetleau Drive, the firefighters used three hydrants to fight that one-house fire. It's not too much to require the applicant to provide adequate hydrant coverage, to mitigate the risk created by this dead-end hillside development.

E, T & TV

Electric, telephone and television trunk lines need to go through to external property lines to conform to LDC 9.228(f), which requires a finding that "proposed public utilities can be extended to accommodate future growth beyond the proposed land division." Otherwise, unreasonable levels of re-excavation and pavement destruction, along with disruption to landscaping and access, would have to occur in order to extend these utilities onto adjacent properties.

Only electric is shown on the utility plan, but obviously, telephone and TV also need to be provided. These will presumably follow same trench and layout as power (this is customary). At the north end, they are

about 150' short of the property line, and at the south end, about 100' short. Everything needs to be properly extended to the line.

Also, as explained my December 28 letter, these services need to extend east up the 4th Street stub, and conduits for three phase power need to be brought the southern boundary of Wetleau Drive, to enable the future high level water booster pump station to be built.

STORM

There are two places where catch basins are being used in lieu of manholes – this is not good practice and past city engineers have not allowed this. The storm narrative claims there are going to be two storm manholes but it appears that none are actually being installed. Instead, five catch basins are chained together over a large distance, incorporating both direction and grade changes. This violates SPI(IV)(D)(1).

Also, as explained my December 28 letter, the storm mainline needs to extend east up the 4th Street stub.

CONCLUSION

All of the above described problems are graphically depicted on the attached Exhibit B, an annotated version of the applicant's revised utility plan. The comments in red are mine.

Thank you for the opportunity to provide these comments. Please let me know if the applicant submits the revised road and utility profiles, grading plans and cross sections.

If the applicant does not submit a complete set of workable infrastructure plans, I hope you will recommend ***denial*** of this application, and not try to re-engineer the project with conditions of approval.

Sincerely,

Mia Nelson
40160 E 1st Street
Lowell, OR 97452
541-520-3763
mia@sunridge.net

Attachments:

A – September 17, 2020 Clint Beecroft email and drawing (2 pages)
B – Annotated utility plan (1 page)

EXHIBIT A

CB

From: **Clint Beecroft** clintbeecroft@egrassoc.com
Subject: Sunset Hills
Date: September 17, 2020 at 9:18 AM
To: mia@sunridge.net

Mia,

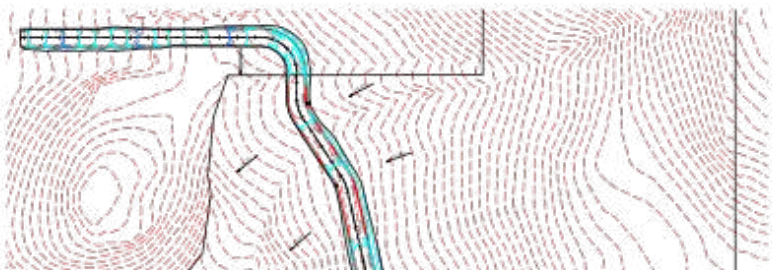
I did a quick review of the data you provided me. From the City Engineer's comments it looks like applicant has some work to do on the plans. Stormwater needs to be revised to include flow control and water quality facilities, so the proposed stormwater system may need to change, but should not impact your land so long as they do not increase flows toward you.

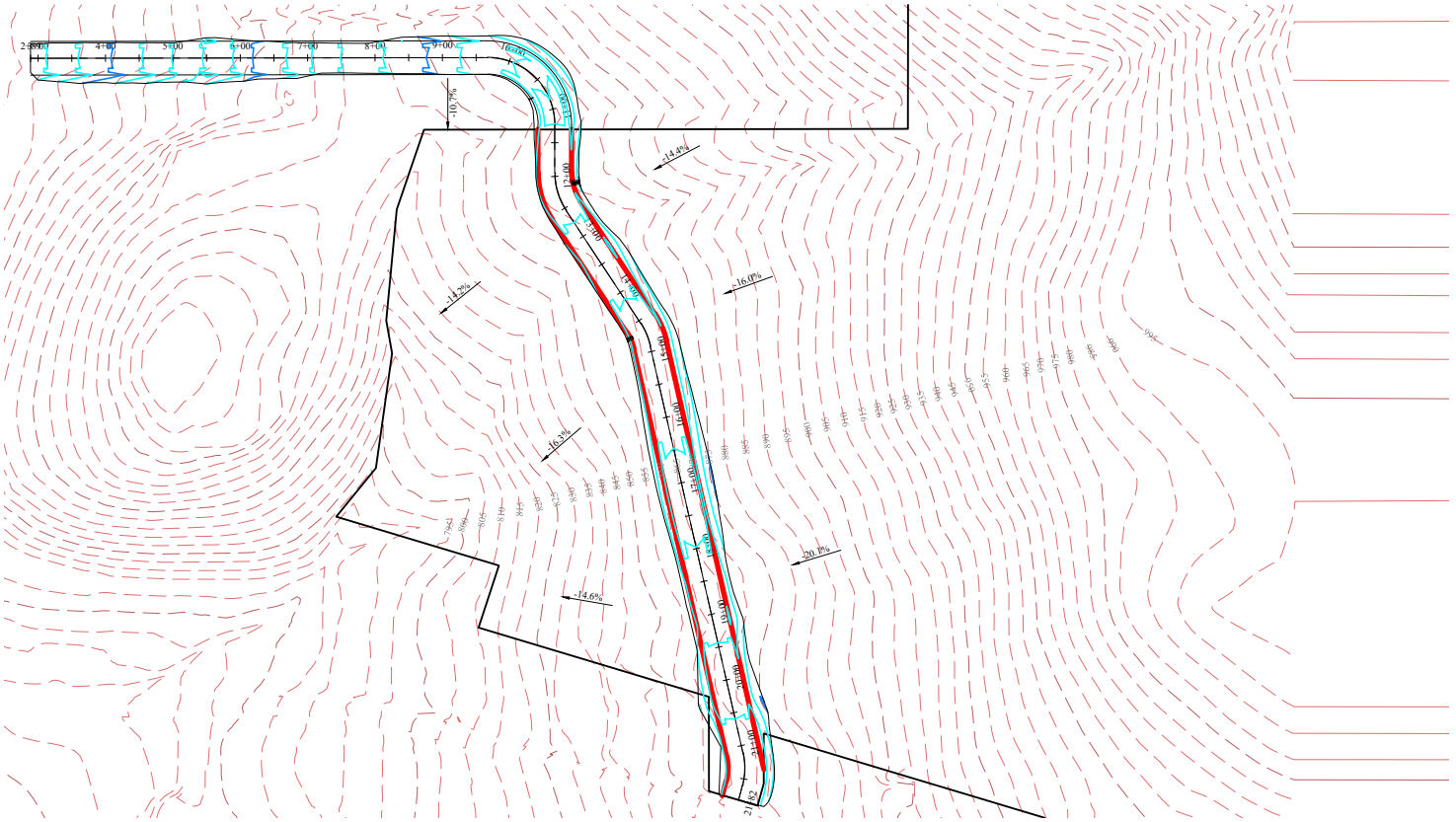
I took a quick look at the extension of the road to the south onto your land as this appears to be the critical connection for wastewater and road alignment. From your contours I generated a surface and prepared a road alignment and profile as depicted on the attached pdf. Applicant's plan does not show road grades, but it appears 4th Street is at 10% grade that then flattens to approximately 2.5% towards your land. The attached profile shows the road grade flattening to 0.5% rather than 2.5% that then continues along most of the alignment, then slopes down approximately 3% to match your street stub in Sunridge. It appear there would be sufficient distance for Applicant to install a vertical curve meeting ASSHTO standards for the 10% to 0.5% grade change before reaching your land.

The proposed 6" WW pipe ending before your land should be changed to 8" and stubbed to the boundary at a 0.4% slope. This could then be continued along the future road and could serve most of the lands uphill from the road. Depth of pipe will be approximately 8 feet below road surface. Crossing the drainage a few hundred feet onto your land could be challenging so the WW pipe does not conflict with a culvert pipe. It depends on how accurate the contours are. If the culvert pipe is laid to match the existing channel (as depicted on the profile in the pdf), then it appears that the WW pipe could cross beneath the culvert pipe if alignment is on the uphill side of the road center where the end of culvert pipe would be higher. If the drainage is actually deeper, then the WW pipe could cross over the culvert pipe if alignment is on the downhill side of the road center. Asking for the pipe stub to be one or two feet deeper would give you greater flexibility for the culvert pipe crossing, but it appears it could work without a deeper stub out.

A WW pipe between proposed lots 28/29 does not appear feasible. The ground slopes down from 4th Street such that the pipe would be too shallow by the time it reaches your land to be beneficial. The only feasible way to provide sanitary service to your land is the pipe extension in the road.

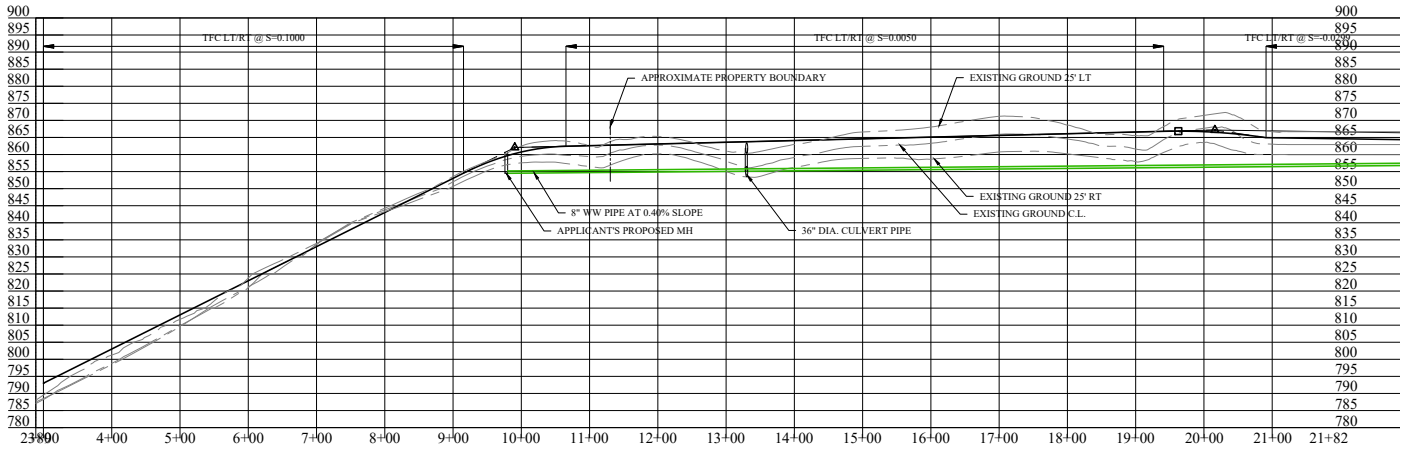
Cint





N

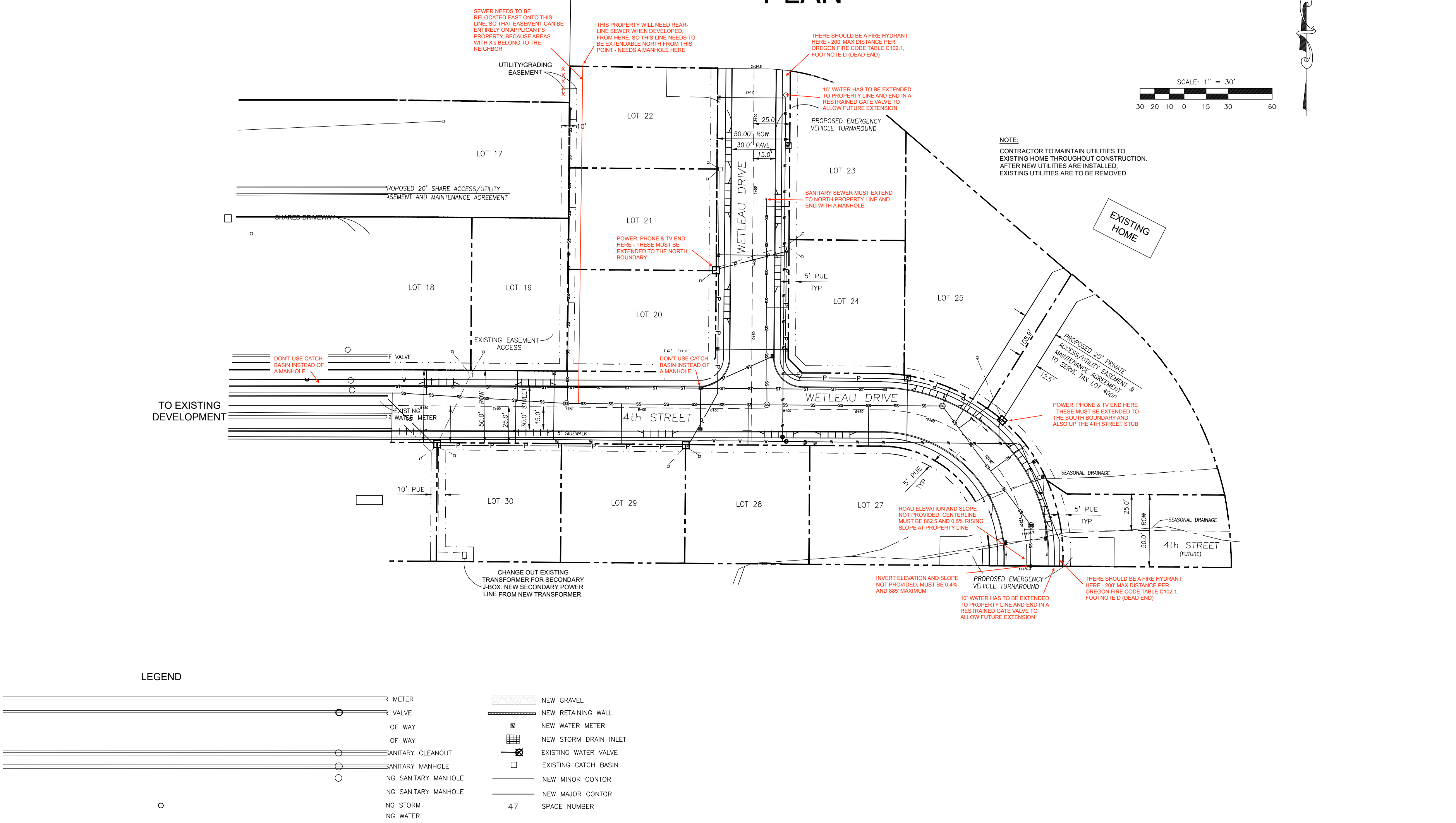
CONCEPT ONLY



HORZ. SCALE: 1" = 100'
VERT. SCALE: 1" = 20'

EXHIBIT B

TENTATIVE UTILITIES PLAN



Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph 541.302.4996
Cell: 541.556.5779
Fax: 541.302.4968
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER 16331 OREGON JAN. 19, 1984 DENNIS J. BOEGER
EXPIRES: 12/31/2021

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyliu@gmail.com

W.O. No. 314
Design M. KAISER
Drawn Z. BOEGER
Check D. BOEGER
Date 12/28/2020
Dwg 314 SUNSET HILLS

Sheet 2 of 2

REVISIONS

No.	Description/Date	By

ATTACHMENT M

December 28, 2020

Henry Hearley
Lane Council of Governments
859 Willamette Street, Suite 500
Eugene, OR 97401
Via email to hhearley@lcog.org

Re: Sunset Hills

Dear Henry:

Please place these comments in the record of the Sunset Hills proceedings and provide copies to the council. This letter details two concerns I have with the revised plan; I may have others once the applicant provides a revised utility plan. As you may recall, I had a large number of objections to the prior plan, as did the city engineer.

Failure to provide required public improvements on eastern 4th Street stub

In this latest revision, the applicant has created a right-of-way stub for 4th Street. This right-of-way extends to the eastern boundary of the subdivision, and addresses this condition from the 2006 Sunset View Ranch decision:

> *2. As a requirement of any future development plan for parcel 16, Sunset View Ranch Subdivision, the applicant be required to reserve a future right-of-way at a location approved by the City providing direct public access to Tax Lot 3301 from the relocated Wetleau right-of-way unless an alternative public access has been planned and approved from a different property.*

This is a good start, but now the applicant needs to take the next step: street and utility improvements must be included in this new right-of-way, all the way to the eastern subdivision boundary. At minimum, the following improvements must be provided:

- 21' street with curb and gutter, plus sidewalks on one side (hillside standards allow 21' width)
- Storm sewer mainline sized for the uphill property and discharging to the natural drainage
- Sanitary sewer mainline extension
- Extension of electric, TV and television conduits (to avoid future pavement disruption)
- Planning and adequate room provided for future high-level water main (will come from the south)

The applicant may believe that he is excused from doing so, because the 2006 Sunset View Ranch decision did not specifically require any improvements. However, there was no need for the city to spell out these requirements. This right-of-way's express purpose is providing street and utility access to the adjacent property, and its creation automatically triggers ***other*** code provisions that require street and utility improvements to the subdivision boundary. Lowell's code does not envision a situation in which ***only*** a right-of-way is required, but no improvements.

The current lack of proposed street and utility improvements violates the following decision criteria, which require full conformance with all other applicable city standards, along with a separate requirement that infrastructure must provide for the "orderly extension of streets and utilities * * * on surrounding properties" and "accommodate future growth beyond the proposed land division."

> LDC 9.228(a) That the proposed land division complies with applicable provisions of City Codes and Ordinances, including zoning district standards.
>
> LDC 9.228(d) The proposed street plan:
> (1) Is in conformance with City standards and with the Master Road Plan or other transportation planning document.

(2) Provides for adequate and safe traffic and pedestrian circulation both internally and in relation to the existing City street system.
(3) Will not preclude the orderly extension of streets and utilities on undeveloped and underdeveloped portions of the subject property or on surrounding properties.

LDC 9.228(f) That proposed public utilities can be extended to accommodate future growth beyond the proposed land division.

Many other city standards apply here, both in the Lowell Standards for Public Improvements (see LDC 9.808(a)) and in other areas of the development code. All of them require applicants to extend streets and utilities all the way to the exterior subdivision boundary. For example:

Streets

LDC 9.517(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.

SPI(I)(B)(1)(b): Street improvements ***shall be extended to the edges of the property frontage*** and/or internal property lines so that improvement will continue in an orderly fashion.

Water

LDC 9.521(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.

SPI(II)(A)(4): Water system improvements ***shall be extended through the development site to the edges of the property frontage*** and/or internal property lines so that future extensions can continue in an orderly fashion without disruption to the development site.

Sanitary Sewer

LDC 9.522(c) All public sewer system improvements shall comply with Section III of the City's Standards for Public 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.

SPI(III)(A)(2(b): Sanitary sewer system improvements ***shall be extended through the development site to the edges of the property frontage*** and/or internal property lines so that future extensions can continue in an orderly fashion without disruption to the development site.

Storm Sewer

SPI(IV)(A)(2)(b): Storm drain system improvements ***shall be extended through the development site to the edges of the property frontage*** and/or internal property lines so that future extensions can continue in an orderly fashion without disruption to the development site.

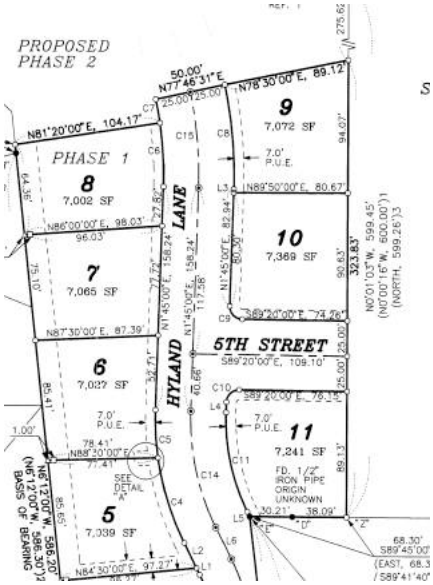
Failure to provide these improvements now will have two major negative effects:

1) It will burden the future developer of the property to the east with costs that are properly the applicant's to bear. Not only are there fairness concerns, but the extra costs could cause that future hillside project to become unprofitable. This is not in the city's long-term best interests.

2) If and when these utilities are finally extended, the cost will be dramatically higher than it would have been to do it right the first time, and substantial pavement damage will occur since the street will have to be torn up. Again, this is not in the city's best interests.

There is also the matter of precedent. In 2009, Lowell approved the nearby Stoneridge Estates, which had a very similar situation: a short stub street leading to undeveloped property to the east. As here, this stub street's improvement was unnecessary to the Stoneridge developer, and she initially proposed to make no improvements. The city compelled her to fully improve the street, along with utilities stubbed all the way to the property line. That's exactly what has to happen now; the situation is identical.

This is ***normal*** requirement that most cities do in situations like this. If the adjacent property is not yet ready to develop, that is deemed immaterial and not a valid reason to excuse the improvements. Below is a close up of the area in question, both on the plat map and an aerial view. The entire Stoneridge Estates plat map is attached as Exhibit A.



Finally, it must be acknowledged that the creation of this right-of-way confers extra development rights (and value) on the applicant's property. Per LDC 9.411(c)(7), duplexes are allowed in the R-1 zone, but only on corner lots with a minimum of 10,000 square feet in area. The proposed Lot 26 is 14,483 square feet, more than twice Lowell's minimum lot size, and well over the 10,000 square foot duplex requirement.

Per ORS 93.277, this duplex entitlement cannot be restricted by Sunset Hills' development covenants; the city should ***expect*** a duplex in this location. The required 4th Street stub improvements will be clearly beneficial to Lot 26 and are wholly appropriate given the level of use that should be expected. This would be so even without the additional duplex use, but it's especially true when one considers that access to one of the duplex units will likely be taken from the 4th Street stub.

Infrastructure for future high-level water system

In my September 14, 2020 letter, I wrote about past city planning work regarding the infrastructure necessary to provide water above 880 feet. LDC 9.228(f) requires a finding that "proposed public utilities can be extended to accommodate future growth beyond the proposed land division."

My earlier letter explained that the city's adopted Water System Master Plan anticipates a future booster pump station sending water up the hill to an upper-level reservoir, and that the applicant must provide three-phase power connections for this future pump station, to comply with LDC 9.228(f). The city required this on the previous phase, via this condition from the 2006 Sunset View Ranch approval:

> 16. Prior to final plat approval, the applicant shall install electrical conduits for three phase power from the nearest available three phase power source as directed by Lane Electric Co-operative to a location on the western boundary of Lot 16. If such conduit is not located within the relocated 4th Street right-of-way, a utility easement will be provide and recorded with the final plat. As a qualifying public improvement under the Ordinance 234, the City will reimburse the applicant in an amount not to exceed $4,000 from retained Water System SDC fees within 30 days of the final plat approval or installation and acceptance of the conduit, whichever comes later.

This must be done again. Without access to three-phase power, the future pump station cannot be built. As before, SDC fees can reimburse the additional costs. In order to provide three-phase power, two additional primary conduits must be laid, alongside the typically provided single-phase conduit. This costs very little since the trench is already open. Last time, the city provided a $4,000 reimbursement for what looks like about 600' of distance. This time, the distance looks similar. I am unsure whether $4,000 is the right amount to offer the applicant for reimbursement. Perhaps the city engineer can make an estimate.

I have spoken to the applicant about this, and he assured me that the Sunset View Ranch developer did extend the three-phase conduits as required. He also told me that he was willing to agree to a condition requiring him to extend the conduits to our common boundary on the south line of the subdivision, within the Wetleau Drive right-of-way. I hope that is still the case. I suggest the following condition of approval:

> Condition of approval: Prior to final plat approval, Applicant shall install electrical conduits for three phase power from the nearest available three phase power source as directed by Lane Electric Co-operative, to a location on the common boundary of the southernmost portion of Wetleau Drive and Map 19-01-11, Taxlot 403. If such conduit is not located within the relocated 4th Street right-of-way, a utility easement will be provided and recorded with the final plat. As a qualifying public improvement under Ordinance 234, the City will reimburse the applicant in an amount not to exceed $X,000 from retained Water System SDC fees, within 30 days of the final plat approval or installation, inspection and acceptance of the conduit by Lane Electric, whichever comes later.

Thank you for the opportunity to provide these comments. I will provide my additional comments as soon as possible after the applicant submits revised utility plans.

Sincerely,

Mia Nelson
40160 E 1st Street
Lowell, OR 97452
541-520-3763
mia@sunridge.net

Attachments:

A – Plat of Stoneridge Estates (1 page)

STONERIDGE ESTATES
(PHASE 1)

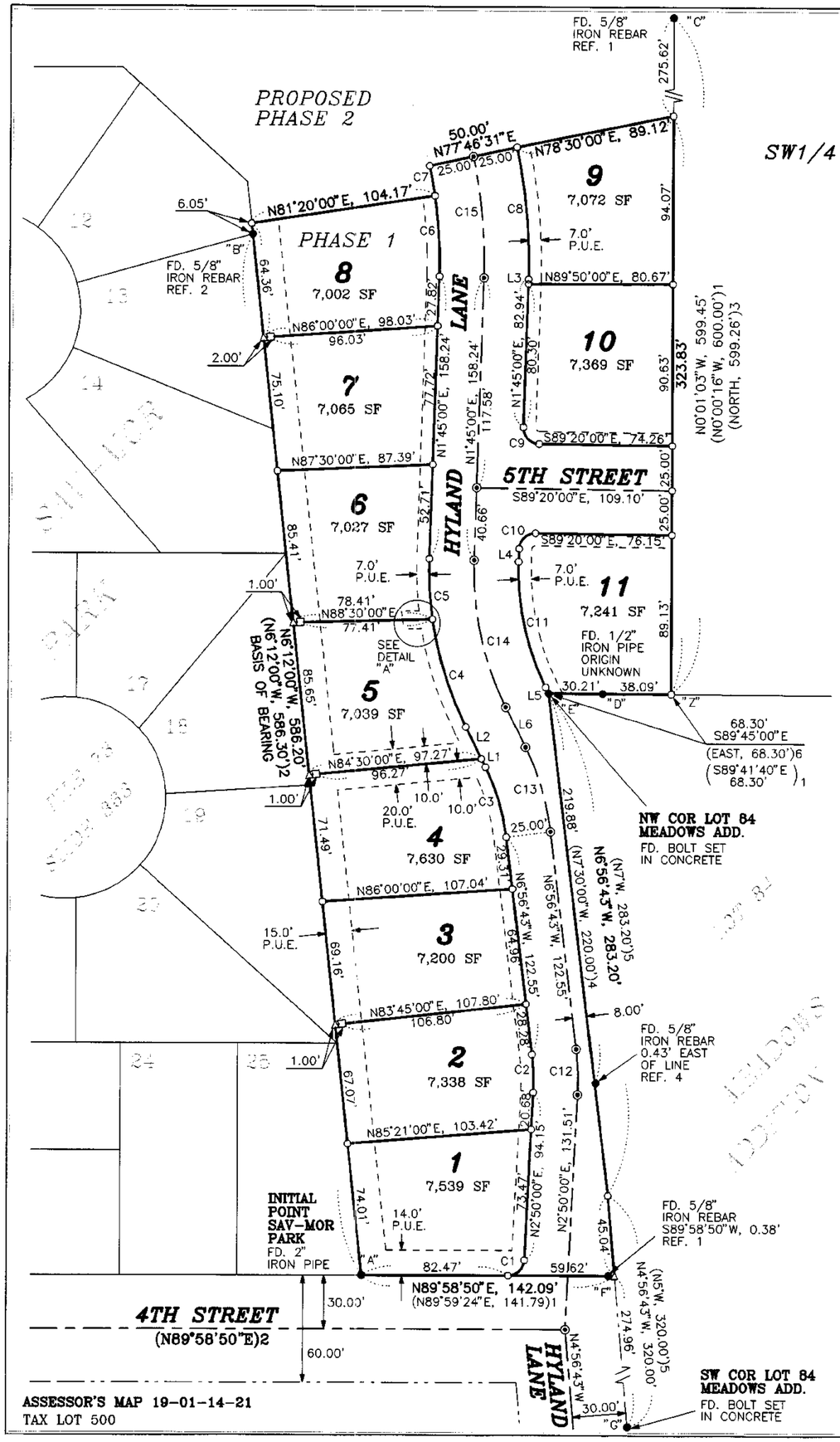
LOCATED IN
SW1/4 SEC. 11 AND NW1/4 SEC. 14, T19S, R1W, W.M.
CITY OF LOWELL, LANE COUNTY, OREGON

JULY 15, 2009

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 41676
FILING DATE 12 Nov. '09 | 5

Division of Chief Deputy Clerk
Lane County Deeds and Records
2009-063028
$172.00
01113756200900630280010012
11/12/2009 11:29:48 AM
RPR-SUBD Cnt=1 Stn=8 CASHIER 02
$5.00 $130.00 $10.00 $11.00 $16.00

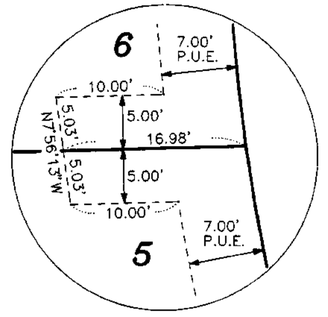
RECORDED
DATE: 12 Nov. '09
COUNTY CLERK
BY:



LEGEND

●	MONUMENTS FOUND AS NOTED
○	MONUMENTS SET: 5/8" X 30" IRON REBAR WITH YELLOW PLASTIC CAPS STAMPED "ROBERTS SURV. INC."
□	MONUMENTS SET: 5/8" X 30" IRON REBAR WITH RED PLASTIC CAPS STAMPED "RM ROBERTS SURV. INC."
◉	MONUMENTS SET: 5/8" X 30" IRON REBAR WITH ALUMINUM CAPS STAMPED "ROBERTS SURV. INC."
△	COMPUTED POINT
( )	DATA OF RECORD
—||—	DENOTES LINE NOT TO SCALE
SF	SQUARE FEET
P.U.E.	PUBLIC UTILITY EASEMENT

DETAIL "A"
SCALE: 1" = 10'



REFERENCES

( )1 C.S.F. 31177 BY OLSON FILED MARCH 30, 1993.
( )2 SAV-MOR PARK BY BRANCH FILED APRIL 4, 1980. IN FILE 73, SLIDE 363.
( )3 C.S.F. 35500 BY HANKINS FILED OCT. 16, 1998.
( )4 C.S.F. 12893 BY LAURILA FILED APRIL, 1963.
( )5 MEADOWS ADDITION TO LOWELL BOOK 4, PAGE 56
( )6 SPECIAL WARRANTY DEED RECORDED 8/22/2002 INSTRUMENT NO. 2002-064543

PROPERTY LINE DATA

LINE	BEARING	DISTANCE
L1	N26°35'40"W	5.17'
L2	N26°35'40"W	19.76'
L3	N1°45'00"E	2.64'
L4	N1°45'00"E	7.29'
L5	N26°35'40"W	3.81'

PROPERTY CURVE DATA

LINE	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	DISTANCE
C1	9.00'	87°08'50"	13.69'	N46°24'25"E	12.41'
C2	125.00'	9°46'43"	21.33'	N2°03'22"W	21.31'
C3	120.00'	19°38'57"	41.15'	N16°46'11"W	40.95'
C4	197.00'	18°25'47"	63.37'	N17°22'45"W	63.09'
C5	197.00'	9°54'53"	34.09'	N3°12'26"W	34.05'
C6	255.00'	10°08'57"	45.17'	N3°19'29"W	45.11'
C7	255.00'	3°49'32"	17.03'	N10°18'43"W	17.02'
C8	305.00'	13°58'29"	74.39'	N5°14'15"W	74.21'
C9	9.00'	91°05'00"	14.31'	N43°47'30"W	12.85'
C10	9.00'	88°55'00"	13.97'	N46°12'30"E	12.61'
C11	147.00'	28°20'40"	72.72'	N12°25'20"W	71.98'

CENTERLINE CURVE & LINE DATA

LINE	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	DISTANCE
L6				N26°35'40"W	24.93'
C12	150.00'	9°46'43"	25.60'	N2°03'22"W	25.57'
C13	145.00'	19°38'57"	49.73'	N16°46'11"W	49.48'
C14	172.00'	28°20'40"	85.09'	N12°25'20"W	84.22'
C15	280.00'	13°58'29"	68.29'	N5°14'15"W	68.12'

N

SCALE: 1" = 50'

REGISTERED PROFESSIONAL LAND SURVEYOR
Ted C. Baker
OREGON
JULY 25, 1991
TED C. BAKER
2488
EXPIRES 12-31-09

PREPARED BY
ROBERTS SURVEYING INC.
P.O. BOX 7155
EUGENE, OREGON 97401
PHONE: (541) 345-1112

SHEET 1 OF 2

PLOTTER - HP 430 DESIGNJET
INK CARTRIDGE - HP #51640A
FILM - MILANO JPC 4MC

September 14, 2020

Henry Hearley
Lane Council of Governments
859 Willamette Street, Suite 500
Eugene, OR 97401
Via email to hhearley@lcog.org

Re: Sunset Hills

Dear Henry:

Please place these comments in the record of the Sunset Hills subdivision proceedings and provide copies to the council. I hope you will investigate these three concerns prior to Tuesday's hearing.

Failure to reserve right-of-way or plan an alternate access

I'm sure we agree that city staff must be aware of and enforce prior development conditions. You may not know that such a condition exists for the subject property and needs to be considered as part of these proceedings.

The current 4th Street and Wetleau Drive rights-of-way were created in 2006, when Sunset View Ranch was platted. That outcome was the result of extensive discussions between the applicant, the city and my family. But there was an even earlier alignment of 4th Street; it was vacated as part of the 2006 action. Attached as Exhibit A is a map from 2003 that shows how 4th Street used to be - those two parcels to the east took direct access. The old 4th Street also connected with our property to the south.

Attached as Exhibit B is the 2006 Sunset View Ranch notice of decision. Please note the absence of any findings or conditions that would limit in any way, our access to the dedicated right-of-way. Instead, there are multiple findings and conditions that reinforce our right of access, along with the two abutting properties to the east. These two forward-looking conditions apply to the current proposal, which is occurring on "Parcel 16":

> 2. As a requirement of any future development plan for parcel 16, Sunset View Ranch Subdivision, the applicant be required to reserve a future right-of-way at a location approved by the City providing direct public access to Tax Lot 3301 from the relocated Wetleau right-of-way unless an alternative public access has been planned and approved from a different property. (Exhibit B, p.3)
>
> 5. That the existing access easement serving Tax Lot 3301, Map 19-01-14 DM #5, be maintained from the point the current access easement departs the proposed relocated 4th Street right-of-way to the property line until such time as an alternate access easement is recorded with the further division of Parcel 16, Sunset View Ranch Subdivision or a public right-of-way dedicated and street constructed for public access to Tax Lot 3301. (Exhibit B, p.4)

"Tax Lot 3301" is a reference to Parcel 2 of Land Partition Plat 2003-P1708, currently known as taxlot 19-01-14-12-00200. This parcel lost its street access in the 2006 replat. The applicant's proposal does provide the "alternate access easement" required by Condition 5. However, the proposal does not comply with Condition 2. No "future right-of-way" has been reserved, nor has an "alternative public access" been created.

Condition 2 was created to protect the future developability of taxlot 00200, after the 2006 replat took away its street access. The current proposal leaves it landlocked, and with no way to access key utilities such as sanitary sewer. This is prohibited by the city's 2006 decision. Either a full right-of-way to the property needs to be reserved, or an alternate access must be "planned and approved" via our property to the south and/or via taxlot 00100 to the north.

The proposal also does not meet LDC 9.226(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."

No evidence has been presented that taxlot 00200 can be developed to 80% of maximum density without access from the subject property. Instead, there is just a conclusory assertion that development in general (without consideration of density) can occur:

> "The proposal will not preclude developed [sic] on properties in the vicinity. * * * Located to the east of the proposed subdivision there exists two large lots consisting of 6.23 acres (00100) and 2.53 acres (tax lot

00200), respectively. These two areas are not owned by the applicant. To preserve access to these parcels, the applicant has included a 16-foot access/utility easement and maintenance agreement." (Staff report, p.9)

The applicant must either provide the required right-of-way on the tentative plan, or the city needs to plan and approve an alternate route to taxlot 00200. That's going to require either a re-design of the subdivision or a planning process that involves the other affected property owners. If we're going to be relied upon to provide access to this property someday, then we need to be part of the process.

Proposed 1' reserve strips on already-dedicated streets

We object to proposed Condition 12:

> Condition of Approval #12: Prior to final plat approval, the applicant shall show 1-foot reserve strips on the final plat at both ends of Wetleau Drive. The land comprising the 1-foot reserve strips shall be placed within the jurisdiction of the City by deed. Additionally, at the hammerhead turnarounds, at both ends of Wetleau Drive, a "No Parking" sign shall be installed. (Staff report p.17)

First, is unclear if staff understands the situation on the ground. Page 6 of the staff report states, "Upon completion, the street will become public right of way." This is incorrect; as noted above, the street is ***already*** public right of way and has been for 14 years. In addition, it is impossible for applicant to comply with Condition 12's mandate to place "the land comprising the 1-foot reserve strips * * * within the jurisdiction of the City by deed" because the applicant does not own this property; it was dedicated "to the public forever" on the Sunset View Ranch plat.

Second, it appears that staff has misunderstood Lowell's code. The relevant provisions are:

> *Streets: (f) 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. LDC 9.517(f)*
>
> *Dedication Requirements: (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. LDC 9.236(d)*

Lowell's code envisions reserve strips as something to be established on land the developer still owns, and in lieu of allowing the strip to become public right of way, to "control access to the street." This is appropriate when the developer proposes to only extend streets through a portion of the subject property, as we saw with Crestview Estates earlier this year.

The situation here is totally different. I cannot understand how the city could use the above code provisions to effectuate what is essentially a vacation of an established right of way, complete with a physical blockade. Staff's recommended condition would strip property rights from people who are not even party to the subdivision process.

There has been no attempt by the applicant or by staff to show how reserve strips and barricades could meet the code's requirement of being "necessary for the protection of the public welfare or of substantial property rights." In fact, they would actively ***harm*** our substantial property rights, by taking away our existing access.

Infrastructure for future high-level water system

LDC 9.228(f) requires a finding that "proposed public utilities can be extended to accommodate future growth beyond the proposed land division." It is evident that staff has not considered past city planning work regarding the infrastructure necessary to provide water above 880 feet. Instead, the staff report incorrectly claims that the proposed improvements will facilitate future high-level water service:

> "In Lowell, obtaining city water service above ~880 feet is not currently practical, due to elevation and the need for additional pumps and city services above that elevation. The proposed lots can all receive city services. There is no proposed development outside of the subject property, which tops out right near 880 feet. If, in the future, the City invests in further public infrastructure for the ability for water to reach higher

> elevations, the existing infrastructure that will be in place because of the subdivision will make it more practical, as there are existing pipes and lines to tie into." (Staff report, p.11)

Lowell's adopted Water System Master Plan (October 2006) anticipates a 10" water main extending up the hill through the property immediately east of the applicant's subdivision, to a booster pump station serving a 180,000-gallon upper-level reservoir. The relevant pages are attached as Exhibit C. The two maps are actually the west and east halves of the same map; the area includes all of the applicant's property plus everything else within the UGB on all three sides. The upper-level reservoir is shown as "Site C".

The author of the Water System Master Plan made the handwritten annotations on these maps; they show the possible addition of a lower-level 500,000-gallon reservoir on the city's 2001 reservoir siting study map. In 2006, the city knew it needed another large reservoir but had not yet decided where to locate it. The hand drawn lower-level tank shown on these maps was one of two options being considered. Ultimately, the city decided on a third option, and placed a new 500,000-gallon tank right next to the one on E 1st Street. However, the high-level reservoir and booster pump station locations were not affected by that change.

The applicant must provide a 10" water main and three-phase power connections for the pump station, to comply with LDC 9.228(f). The city required this on the previous phase. Following is Condition 16 from the 2006 Sunset View Ranch approval, which is attached as Exhibit B:

> 16. Prior to final plat approval, the applicant shall install electrical conduits for three phase power from the nearest available three phase power source as directed by Lane Electric Co-operative to a location on the western boundary of Lot 16. If such conduit is not located within the relocated 4th Street right-of-way, a utility easement will be provide and recorded with the final plat. As a qualifying public improvement under the Ordinance 234, the City will reimburse the applicant in an amount not to exceed $4,000 from retained Water System SDC fees within 30 days of the final plat approval or installation and acceptance of the conduit, whichever comes later. (Exhibit B, p.5)

This must be done again. As before, SDC funds can be used to reimburse the extra expense. Without access to three-phase power, the future pump station cannot be built.

Although the Water System Master Plan shows the future pump station located on the property immediately east of the applicant's subdivision, we are amenable to locating it on our property to the south. However, we need to discuss this with the applicant and with city staff. If we were able to come to agreement, the applicant would not need to extend the 10" waterline and three-phase power up the hill to the east. It would be enough to bring those to the southern street stub, and let us handle the rest.

Sincerely,

Mia Nelson
40160 E 1st Street
Lowell, OR 97452
541-520-3763
mia@sunridge.net

Attachments:

A – 2003 road right-of-way overlay and Partition 2003-P1708, 2 pages
B – 2006 Sunset View Ranch Notice of Decision and plat, 8 pages
C – Excerpt from Water System Master Plan, 4 pages

Exhibit A

REPLAT OF A PORTION OF LOT 84, MEADOWS ADDITION TO LOWELL
LOCATED IN THE NE 1/4 & NW 1/4 OF SEC. 14, T19S, R1W, WM
CITY OF LOWELL, LANE COUNTY, OREGON

JULY, 2003

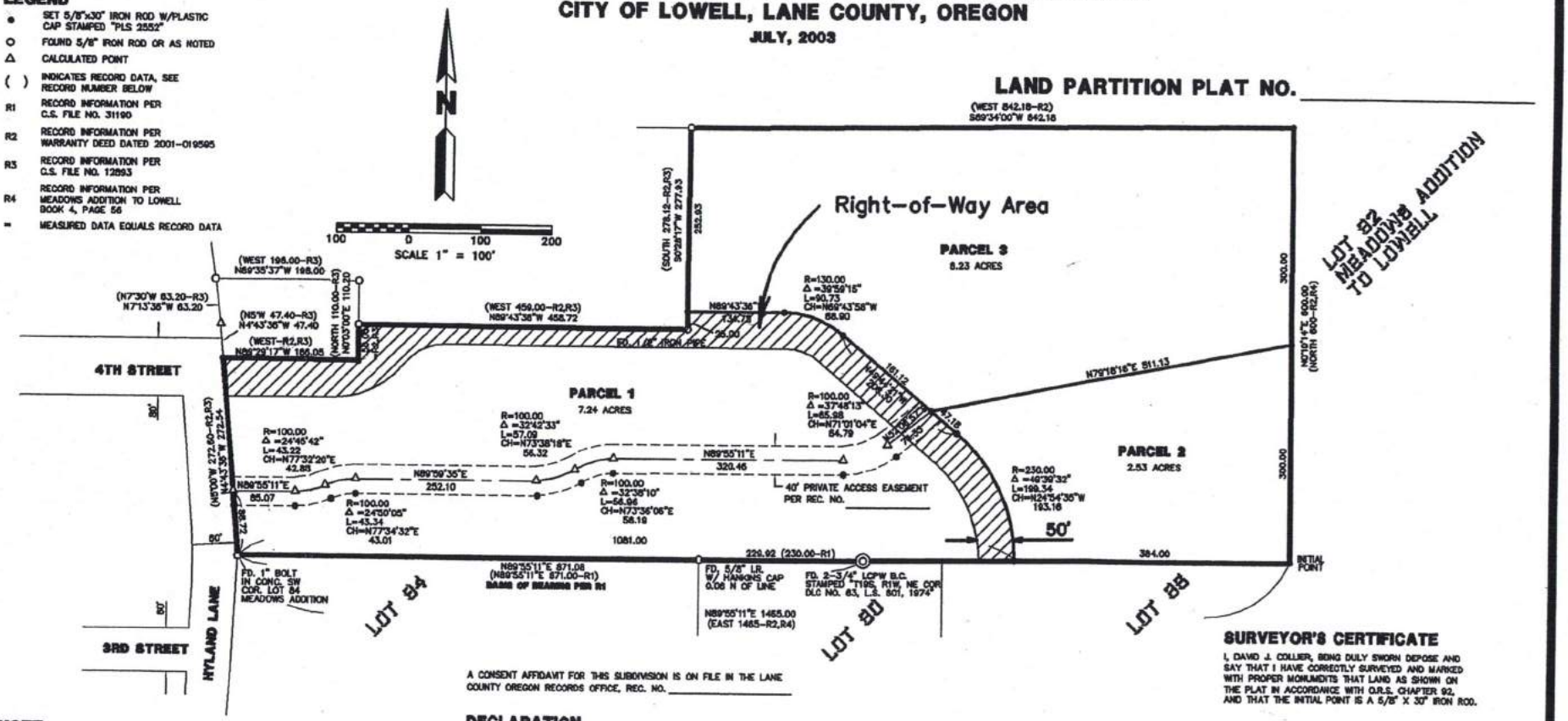
LAND PARTITION PLAT NO. _____

OWNER & PARTITIONER

CASEY & CASEY, LLC
37115 IMMIGRANT ROAD
PLEASANT HILL, OREGON 97455

LEGEND

- ● SET 5/8"x30" IRON ROD W/PLASTIC CAP STAMPED "PLS 2552"
- O FOUND 5/8" IRON ROD OR AS NOTED
- △ CALCULATED POINT
- ( ) INDICATES RECORD DATA, SEE RECORD NUMBER BELOW
- R1 RECORD INFORMATION PER C.S. FILE NO. 31190
- R2 RECORD INFORMATION PER WARRANTY DEED DATED 2001-019595
- R3 RECORD INFORMATION PER C.S. FILE NO. 12893
- R4 RECORD INFORMATION PER MEADOWS ADDITION TO LOWELL BOOK 4, PAGE 56
- = MEASURED DATA EQUALS RECORD DATA



A CONSENT AFFIDAVIT FOR THIS SUBDIVISION IS ON FILE IN THE LANE COUNTY OREGON RECORDS OFFICE, REC. NO. _____

NOTE

WETLAND AREAS HAVE BEEN IDENTIFIED ON PARCELS 1, 2, & 3, AND MAY RESTRICT PROPOSED BUILDING AND SEWAGE DISPOSAL FIELD LOCATIONS.

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO PARTITION THE LANDS OF CASEY & CASEY, L.L.C., AS SHOWN. MONUMENTS FROM C.S. FILE NO. 31190 WERE USED TO CONTROL THE SOUTH BOUNDARY AND FOR THE BASIS OF BEARING. MONUMENTS FROM C.S. FILE NO. 12893 WERE USED TO CONTROL THE NORTHERLY BOUNDARY. THE SE CORNER WAS ESTABLISHED AT RECORD DISTANCE ALONG THE SOUTH BOUNDARY. THE NE CORNER WAS ESTABLISHED BY DISTANCE-DISTANCE INTERSECT. THE WESTERLY BOUNDARY WAS ESTABLISHED FROM MONUMENTS SHOWN IN C.S. FILE NO. 12893.

DESCRIPTION

BEGINNING AT THE SOUTHWEST CORNER OF LOT 84, MEADOWS ADDITION TO LOWELL, AS RECORDED IN BOOK 4, PAGE 56, LANE COUNTY OREGON PLAT RECORDS, THENCE N89°55'11"E 1465.00 FEET TO THE SOUTHEAST CORNER OF SAID LOT 84; THENCE N0°10'14"E 600.00 FEET TO THE NORTHEAST CORNER OF SAID LOT 84; THENCE ALONG THE NORTH LINE OF SAID LOT 84 S89°34'00"W 842.18 FEET; THENCE LEAVING SAID NORTH LOT LINE S0°26'17"W 277.63 FEET; THENCE N89°43'38"W 458.72 FEET; THENCE S0°03'00"W 50.00 FEET; THENCE N89°29'17"W 188.05 FEET TO THE WEST LINE OF SAID LOT 84; THENCE ALONG SAID WEST LINE S4°43'36"E 272.60 FEET TO THE POINT OF BEGINNING.

DECLARATION

KNOW ALL PEOPLE BY THESE PRESENTS THAT CASEY AND CASEY, LLC, IS THE OWNER OF THE ABOVE DESCRIBED PROPERTY, AND HAS CAUSED THE SAME TO BE PARTITIONED AND PLATTED IN ACCORDANCE WITH O.R.S. CHAPTER 92, AND DOES HEREBY ACKNOWLEDGE THE 40' PRIVATE ACCESS EASEMENT CREATED BY SEPARATE DOCUMENT AS SHOWN HEREON.

_____
CASEY JONES, JR.
MEMBER, CASEY & CASEY, LLC

ACKNOWLEDGMENT

STATE OF OREGON }
COUNTY OF LANE } ss

KNOW ALL PEOPLE BY THESE PRESENTS ON THIS ____ DAY OF _____ 2003, BEFORE ME A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, PERSONALLY APPEARED CASEY JONES JR., MEMBER OF CASEY & CASEY, LLC, WHO DID SAY THAT HE IS THE IDENTICAL PERSON NAMED IN THE FOREGOING INSTRUMENT, AND THAT HE EXECUTED SAID INSTRUMENT FREELY AND VOLUNTARILY.

_____
NOTARY PUBLIC FOR OREGON

SURVEYOR'S CERTIFICATE

I, DAVID J. COLLIER, BEING DULY SWORN DEPOSE AND SAY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THAT LAND AS SHOWN ON THE PLAT IN ACCORDANCE WITH O.R.S. CHAPTER 92, AND THAT THE INITIAL POINT IS A 5/8" X 30" IRON ROD.

_____
DAVID J. COLLIER PLS 2552

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON JULY 31, 1985 DAVID J. COLLIER 2552 RENEWAL 12-31-03

APPROVALS

_____ CITY OF LOWELL MAYOR DATE

_____ CITY OF LOWELL ENGINEER DATE

_____ LANE COUNTY SURVEYOR DATE

_____ LANE CO. ASSESSOR DATE

Pacific Surveying, Inc.

75506 Blue Mountain School Rd Tel. (541)767-0790
Cottage Grove, Oregon 97424 Fax (541)767-3087

TAX MAP 19-01-14-00 #200 INK: HP 51640A, PLOTTER: HP 430, MYLAR: 8F 7804 U

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 38223
FILING DATE 25 SEPT. '03 C

Division of Chief Deputy Clerk
Lane County Deeds and Records 2003-093517
$71.00
09/24/2003 01:13:43 PM
RPR-PART Cnt=1 Stn=8 CASHIER 05
$50.00 $10.00 $11.00

LAND PARTITION

REPLAT OF A PORTION OF LOT 84, MEADOWS ADDITION TO LOWELL
LOCATED IN THE NE 1/4 & NW 1/4 OF SEC. 14, T19S, R1W, WM
CITY OF LOWELL, LANE COUNTY, OREGON

JULY, 2003

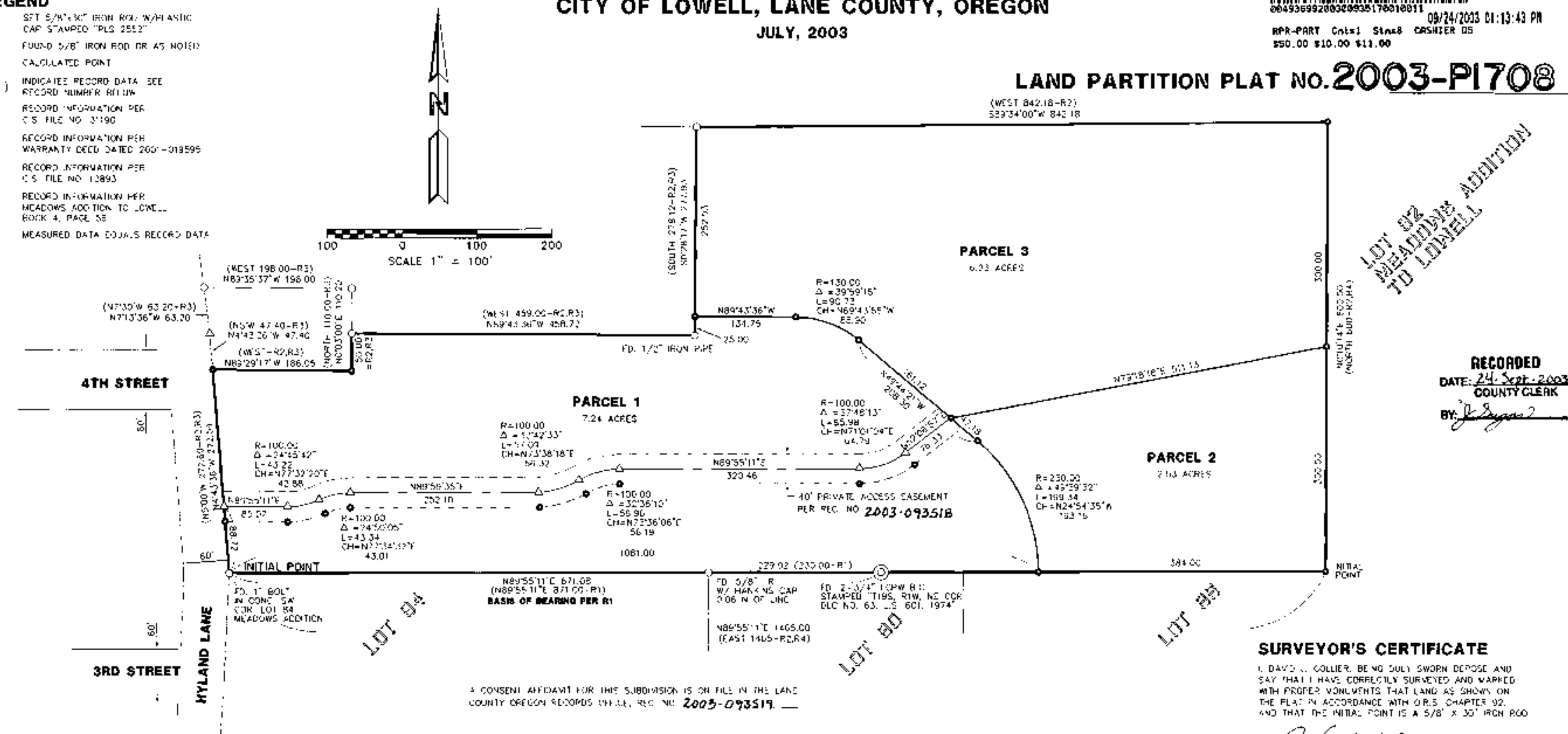
LAND PARTITION PLAT NO. 2003-P1708

OWNER & PARTITIONER

CASEY & CASEY, LLC
37115 IMMIGRANT ROAD
PLEASANT HILL, OREGON 97455

LEGEND

- ● SET 5/8"x30" IRON ROD W/PLASTIC CAP STAMPED "PLS 2552"
- ○ FOUND 5/8" IRON ROD OR AS NOTED
- △ CALCULATED POINT
- ( ) INDICATES RECORD DATA. SEE RECORD NUMBER BELOW
- R1 RECORD INFORMATION PER C.S. FILE NO. 31190
- R2 RECORD INFORMATION PER WARRANTY DEED DATED 2001-019595
- R3 RECORD INFORMATION PER C.S. FILE NO. 12893
- R4 RECORD INFORMATION PER MEADOWS ADDITION TO LOWELL BOOK 4, PAGE 58
- = MEASURED DATA EQUALS RECORD DATA



A CONSENT AFFIDAVIT FOR THIS SUBDIVISION IS ON FILE IN THE LANE COUNTY OREGON RECORDS OFFICE, REC. NO. 2003-093519.

NOTE

WETLAND AREAS HAVE BEEN IDENTIFIED ON PARCELS 1, 2, & 3, AND MAY RESTRICT PROPOSED BUILDING AND SEWAGE DISPOSAL FIELD LOCATIONS.

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO PARTITION THE LANDS OF CASEY & CASEY, L.L.C., AS SHOWN. MONUMENTS FROM C.S. FILE NO. 31190 WERE USED TO CONTROL THE SOUTH BOUNDARY AND FOR THE BASIS OF BEARING. MONUMENTS FROM C.S. FILE NO. 12893 WERE USED TO CONTROL THE NORTHERLY BOUNDARY. THE SE CORNER WAS ESTABLISHED AT RECORD DISTANCE ALONG THE SOUTH BOUNDARY. THE NE CORNER WAS ESTABLISHED BY DISTANCE-DISTANCE INTERSECT. THE WESTERLY BOUNDARY WAS ESTABLISHED FROM MONUMENTS SHOWN IN C.S. FILE NO. 12893.

DESCRIPTION

BEGINNING AT THE SOUTHWEST CORNER OF LOT 84, MEADOWS ADDITION TO LOWELL, AS RECORDED IN BOOK 4, PAGE 58, LANE COUNTY OREGON PLAT RECORDS; THENCE N89°55'11"E 1405.00 FEET TO THE SOUTHEAST CORNER OF SAID LOT 84; THENCE N0°10'14"E 600.00 FEET TO THE NORTHEAST CORNER OF SAID LOT 84; THENCE ALONG THE NORTH LINE OF SAID LOT 84 S89°34'00"W 842.18 FEET; THENCE LEAVING SAID NORTH LOT LINE S0°26'17"W 277.93 FEET; THENCE N89°43'36"W 458.72 FEET; THENCE S0°03'00"W 50.00 FEET; THENCE N89°29'17"W 186.05 FEET TO THE WEST LINE OF SAID LOT 84; THENCE ALONG SAID WEST LINE S4°13'36"E 272.60 FEET TO THE POINT OF BEGINNING.

DECLARATION

KNOW ALL PEOPLE BY THESE PRESENTS THAT CASEY AND CASEY, LLC IS THE OWNER OF THE ABOVE DESCRIBED PROPERTY, AND HAS CAUSED THE SAME TO BE PARTITIONED AND PLATTED IN ACCORDANCE WITH O.R.S. CHAPTER 92, AND DOES HEREBY ACKNOWLEDGE THE 40' PRIVATE ACCESS EASEMENT CREATED BY SEPARATE DOCUMENT AS SHOWN HEREON.

CASEY JONES, JR.
MEMBER, CASEY & CASEY, LLC

ACKNOWLEDGMENT

STATE OF OREGON)
COUNTY OF LANE) ss

KNOW ALL PEOPLE BY THESE PRESENTS ON THIS 28TH DAY OF August 2003, BEFORE ME A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, PERSONALLY APPEARED CASEY JONES JR., MEMBER OF CASEY & CASEY, LLC, WHO DID SAY THAT HE IS THE IDENTICAL PERSON NAMED IN THE FOREGOING INSTRUMENT, AND THAT HE EXECUTED SAID INSTRUMENT FREELY AND VOLUNTARILY.

NOTARY PUBLIC FOR OREGON

#342209 JAN 21, 2005

SURVEYOR'S CERTIFICATE

I, DAVID J. COLLIER, BEING DULY SWORN DEPOSE AND SAY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THAT LAND AS SHOWN ON THE PLAT IN ACCORDANCE WITH O.R.S. CHAPTER 92, AND THAT THE INITIAL POINT IS A 5/8" X 30" IRON ROD.

DAVID J. COLLIER PLS 2552

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 23, 1992
DAVID J. COLLIER
2552
RENEWAL 12-31-03

APPROVALS

CITY OF LOWELL MAYOR DATE 9/2/03

CITY OF LOWELL ENGINEER DATE 9/9/03

LANE COUNTY SURVEYOR DATE 9-24-2003

LANE CO. ASSESSOR DATE 9/24/2003

Pacific Surveying, Inc.
73506 Blue Mountain School Rd
Cottage Grove, Oregon 97424
Tel (541)767-0790
Fax (541)767-3087

TAX MAP 19 01 14-00 #200
INK: HP 51640A, PLOTTER: HP 430, MYLAR: BF 7804 D

EXHIBIT B

CITY OF LOWELL, OREGON
NOTICE OF DECISION
January 18, 2006

TO: APPLICANT AND REVIEW PARTICIPANTS
RE: NOTICE OF DECISION AND APPEAL RIGHT, LU 05-009
Vacation, Variance and Subdivision Tentative Plan Application
Applicant: William George
Property Identification: Tax Lot 3400, Assessor's Map 19-01-14-21

This notice is to inform you that the Lowell City Council, at their meeting on January 17, 2006, conditionally approved the vacation of undeveloped portions of the 4th Street and Wetleau Drive rights-of-way originally dedicated as a condition of an earlier partition creating Tax Lot 3400, Assessor's Map 19-01-14-21. They also approved a Variance application to allow 6 parcels of the proposed subdivision to be less than 7,000 square feet necessitated by the conversion of the manufactured home park to a residential subdivision. Finally, they conditionally approved the tentative plan for the Sunset View Ranch Subdivision. A joint City Council/Planning Commission public hearing was conducted on December 20, 2005. The Planning Commission considered the application at its meeting on January 12, 2006 and recommended conditional approval of the Vacation application, unconditional approval of the Variance application and conditional approval of the Subdivision Tentative Plan.

The City Council approved the Vacation application with the following findings for approval:

(1) The proposed vacation and relocation of the 4th Street and Wetleau Drive rights-of-way is consistent with Comprehensive Plan policies and the Road Master Plan.

(2) The proposed vacation will not adversely impact adjacent areas or the land use plan of the City.

(3) The proposed vacation will not have a negative effect on access between public rights-of-way and existing or future properties.

(4) The proposed vacation will not have a negative effect on traffic circulation or emergency service protection.

(5) No Code requirements exist for which compliance must be met as a result of this vacation.

(6) The proposed Vacation will not have an adverse impact on economy of the area.

(7) Approval of the proposed vacation best serves the public interest, present and future.

The Council adopted the following Conditions for Approval of the Vacation application:

(1) The entire relocated portions of the 4th Street and Wetleau Drive rights-of-way be recorded with the final plat for the proposed Sunset View Ranch Subdivision applied for in LU 05-009.

(2) If required by the existing location of the private drive, the applicant record an access easement on Parcel 1 of the Sunset View Ranch Subdivision to serve Tax Lots 100, 200 and 300, Map 19-01-14-21, until such time as the Hyland Lane right-of-way is extended northward and Hyland Lane constructed to directly access those lots.

(3) That the existing access easement serving Tax Lot 3301, Map 19-01-14 DM #5, be maintained from the point the current access easement departs the proposed relocated 4th Street right-of-way to the property line until such time as an alternate access easement is recorded with the further division of Parcel 16, Sunset View Ranch Subdivision or a public right-of-way dedicated and street constructed for public access to Tax Lot 3301.

(4) That, as a requirement of any future development plan for parcel 16, Sunset View Ranch Subdivision, the applicant be required to reserve a future right-of-way at a location approved by the City providing direct public access to Tax Lot 3301 from the relocated Wetleau right-of-way unless an alternative public access has been planned and approved from a different property.

(5) The applicant deed a 10 foot strip of the vacated right-of-way along the entire length of the south property line of Lot 300, Assessor's Map 19-01-14-21 to the owners of the lot via a lot line adjustment which must be approved before the vacation ordinance is recorded, said deed to be recorded with the vacation ordinance.

(6) The open drainageway located in the vacated 4th Street right-of-way must remain open drainage and a 20 foot public drainage easement centered on the drainageway be recorded on the final plat.

The Council approved the Variance application without conditions and with the following findings for approval:

(1) A special circumstance exists in that the applicant proposes to convert a manufactured home park into a residential subdivision and the variance is necessary because six existing building sites can not be established to meet minimum lot size as they are currently developed.

(2) The variance is necessary for the proper design and function of the public infrastructure and individual building sites already constructed to serve the previously approved manufactured home park.

(3) Granting the variance will not be detrimental to the public welfare or injurious to other property in the area in which the property is situated.

(4) The granting of the Variance will not conflict with the purpose and intent of the district or zone, the Land Development Code, Comprehensive Plan or other related ordinances of the City.

The Council approved the Sunset View Ranch Subdivision Tentative Plan with the following findings:

(1) The proposed land division complies with applicable provisions of City Codes and Ordinances.

(2) The applicant has demonstrated that parcel 16 can be re-divided to 80% of maximum density.

(3) The land division does not preclude development on properties in the vicinity to at least 80% of maximum density.

(4) The proposed development will provide adequate and safe vehicular and pedestrian circulation within the proposed relocated rights-of-way and existing public rights-of-way.

(5) Public facilities are adequately provided for by the tentative plan and construction of public improvements are assured.

(6) Proposed extensions of public utilities accommodate all requirements for future growth beyond the proposed land division.

(7) The proposed development will not create significant and unreasonable negative impacts on natural drainage courses either on-site or downstream.

(8) The proposed land division poses no significant or unreasonable risk to public health and safety.

The Council adopted the following conditions for approval of the Sunset View Ranch Subdivision Tentative Plan:

1. Development on Parcel 16 must be contained within no more than two contiguous proposed future lots identified in the tentative plan.

2. As a requirement of any future development plan for parcel 16, Sunset View Ranch Subdivision, the applicant be required to reserve a future right-of-way at a location approved by the City providing direct public access to Tax Lot 3301 from the relocated Wetleau right-of-way unless an alternative public access has been planned and approved from a different property.

3. The applicant be required to provide a temporary access easement, if necessary, and construct a gravel hammerhead turn-around at the east end of the developed street for use until additional street construction is completed.

4. The applicant record an access easement on Parcel 1 of the Sunset View Ranch Subdivision to serve Tax Lots 100, 200 and 300, Map 19-01-14-21, until such time as the Hyland Lane right-of-way is extended northward and Hyland Lane constructed to directly access those lots.

5. That the existing access easement serving Tax Lot 3301, Map 19-01-14 DM #5, be maintained from the point the current access easement departs the proposed relocated 4th Street right-of-way to the property line until such time as an alternate access easement is recorded with the further division of Parcel 16, Sunset View Ranch Subdivision or a public right-of-way dedicated and street constructed for public access to Tax Lot 3301.

6. The applicant will provide evidence, satisfactory to the City, that the street constructed for the manufactured home park meets development standards for a City Street, and if not, an irrevocable waiver of remonstrance be recorded with the final plat for Local Improvement District for future street improvements to replace those substandard street sections at such time as it is determined that they have failed as a result of not being built to standards.

7. In lieu of reconstruction of currently developed sidewalks to 5 foot City standards, that front yard setbacks for those parcels taking direct access from the current street be established at 21 feet instead of 20 feet from the edge of the sidewalk.

8. The applicant be required to complete items 1 through 8 under Sanitary Sewer on page 3 of the Geomax Tentative Plan Review submittal dated November 30, 2005 to the satisfaction of the City before Final Plat approval.

9. Replacement of existing water service meter boxes with larger meter boxes, if necessary to accommodate a hand valve shut off, are required prior to connection to water service.

10. All public improvements must be constructed and accepted by the City or bonded for construction prior to the final plat being submitted for approval by the City.

11. The relocation of the existing storm drain contained across parcels 1, 3 and 4 be approved by the City Engineer, constructed to City standards and an 10 foot easement, centered on the final storm drain location be recorded with the final plat.

12. A 20 foot public drainage easement be established, centered on the natural drainageway, on parcels 4 and 6.

13. The applicant be required to complete items 3 through 5 under Storm Drainage on pages 2 and 3 of the Geomax Tentative Plan Review submittal dated November 30, 2005 to the satisfaction of the City before Final Plat approval.

14. The applicant deed a 10 foot strip of the vacated right-of-way along the entire length of the south property line of Lot 300, Assessor's Map 19-01-14-21 to the owners of the lot via a lot line adjustment which must be approved before the vacation ordinance is recorded, said deed to be recorded with the vacation ordinance.

15 The open drainageway located in the vacated 4th Street right-of-way must

remain open drainage and a 20 foot public drainage easement centered on the drainageway be recorded on the final plat.

16 Prior to final plat approval, the applicant shall install electrical conduits for three phase power from the nearest available three phase power source as directed by Lane Electric Co-operative to a location on the western boundary of Lot 16. If such conduit is not located within the relocated 4th Street right-of-way, a utility easement will be provide and recorded with the final plat. As a qualifying public improvement under the Ordinance 234, the City will reimburse the applicant in an amount not to exceed $4,000 from retained Water System SDC fees within 30 days of the final plat approval or installation and acceptance of the conduit, whichever comes later.

17. Following City Engineer review of the Storm Water Analysis, dated June 19, 2001, prepared for the Casey Jones Development and review of the decision document for the original manufactured home park development, the applicant is required to complete any storm drainage improvements required, but not completed, by the original developer of the property.

A complete copy of the record, including the application, the staff report and all documents and evidence relied upon by the City Council in making their decision is available for inspection at the Lowell City Hall.

A party aggrieved by the City Council's determination in a proceeding for a land use decision may have the determination reviewed by the Oregon Land Use Board of Appeals (LUBA) under ORS 197.828 to 197.845 by filing a notice of intent to appeal with LUBA not later than 21 days after the decision becomes final. Failure of an issue to be raised in writing or failure to provide sufficient detail to afford the decision maker an opportunity to respond to the issue precludes appeal based on that issue.

For further information, contact Chuck Spies, City Administrator, at Lowell City Hall, located at 107 East 3rd Street in Lowell. Mailing address is P.O. Box 490, Lowell, OR 97452. Telephone 937-2157 or Fax 937-2936.

SUNSET VIEW RANCH

A RE-PLAT OF A PORTION OF PARCEL 1 OF
LAND PARTITION PLAT NO. 2003-P1708
NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Dda Weathers

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 39941
FILING DATE: 26 JULY 2006

Division of Chief Deputy Clerk
Lane County Deeds and Records
2006-053104
$206.00
00828254200600531040010017
07/26/2006 09:17:34 AM
RPR-SUBD Cnt=1 Stn=8 CASHIER 01
$5.00 $180.00 $10.00 $11.00

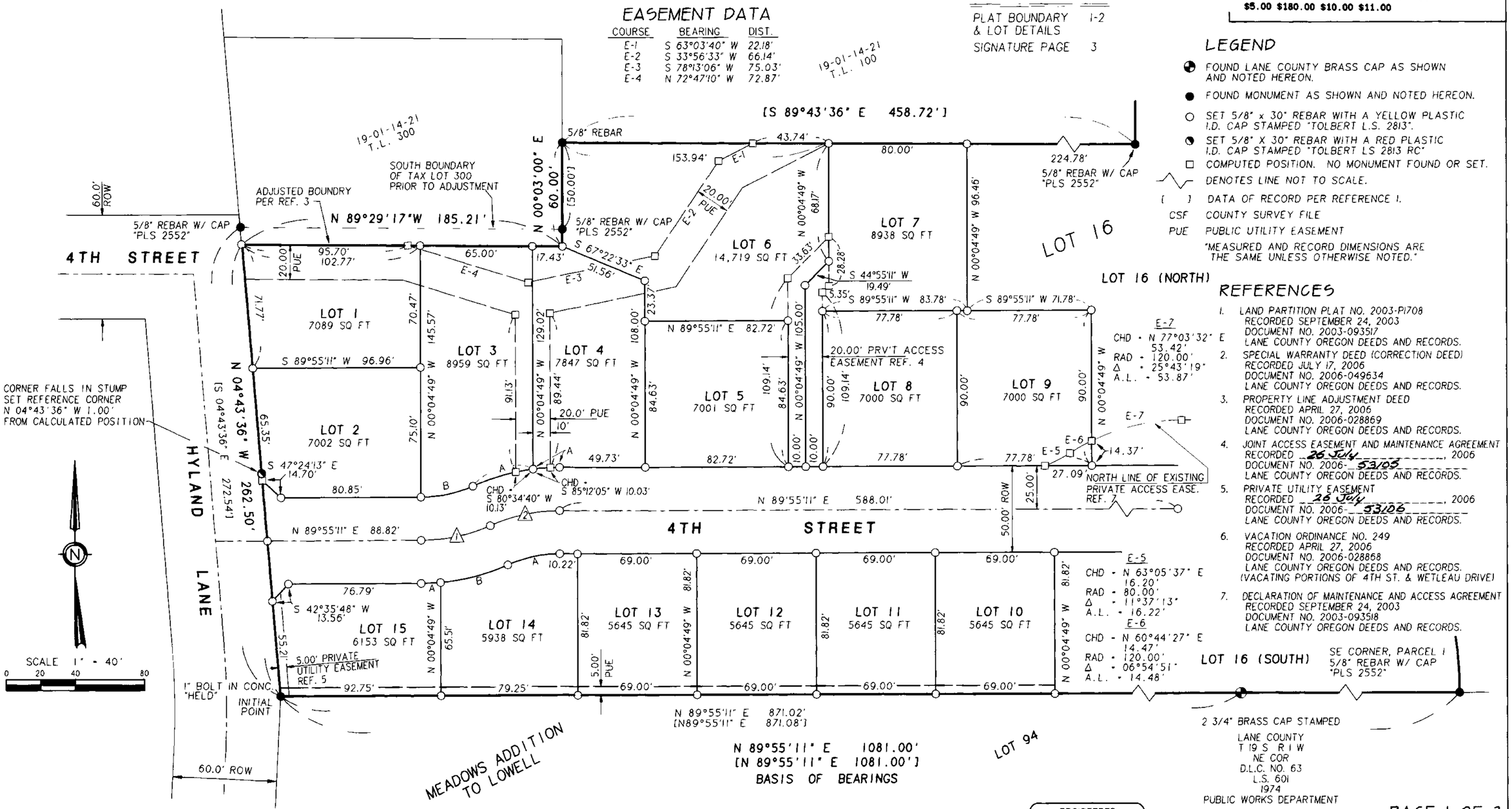
LOT DATA

LOT-STA.	BEARING	DIST.	RADIUS	AL.	DELTA
3-A	S 74°34'43" W	36.19'	125.00'	36.31'	16°38'43"
3-B	S 78°05'16" W	30.76'	75.00'	30.98'	23°39'50"
4-A	S 86°24'38" W	15.30'	125.00'	15.31'	07°01'07"
14-A	S 78°05'16" W	30.76'	75.00'	30.98'	23°39'50"
14-B	S 75°30'26" W	40.19'	125.00'	40.37'	18°30'10"
15-A	S 87°20'21" W	11.26'	125.00'	11.26'	05°09'40"

EASEMENT DATA

COURSE	BEARING	DIST.
E-1	S 63°03'40" W	22.18'
E-2	S 33°56'33" W	66.14'
E-3	S 78°13'06" W	75.03'
E-4	N 72°47'10" W	72.87'

PLAT INDEX	PAGE
PLAT BOUNDARY & LOT DETAILS	1-2
SIGNATURE PAGE	3



LEGEND

- FOUND LANE COUNTY BRASS CAP AS SHOWN AND NOTED HEREON.
- FOUND MONUMENT AS SHOWN AND NOTED HEREON.
- SET 5/8" x 30" REBAR WITH A YELLOW PLASTIC I.D. CAP STAMPED "TOLBERT L.S. 2813".
- SET 5/8" X 30" REBAR WITH A RED PLASTIC I.D. CAP STAMPED "TOLBERT LS 2813 RC"
- COMPUTED POSITION. NO MONUMENT FOUND OR SET.
- DENOTES LINE NOT TO SCALE.
- [ ] DATA OF RECORD PER REFERENCE 1.
- CSF COUNTY SURVEY FILE
- PUE PUBLIC UTILITY EASEMENT
- "MEASURED AND RECORD DIMENSIONS ARE THE SAME UNLESS OTHERWISE NOTED."

E-7
CHD - N 77°03'32" E 53.42'
RAD - 120.00'
Δ - 25°43'19"
A.L. - 53.87'

REFERENCES

1. LAND PARTITION PLAT NO. 2003-P1708 RECORDED SEPTEMBER 24, 2003 DOCUMENT NO. 2003-093517 LANE COUNTY OREGON DEEDS AND RECORDS.
2. SPECIAL WARRANTY DEED (CORRECTION DEED) RECORDED JULY 17, 2006 DOCUMENT NO. 2006-049634 LANE COUNTY OREGON DEEDS AND RECORDS.
3. PROPERTY LINE ADJUSTMENT DEED RECORDED APRIL 27, 2006 DOCUMENT NO. 2006-028869 LANE COUNTY OREGON DEEDS AND RECORDS.
4. JOINT ACCESS EASEMENT AND MAINTENANCE AGREEMENT RECORDED 26 July, 2006 DOCUMENT NO. 2006-53105 LANE COUNTY OREGON DEEDS AND RECORDS.
5. PRIVATE UTILITY EASEMENT RECORDED 26 July, 2006 DOCUMENT NO. 2006-53106 LANE COUNTY OREGON DEEDS AND RECORDS.
6. VACATION ORDINANCE NO. 249 RECORDED APRIL 27, 2006 DOCUMENT NO. 2006-028868 LANE COUNTY OREGON DEEDS AND RECORDS. (VACATING PORTIONS OF 4TH ST. & WETLEAU DRIVE)
7. DECLARATION OF MAINTENANCE AND ACCESS AGREEMENT RECORDED SEPTEMBER 24, 2003 DOCUMENT NO. 2003-093518 LANE COUNTY OREGON DEEDS AND RECORDS.

E-5
CHD - N 63°05'37" E 16.20'
RAD - 80.00'
Δ - 11°37'13"
A.L. - 16.22'

E-6
CHD - N 60°44'27" E 14.47'
RAD - 120.00'
Δ - 06°54'51"
A.L. - 14.48'

NOTE

THIS PROPERTY IS AFFECTED BY AN UNLOCATABLE RIGHT-OF-WAY EASEMENT IN FAVOR OF LANE ELECTRIC COOPERATIVE, RECORDED JANUARY 2, 2004 DOCUMENT NO. 2004-000164, LANE COUNTY OREGON DEEDS AND RECORDS.

STREET CENTERLINE DATA

CURVE	BEARING	DIST.	RADIUS	AL.	DELTA
1	N 78°05'16" E	41.01'	100.00'	41.30'	23°39'50"
2	N 78°05'16" E	41.00'	100.00'	41.30'	23°39'50"

OWNER/APPLICANT

WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JUNE 30, 1997 LLOYD L. TOLBERT 2813
EXPIRES: JUNE 30, 2008

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM

CADD FILE - GEORGE PLAT 1 OF 3.GXD DWN BY: LLT

PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

SUNSET VIEW RANCH

A RE-PLAT OF A PORTION OF PARCEL 1 OF
LAND PARTITION PLAT NO. 2003-P1708
NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Dda Weathers

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 39941
FILING DATE: 26 JULY 2006 S

Division of Chief Deputy Clerk
Lane County Deeds and Records
2006-053104
$206.00
00828254200600531040010017
07/26/2006 09:17:34 AM
RPR-SUBD Cnt=1 Stn=8 CASHIER 01
$5.00 $180.00 $10.00 $11.00

LEGEND

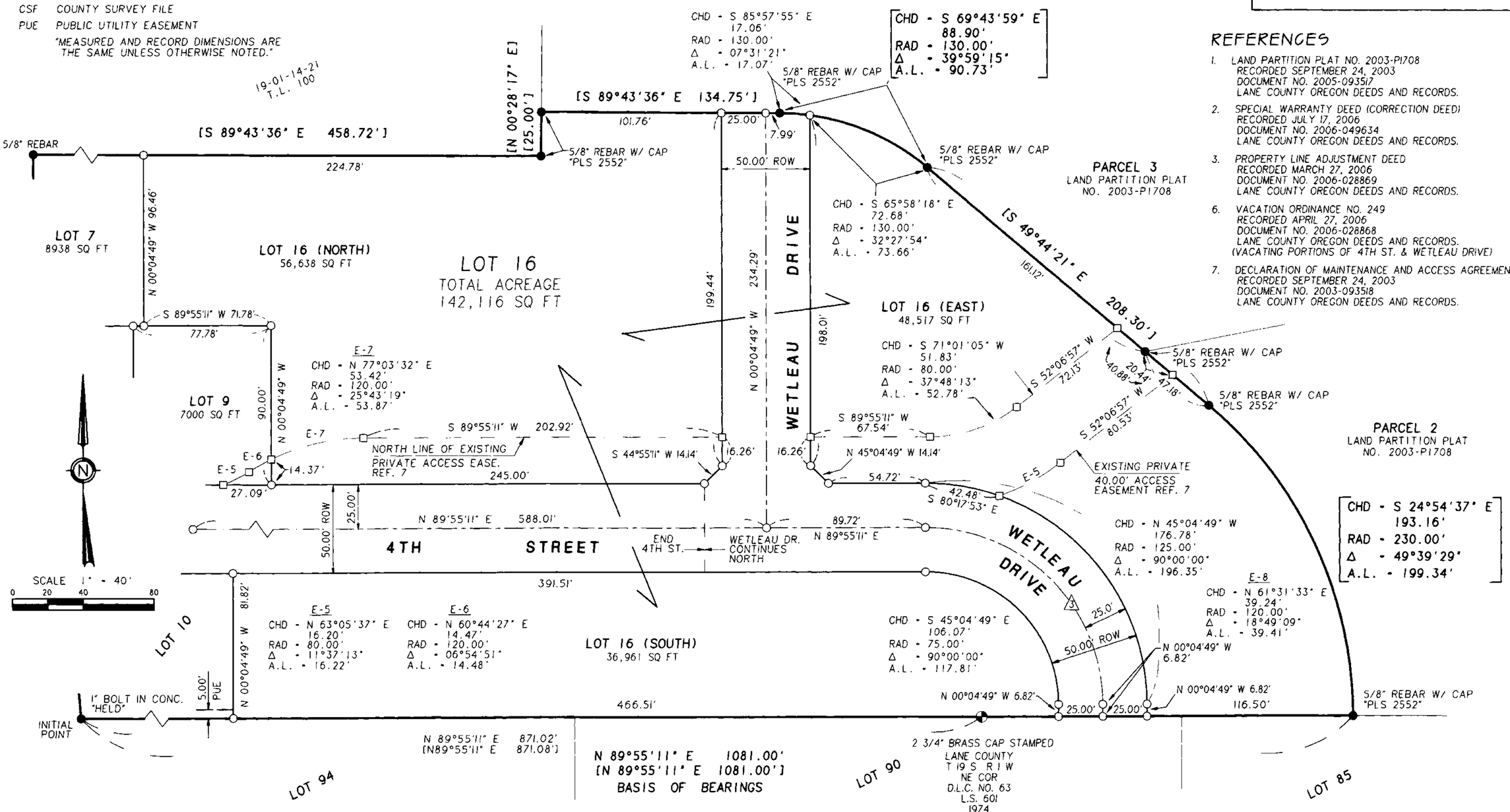
- ◕ FOUND LANE COUNTY BRASS CAP AS SHOWN AND NOTED HEREON.
- ● FOUND MONUMENT AS SHOWN AND NOTED HEREON.
- ○ SET 5/8" x 30" REBAR WITH A YELLOW PLASTIC I.D. CAP STAMPED "TOLBERT L.S. 2813".
- □ COMPUTED POSITION. NO MONUMENT FOUND OR SET.
- DENOTES LINE NOT TO SCALE.
- [ ] DATA OF RECORD PER REFERENCE 1.
- CSF COUNTY SURVEY FILE
- PUE PUBLIC UTILITY EASEMENT

"MEASURED AND RECORD DIMENSIONS ARE THE SAME UNLESS OTHERWISE NOTED."

19-01-14-21
T.L. 100

REFERENCES

1. LAND PARTITION PLAT NO. 2003-P1708
   RECORDED SEPTEMBER 24, 2003
   DOCUMENT NO. 2005-093517
   LANE COUNTY OREGON DEEDS AND RECORDS.
2. SPECIAL WARRANTY DEED (CORRECTION DEED)
   RECORDED JULY 17, 2006
   DOCUMENT NO. 2006-049634
   LANE COUNTY OREGON DEEDS AND RECORDS.
3. PROPERTY LINE ADJUSTMENT DEED
   RECORDED MARCH 27, 2006
   DOCUMENT NO. 2006-028869
   LANE COUNTY OREGON DEEDS AND RECORDS.
6. VACATION ORDINANCE NO. 249
   RECORDED APRIL 27, 2006
   DOCUMENT NO. 2006-028868
   LANE COUNTY OREGON DEEDS AND RECORDS.
   (VACATING PORTIONS OF 4TH ST. & WETLEAU DRIVE)
7. DECLARATION OF MAINTENANCE AND ACCESS AGREEMENT
   RECORDED SEPTEMBER 24, 2003
   DOCUMENT NO. 2003-093518
   LANE COUNTY OREGON DEEDS AND RECORDS.



OWNER/APPLICANT

WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

NOTE

THIS PROPERTY IS AFFECTED BY AN UNLOCATABLE RIGHT-OF-WAY EASEMENT IN FAVOR OF LANE ELECTRIC COOPERATIVE, RECORDED JANUARY 2, 2004 DOCUMENT NO. 2004-000164, LANE COUNTY OREGON DEEDS AND RECORDS.

MEADOWS ADDITION TO LOWELL

STREET CENTERLINE DATA

CURVE	BEARING	DIST.	RADIUS	AL.	DELTA
3	N 45°04'49" W	141.42'	100.00'	157.08'	90°00'00"

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 30, 1997
LLOYD L. TOLBERT
2813
EXPIRES: JUNE 30, 2008

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM

CADD FILE - GEORGE PLAT 2 OF 3.GXD DWN BY: LLT

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

SUNSET VIEW RANCH

A RE-PLAT OF PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708
NE & NW 1/4, SECTION 14, T. 19 S., R. 1 W., W. M.
LOWELL, LANE COUNTY, OREGON
MAY 15, 2006

RECORDED
DATE: 26 July 2006
COUNTY CLERK
BY: Dee Wathen

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 39941
FILING DATE: 26 JULY 2006 S

Division of Chief Deputy Clerk
Lane County Deeds and Records
2006-053104
$206.00
00828254200600531040010017
07/26/2006 09:17:34 AM
RPR-SUBD Cnt=1 Stn=8 CASHIER 01
$5.00 $180.00 $10.00 $11.00

OWNER/APPLICANT

WILLIAM D. GEORGE
P.O. BOX 305
LOWELL, OREGON 97452

SURVEYOR'S CERTIFICATE

I, LLOYD L. TOLBERT, A REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE HEREON DESCRIBED PLAT, THAT THE INITIAL POINT IS REFERENCED BY A 1 INCH BOLT SET IN CONCRETE AS DESCRIBED AND SHOWN HEREON.

PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708 AS FILED SEPTEMBER 24, 3003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON.

EXCEPT:

BEGINNING AT THE NORTHWEST CORNER OF PARCEL 1, LAND PARTITION PLAT NO. 2003-P1708, RECORDED SEPTEMBER 24, 2003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON; THENCE ALONG THE NORTH BOUNDARY OF SAID PARCEL 1 SOUTH 89°29'17" EAST 186.05 FEET; THENCE LEAVING SAID NORTH BOUNDARY OF PARCEL 1 BEARING SOUTH 00°03'00" WEST 10.00 FEET; THENCE PARALLEL WITH SAID NORTH BOUNDARY OF PARCEL 1 NORTH 89°29'17" WEST 185.21 FEET TO THE EAST MARGIN OF HYLAND LANE; THENCE ALONG SAID EAST MARGIN OF HYLAND LANE NORTH 04 43'36" WEST 10.04 FEET TO THE POINT OF BEGINNING, ALL IN LANE COUNTY, OREGON.

LLOYD L. TOLBERT L.S. NO. 2813

NARRATIVE

THIS SURVEY WAS MADE AT THE REQUEST OF THE OWNER TO SUBDIVIDE A PORTION OF PARCEL 1 OF LAND PARTITION PLAT NO. 2003-P1708. THE SUBDIVISION WAS GRANTED APPROVAL PER CITY OF LOWELL PLANNING ACTION FILE NO. LU 05-009. MONUMENTS FOUND WERE FOUND TO REFLECT THEIR RECORD POSITIONS PER SAID LAND PARTITION PLAT. WITH THE EXTERIOR BOUNDARIES SO DEFINED, THE PROPERTY WAS THEN SUBDIVIDED AT THE DIRECTION OF THE OWNER, AND IN ACCORDANCE WITH THE PRELIMINARY PLAN.

THIS SURVEY ALSO REFLECTS THE ADJUSTMENT OF THE COMMON BOUNDARY BETWEEN SAID PARCEL 1 AND TAX LOT 300 AS DESCRIBED IN REFERENCE 3 AND APPROVED PER CITY OF LOWELL PLANNING ACTION FILE NO. LU 06-007.

PROTECTIVE COVENANTS, CONDITIONS AND RESTRICTIONS
RECORDED 26 July, 2006
DOCUMENT NO. 2006-53107
LANE COUNTY OREGON DEEDS & RECORDS
CONCURRENCES: LCOOR #2006-53108 & 2006-53109

APPROVALS:

CITY ADMINISTRATOR, CITY OF LOWELL — DATE 7/18/06

LANE COUNTY BOARD OF COMMISSIONERS — DATE 7/25/06

LANE COUNTY SURVEYOR — DATE 7/24/06

LANE COUNTY ASSESSOR — DATE 7-26-06

PUBLIC DEDICATIONS ACCEPTED BY THE CITY OF LOWELL:

MAYOR, CITY OF LOWELL — DATE 7/18/06

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JUNE 30, 1997
LLOYD L. TOLBERT
2813
EXPIRES: JUNE 30, 2008

OWNERS DECLARATION

KNOWN ALL PEOPLE PRESENTS THAT THE GEORGE FAMILY TRUST IS THE OWNER OF THE LAND HEREON DESCRIBED AND DID CAUSE THE SAME TO BE SUBDIVIDED AS HEREON SHOWN ACCORDING TO THE PROVISIONS OF THE OREGON REVISED STATUTES, CHAPTER 92, DOES DEDICATE TO THE PUBLIC FOREVER ALL STREETS AND PUBLIC UTILITY EASEMENTS AS SHOWN HEREON AND DOES CREATE A 5.0' PRIVATE UTILITY EASEMENT ACROSS LOT 15 FOR THE BENEFIT OF THAT CERTAIN TRACT OF LAND DESCRIBED IN A QUITCLAIM DEED RECORDED JANUARY 15, 1998, DOCUMENT NO. 98-02693, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON AS SHOWN AND REFERENCED HEREON, A 20.0' PRIVATE ACCESS EASEMENT AND JOINT MAINTENANCE AGREEMENT ACROSS LOTS 6 AND 7 FOR THE BENEFIT OF LOTS 6 AND 7 AS SHOWN AND REFERENCED HEREON AND ~~A 40.0' PRIVATE ACCESS EASEMENT AND JOINT MAINTENANCE AGREEMENT FOR THE BENEFIT OF PARCELS 2 AND 3 OF LAND PARTITION PLAT NO. 2003 P1708 RECORDED SEPTEMBER 24, 2003, DOCUMENT NO. 2003-093517, LANE COUNTY DEEDS AND RECORDS, IN LANE COUNTY, OREGON~~ AS SHOWN AND REFERENCED HEREON. L.T.

William D. George
WILLIAM D. GEORGE, MEMBER
GEORGE FAMILY, LLC

ACKNOWLEDGMENT

STATE OF OREGON)
)SS
COUNTY OF LANE)

THERE APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR THE SAID STATE AND COUNTY, THE HEREON NAMED WILLIAM D. GEORGE ACTING IN HIS CAPACITY AS MEMBER OF GEORGE FAMILY LLC, KNOWN TO ME OR PROVED BY SATISFACTORY EVIDENCE TO BE THE SAME PERSON WHOM EXECUTED THE DECLARATION HEREON SHOWN, AND ACKNOWLEDGED THE SAME TO BE HIS VOLUNTARY DEED, IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL.

OFFICIAL SEAL
BONNIE L HOSKINSON-WIELKE
NOTARY PUBLIC - OREGON
COMMISSION NO. 398946
MY COMMISSION EXPIRES SEPT. 7, 2009

SUBSCRIBED AND SWORN TO BEFORE ME THIS 17 DAY OF July 2006.

Bonnie L. Hoskinson-Wielke
NOTARY PUBLIC FOR OREGON
MY COMMISSION EXPIRES: Sept. 7, 2009

TOLBERT ASSOCIATES, LLC
LAND SURVEYING & LAND USE PLANNING
P.O. BOX 70224
EUGENE, OREGON 97401
(541) 359-8426 FAX (541) 747-0177
LLOYD@TOLBERTASSOCIATES.COM
CADD FILE - GEORGE PLAT.GXD DWN BY: LLT

CITY OF LOWELL PLANNING ACTION NO. LU 05-009 & LU 06-007
ASSESSOR'S MAP NO. 19-01-14-21 TAX LOT 3400

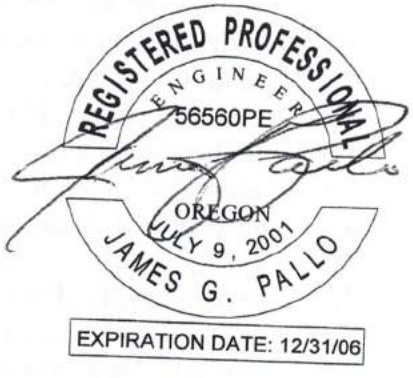
PLOTTER: HP DESIGN JET 500
INK: HP #4844A INK
FILM: CONTINENTAL MYLAR JPC 4M2

EXHIBIT C

City of Lowell
Lane County, Oregon

Water System Master Plan Update

October 2006



HBH
Consulting
Engineers

Site Alternative No. 2: An alternative site, but equally as appropriate, was identified in a siting study previously undertaken by the City. Figure 3.3 on Page 7-29 has been adapted from the City's previously completed reservoir siting plan and is provided on the following page to illustrate this siting alternative.

The following recommendations are indicated on the figure and are described below in more detail:

1. One large reservoir located at the selected "Site C" is not recommended. This would result in stagnancy issues, pressure control problems, and would not provide the level of service required by the new finished water reserves.

2. Rather, two reservoirs are recommended. A total reserve capacity of around 730,000-gallons is required. The upper reservoir (Site C) should be sized to provide service to the subdivision or upper level pressure area only. This upper tank should not be depended on to provide service to the lower service level. Therefore, it is recommended that this upper reservoir be sized at around 180,000 gallons. This should, however, be confirmed once the final development plans for the upper service area are known. However, this size of reservoir should be adequate for a significant upper level development.

3. With a 180,000-gallon reservoir in the upper pressure level, an additional 550,000-gallon reservoir should be located within the lower pressure level at the same elevation as the existing tank. The original siting study recommended a pipe be extended from 4th and Hyland to fill and empty a new reservoir at Site C. This approach would still be appropriate and is recommended for a dual-tank approach.

4. Therefore, a 550,000 gallon tank could be constructed on the originally proposed alignment at the same elevation at the existing 500,000 gallon tank. The two tanks would rise and fall together in the system and provide pressure and service to the lower pressure level where the majority of the water system is located.

5. A pipe would be installed out of the new 550,000 gallon tank and connected to a booster pump station that would boost water to the new 180,000 gallon tank at the original Site C. The pipe to the Site C tank would be for filling only and would not connect the tank back into the system though a manual bypass could be included to provide that option if it were required under emergency or special conditions. This will eliminate the need for a PRV vault between the upper and lower system.

Depending on the timing of the development, the availability of land, and the requirements for interconnecting the tank to the distribution system, it would be preferable to locate the new reservoir on the Seneca property. This will "spread" the City's reserves out rather than locating them all on the same side of town.

However, if conditions and timing do not coincide with the City's plans, siting the reservoir as discussed previously is also acceptable.

The recommended location for the first siting option (east side option) is shown on the following page on a figure labels Figure 3.3 as reproduced from the City's previously completed reservoir siting plan. The proposed siting recommendations are shown in the hand-drawn additions to the figure.

A separate figure has not been provided for the Seneca property siting as that is beyond the scope of this planning effort. Cost estimates for each part of the recommended system are provided hereafter.

RED INDICATES HBH RECOMMENDATIONS FOR RESERVOIR SIZING

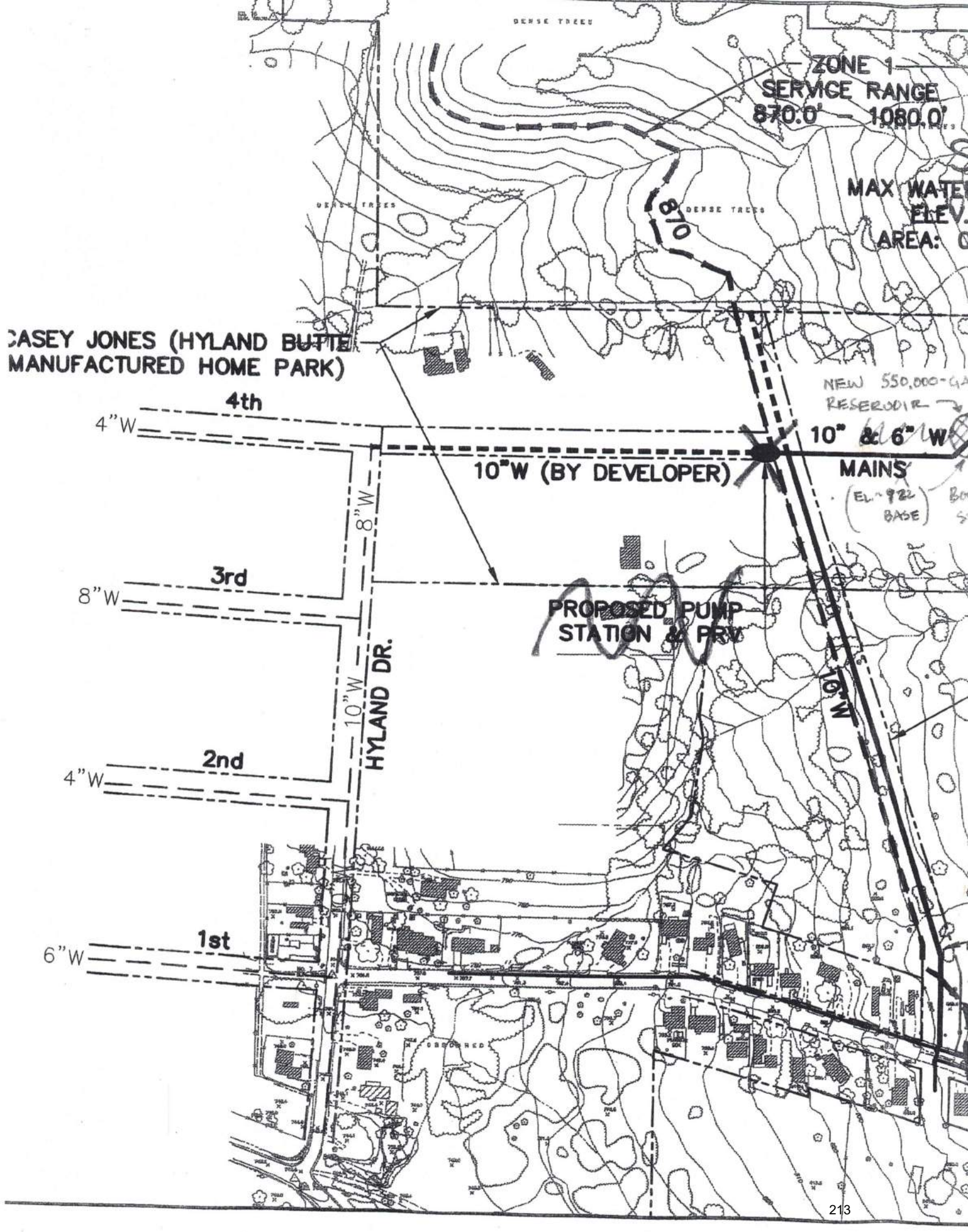
FIGURE 3.3

PROJECT: 7018.13

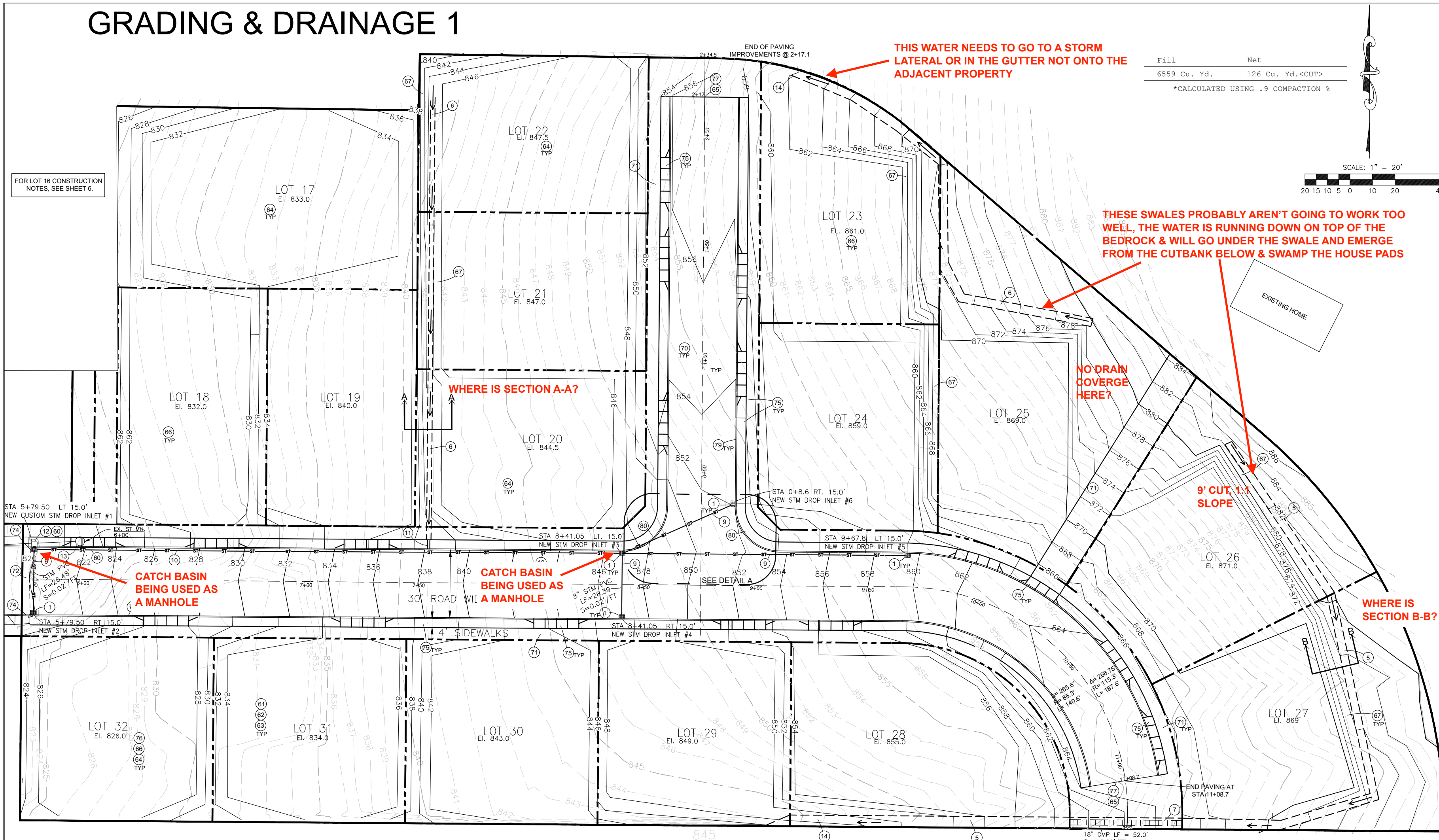
MARCH 2001

CITY OF LOWELL
PROPOSED WATER STORAGE
SITE C

411 HIGH STREET
EUGENE, OREGON 97401-2427
phone: 541.342.7210 fax: 541.341.7220
www.systemswesteng.com
mechanical electrical civil
SYSTEMS WEST ENGINEERS, INC.


ZONE 1
SERVICE RANGE
870.0' — 1080.0'
MAX WATER
ELEV.
AREA:
870
DENSE TREES
CASEY JONES (HYLAND BUTTE
MANUFACTURED HOME PARK)
NEW 550,000-GA
RESERVOIR
4th
4"W
10" & 6"W
MAINS
10"W (BY DEVELOPER)
(EL. 922
BASE)
8"W
3rd
8"W
PROPOSED PUMP
STATION & PRV
10"W
HYLAND DR.
10"W
2nd
4"W
1st
6"W

GRADING & DRAINAGE 1



CONSTRUCTION NOTES

STORM

1 CONST STORMWATER DROP INLET PER DETAIL SHEET 7
5 CONST SOUTHERN DRAINAGE SWALE PER DETAIL SHEET 7
6 CONST STD DRAINAGE SWALE PER DETAIL SHEET 7
7 CONST 18" CMP CULVERT FOR FUTURE ROAD CROSSING AT SLOPES AND LENGTH AS SHOWN
9 CONST 8" PVC D-3034 STORMWATER LINE WITH 8 GA. GREEN TRACER WIRE AT SLOPES INDICATED
10 CONST 12" PVC D-3034 STORMWATER LINE WITH 8 GA. GREEN TRACER WIRE AT SLOPES INDICATED
11 CONST SIDEWALK AND CURB DRAIN DETAIL PER DETAIL SHEET 7
12 CONST CUSTOM CATCH BASIN CONFIGURATION PER DETAIL SHEET 7
13 REMOVE OR ABANDON EXISTING STORMWATER MANHOLE AND STORMWATER PIPE TO NEW CONNECTION POINT.
14 CONST SWALE TO CONNECT WITH EXISTING DRAINAGE

PAVING, GRADING & MISCELLANEOUS

60 POT-HOLE TO EXPOSE EXISTING SEWER, STORM OR WATER LINES, CONFIRM PIPE DIAMETER,PIPE MATERIAL AND DEPTH WITH ENGINEER.
61 CLEAR & GRUB AREAS OF ORGANICS
62 CLEAN SOIL (FREE OF ORGANICS) MAYBE USED ON SITE AS COMPACTED FILL MATERIAL FOR DRIVEWAYS, PADS .
63 EXCAVATE AND REMOVE TREE STUMPS AND ORGANICS WITHIN SPACES, DRIVE WAYS OR PAD AREAS.
64 SEE GEOTECHNICAL REPORT FOR HOME FOUNDATION PREPARATION AND TESTING REQUIREMENTS.
65 END AC STREET PAVING AT STA SHOWN. TRANSITION PROPOSED TO EXISTING GRADE AT PROPERTY BOUNDARY.
66 SEE EROSION CONTROL PLANS FOR SEDIMENT MANAGEMENT DURING MASS GRADING AND CONSTRUCTION ACTIVITIES.
67 CONST STABILIZED ROCK SLOPE FOR SLOPES WITH 1:1.5 OR STEEPER PER DETAIL SHEET 7
70 CONST AC STREET PAVING, BASE AND SUB-BASE MATERIAL PER CROSS SECTION DETAIL ON SHEET 2
71 CONST 3 1/2" PCC ON 8" OF ¾" MINUS CRUSHED ROCK OVER SERIES-N MRAFI GEOTEXTILE FABRIC FOR DRIVEWAYS.
72 SAWCUT AND REMOVE EXISTING AC PAVING TO CUTLINE, USE CLEAN EDGE FOR NEW ASPHALT PLACEMENT
73 ALL JOINTS TO BE TACK SEALED AND SANDED
74 BEGIN CONSTRUCTION OF NEW SIDEWALK AT THE EDGE OF EXISTING CONCRETE SIDEWALK
75 CONST SIDEWALKS AND DRIVEWAY SECTIONS PER DETAIL SHEET 7
76 COMPACTED FILL IN DRIVEWAY AND HOME PAD AREAS MUST OBTAIN A SOIL COMPACTION TEST TO ASSURE IT IS CAPABLE OF SUPPORTING THE LOADS PROPOSED. SEE GEOTECHNICAL REPORT FOR SPECIFICS
77 PLACE TRAFFIC BARRICADES AND APPROPRIATE SIGNAGE AT END OF ROAD SECTIONS
78 CONST V-GUTTER IN INTERSECTION PER DETAIL SHEET 8
79 CONST CURB & GUTTER PER DETAIL SHEET 7
80 CONST SIDEWALK ACCESS RAMPS PER DETAIL SHEET 7

LEGEND

PROPERTY LINE (℞)
PRIVATE LOT LINE
NEW STORM LINE
NEW ALIGNMENT
TBSW TOP BACK OF SIDEWALK
EAP EDGE OF ASPHALT PAVING
MINOR CONTOUR
MAJOR COUNTOUR
NEW GRAVEL
RIGHT OF WAY
NEW RETAINING WALL
NEW WATER SERVICE
NEW STORM DRAIN INLET
EXISTING WATER VALVE
EXISTING STORM
EXISTING CATCH BASIN
47 SPACE NUMBER

NOTE:

SEASONAL DRAINAGE TO BE INTERCEPTED AND DIVERTED AROUND NE DEVELOPMENT DRAINAGE WILL CONTINUE TO USE ITS EXISTING DISCHARGE POINT.

Boeger & Associates, LLC
Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph:541.302.4996
Cell: 541.556.5779
Fax: 541.302.4968
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER 16331
OREGON
JAN. 19, 1993
DENNIS J. BOEGER
EXPIRES: 12/31/2019

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedylu@gmail.com

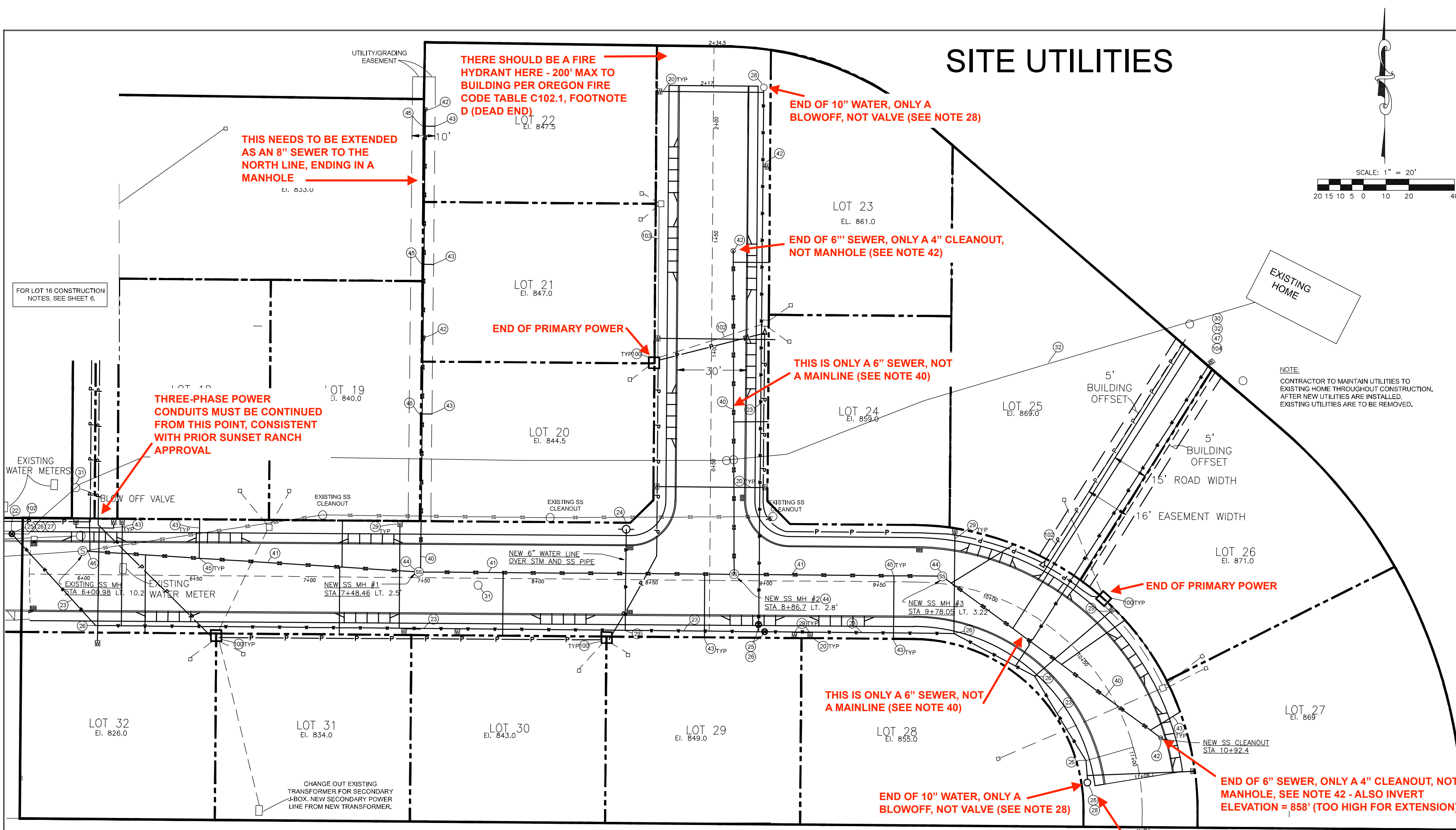
W.O. No. 314
Design J. BRENNER
Drawn Z. BOEGER
Check D. BOEGER
Date 6/5/2019
Dwg 314 SUNSET HILLS

Sheet 3 of 12

REVISIONS

No.	Description/Date	By

SITE UTILITIES



WATER
20 CONST DUAL OR SINGLE WATER SERVICE LINE PER DETAIL SHEET 9
22 LOCATE END OR STUB OF EXISTING WATER LINE AND CONST DI TO C-900 ADAPTER FOR WATER LINE EXTENSION
23 CONST 10•• DIA C900 PVC WATER LINE WITH 14 GA. BLUE TRACER WIRE
24 CONST FIRE HYDRANT ASSEMBLY PER DETAIL SHEET 9
25 CONST 10" DUCTILE IRON GATE VALVE IN VALVE BOX, PER DETAIL SHEET 9
26 CONST THRUST BLOCKING PER DETAIL SHEET 9
27 NOTIFY RESIDENTS 48 HOURS IN ADVANCE TO ANY WATER SHUT-OFFS NECESSARY FOR CONSTRUCTION OF NEW WATER LINE
28 CONST BLOW-OFF VALVE PER DETAIL SHEET 7
29 STUB WATER SERVICE LINES AT PROPERTY LINE AND MARK LOCATION WITH 2X4 WITH BLUE MARKINGS
30 MAINTAIN ALL UTILITIES TO EXISTING HOME DURING CONSTRUCTION
31 ABANDON EXISTING WELL PER OREGON WATER RESOURCE DEPARTMENT GUIDELINES
32 ABANDON AND REMOVE WATER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED.

SANITARY SEWER
40 CONST 6" DIA PVC D-3034 SEWER PIPE WITH 14 GA. GREEN TRACER WIRE AT S = 2.0% MIN. UNLESS NOTED
41 CONST 8" DIA PVC D-3034 WW SEWER PIPE WITH 14 GA. GREEN TRACER WIRE
42 CONST 4•• PVC SCH 40 CLEANOUT, STUB CLEANOUT TO GRADE IN BOX WITH LID. SEE DETAIL SHEET 7
43 CONST 4•• PVC D-3034 SEWER PIPE STUB AT PROPERTY LINE PER DETAIL 8
44 CONST SANITARY SEWER MANHOLE, PER DETAIL SHEET 8
45 CONST SEWER LATERAL CONNECTIONS PER DETAIL SHEET 8
46 CONTRACTOR TO VERIFY SIZE OF EXISTING SS PIPE. IF EXISTING PIPE IS SMALLER THAN PROPOSED SS PIPE, CONTRACTOR TO CORE DRILL MH TO FIT PROPOSE PIPE AT THE SPECIFIED ELEVATIONS.
47 ABANDON AND REMOVE SEWER SERVICE LINES AFTER NEW UTILITIES HAVE BEEN PROVIDED

POWER
100 INSTALL TRANSFORMER PER LANE ELECTRIC SPECIFICATIONS
101 INSTALL SERVICE JUNCTION VAULTS PER LANE ELECTRIC SPECIFICATIONS
102 CONST PRIMARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
103 CONST SECONDARY SERVICE CONDUIT PER LANE ELECTRIC SPECIFICATIONS
104 ABANDON AND REMOVE EXISTING ELECTRICAL SERVICE TO HOME AFTER NEW SERVICE HAS BEEN ESTABLISHED

LEGEND

- PROPERTY LINE (℞)
- PRIVATE LOT LINE
- NEW WATER LINE
- NEW SEWER LINE
- NEW POWER VAULT
- PRIMARY POWER CONDUIT
- SECONDARY POWER CONDUIT
- EXISTING ELECTRIC METER
- JUNCTION BOX
- WATER METER
- WATER VALVE
- NEW ALIGNMENT
- RIGHT OF WAY
- NEW SANITARY CLEANOUT
- NEW SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY SEWER LINE
- 47 SPACE NUMBER

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Civil and Environmental Engineering
1011 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph 541.302.4996
Cell 541.556.5779
Fax 541.302.4998
dboeger@boegerassociates.com

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
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Bahen Investments
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W.O. No. 314
Design J. BRENNER
Drawn Z. BOEGER
Check D. BOEGER
Date 6/5/2019
Dwg 314 SUNSET HILLS

Sheet 5 of 12

REVISIONS

No.	Description/Date	By

Wetland Delineation
Sunset Hills Development Site
Lowell, Oregon

Prepared for

Matt Bahen
195 Melton Road
Creswell, OR 97426

Prepared by

Caroline Rim
Carlee Michelson
John van Staveren
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, Oregon 97070
(503) 570-0800
(503) 570-0855 FAX

PHS Project Number: 6957

October 24, 2020

TABLE OF CONTENTS

I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation for the proposed Sunset Hills development site in Lowell, Oregon (Township 19 South, Range 1 West, Section 1421, Tax Lot 5000, Lane County, Oregon). The site is located at the end of East 4th Street, approximately 500 feet east of the intersection of Hyland Lane and East 4th Street.

This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of potentially jurisdiction wetland within the study area, are located in Appendix A. Data sheets documenting on-site conditions are provided in Appendix B. Ground-level photos of the site are located in Appendix C. A discussion of the wetland delineation methodology is provided for the client in Appendix D.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The 4.14-acre study area consists of a relatively level open field with a gradual southwest-facing slope. Extending eastward from Hyland Lane, East 4th Street is paved until it reaches the western edge of the study area where it transitions into a gravel road as it continues to the east through the central portion of the property. Land use in the vicinity of the study area is primarily residential to the west, and undeveloped land to the north, south and east. A single homestead borders the eastern edge of the subject site, scattered tree groves and shrubs border the northern edge of the site, and a shallow, forked swale is located in the southeastern portion of the property. The swale extends from east to west; the north fork of the swale extends from inside the eastern property boundary to the south-central portion of the property; the south fork enters the southeastern corner of the property and also extends to the south-central portion of the property where it joins the north fork and continues off-site to the southwest.

Vegetation throughout most of the property consists of non-native grasses and forbs, including orchard grass (*Dactylus glomerata*, FACU), common velvet grass (*Holcus lanatus*, FAC), hairy vetch (*Vicia villosa*, UPL), ox-eye daisy (*Leucanthemum vulgare*, FACU), meadow foxtail (*Alopecurus pratensis*, FAC), Canada thistle (*Cirsium arvense*, FAC), tall false ryegrass (*Schedonorus arundinaceus*, FAC), small camas (*Camassia quamash*, FACW), yellow scorpion grass (*Myosotis discolor*, FAC), dove's-foot geranium (*Geranium molle*, UPL), white clover (*Trifolium repens*, FAC), garden vetch (*Vicia sativa*, UPL), Fuller's teasel (*Dipsacus fullonum*, FAC), tall oatgrass (*Arrhenatherum elatius*, UPL), brome (*Bomus sp*., UPL), St. John's wort (*Hypericum perforatum*, FACU), Queen Anne's lace (*Daucus carota*, FACU), common chickweed (*Stellaria media*, FACU), European centaury (*Centaurium erythraea*, FAC), and colonial bentgrass (*Agrostis capillaris*, FAC); also present are a few scatterings of trees and shrubs, such as Ponderosa pine (*Pinus ponderosa*, FACU), beaked hazelnut (*Corylus cornuta*, FACU), English hawthorn (*Crataegus monogyna*, FAC), sweetbrier rose (*Rosa rubiginosa*, UPL), and Himalayan blackberry (*Rubus armeniacus*, FAC).Vegetation within the swale includes hairy vetch, common velvet grass, Fuller's teasel, brome, tall false ryegrass, stalk-grain sedge (*Carex stipata*, OBL), Oregon crabapple (*Malus fusca*, FACW), Himalayan blackberry, and beaked hazelnut.

B. Site Alterations

The site has not been subject to recent alterations that would have affected our wetland delineation field work.

C. Precipitation Data and Analysis

The wetland delineation was conducted on May 11, 2020; no precipitation was recorded on the day of field work, recorded precipitation for the prior two weeks totaled 1.10 inches (National Weather Service, 2020). Table 1 compares the average monthly precipitation at the Lookout Point Dam WETS station (approximately 1.32 miles southeast of the study area) to the observed monthly precipitation for three months prior to the May 11 field work.

Table 1. Average Monthly Precipitation (NRCS WETS Table) and Observed Precipitation (NOAA, Lowell, Oregon)

Month	Average Precipitation[a] (inches)	30% Chance Will Have		Observed Precipitation[b] (inches)
		Less Than Average[a]	More Than Average[a]	
February	5.21	3.80	6.13	2.84
March	5.06	3.92	5.86	3.96
April	4.23	3.21	4.92	2.48
May	3.47	2.32	4.16	4.76

Notes: a. Source: NRCS WETS Table for Lookout Point Dam
b. Recorded monthly precipitation (National Weather Service) for Lowell, Oregon (2019-2020)

Recorded precipitation for the months of February, March and April were below average, and May was above average. February and April were also slightly below the normal range; however, March was within the normal range and May exceeded the normal range. The variations from average precipitation patterns in the months preceding the delineation are not expected to have affected the wetland boundaries, as they were generally well defined by topography, hydric soils, wetland hydrology, and a dominance of wetland vegetation.

D. Methods

As stated above, PHS conducted a wetland delineation and data collection on May 11, 2020. PHS delineated the study area in accordance with the routine onsite determination method (which is based on the presence of hydrology, hydric soils, and hydrophytic vegetation), as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y 87 1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. PHS dug and examined soil pits throughout the study area, and based on the investigation, determined that the only wetland area present within the subject site consists of a forked wetland swale that extends from the southeast corner of the site to the south-central property boundary where it continues offsite to the southwest. Sample point locations were chosen based on varied geomorphic positions and vegetation characteristics that best represented the site overall. Sample points #2, 4 and 5 reflect conditions typically observed throughout the study area; and sample points #1 and 3 were typical of conditions within the swale.

E. Description of all Wetlands

There is one forked wetland swale, Wetland A, (4,837 square feet / 0.11 acre) that extends from the southeastern corner of the site to the south-central property boundary, where the wetland continues offsite to the southwest. Dominant vegetation within Wetland A includes common velvet grass, Fuller's teasel and Himalayan blackberry. Saturation was present within the swale during our site visit. It appears that the primary sources of hydrology for the swale include precipitation, runoff and seasonal groundwater. The Cowardin classification for Wetland A is Palustrine Emergent Saturated/Semi-permanent/Seasonally Flooded (PEMY) wetland, and the Hydrogeomorphic (HGM) classification is Slope.

F. Deviation from Local Wetlands Inventory

The City of Lowell Local Wetlands Inventory (LWI) shows a "Locally Significant Wetland" (Wetland Code: WD1997-0473-2) within the southeastern corner of the site, with the wetland continuing offsite onto the adjacent property to the east. With the exception of the shape and size of the wetland shown on the LWI map, the general location of the mapped wetland is consistent with our findings; however, the LWI map does not show the west end of the wetland continuing to the southwest, beyond the south-central property boundary. This discrepancy, in part, may be due to the fact that the LWI mapping may have been limited to off-site determinations due to a lack of site access authorization, which limits "ground-truthing" to confirm interpretations derived from off-site maps and information.

G. Mapping Method

PHS flagged the wetland boundaries with blue flagging and sample points with lime green flagging. The tax lot and wetland boundaries, and sample point flags were survey-located by Tolbert Associates, LLC. The accuracy of the survey, sample points and tax lot boundaries are sub-centimeter.

H. Additional Information

None.

I. Results and Conclusions

PHS identified and delineated a potentially jurisdictional wetland area in the southeastern portion of the site. Table 2 summarizes the wetland within the study area.

Table 2: Summary of Potentially Jurisdictional Wetland/Waters of the State/US within the Study Area

Resource	Area (square feet/acreage)	Cowardin Class	HGM Class
Wetland A	4,837 / 0.11	PEMY	Slope
Total	**4,837 / 0.11**		

J. Required 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.

III. REFERENCES

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Appendix A

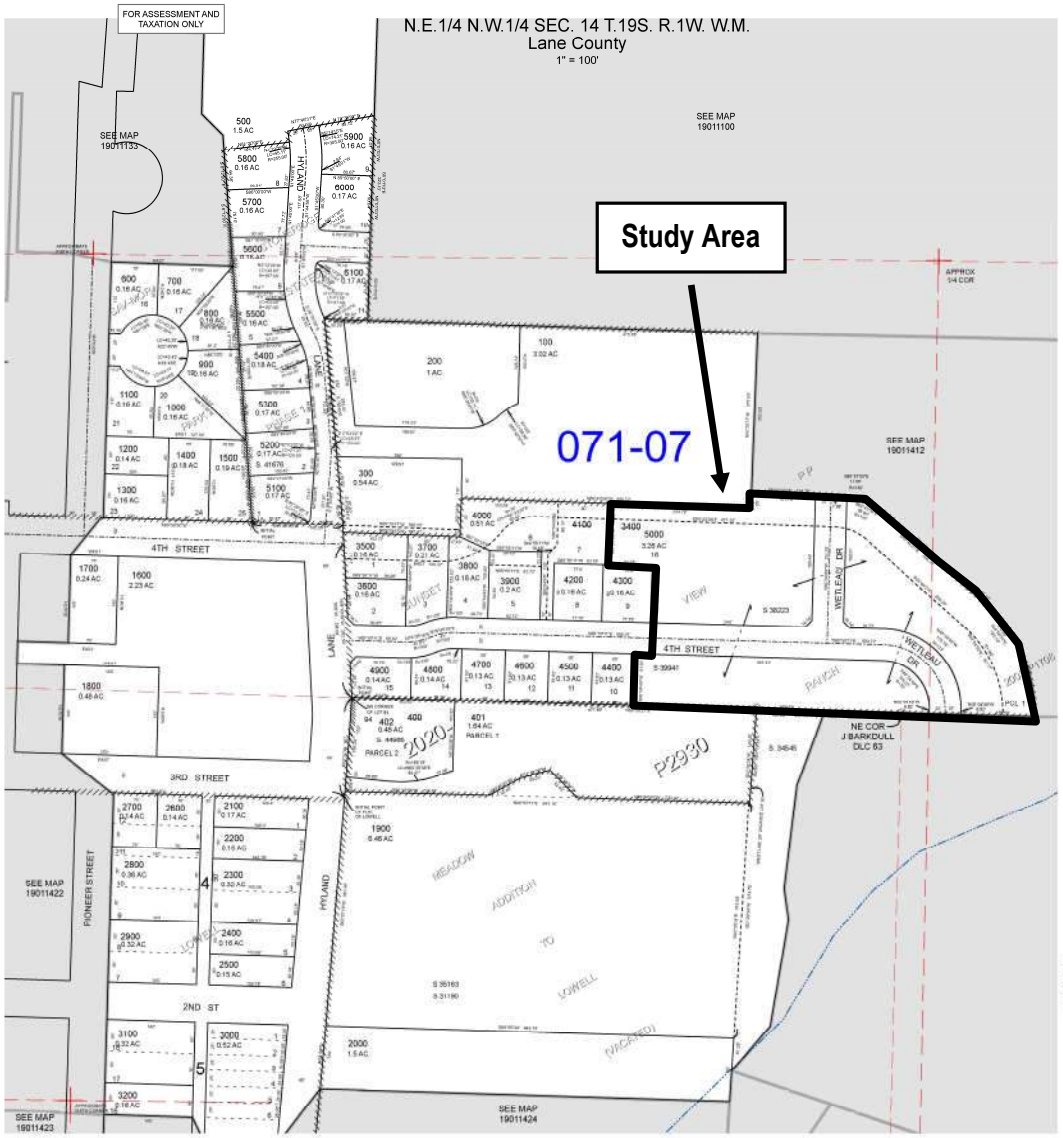
Figures

Project #6957
9/9/2020

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Sunset Hills - Lowell, Oregon
United States Geological Survey (USGS) Lowell, Oregon 7.5 quadrangle, 2020
(viewer.nationalmap.gov/basic)

FIGURE
1



N

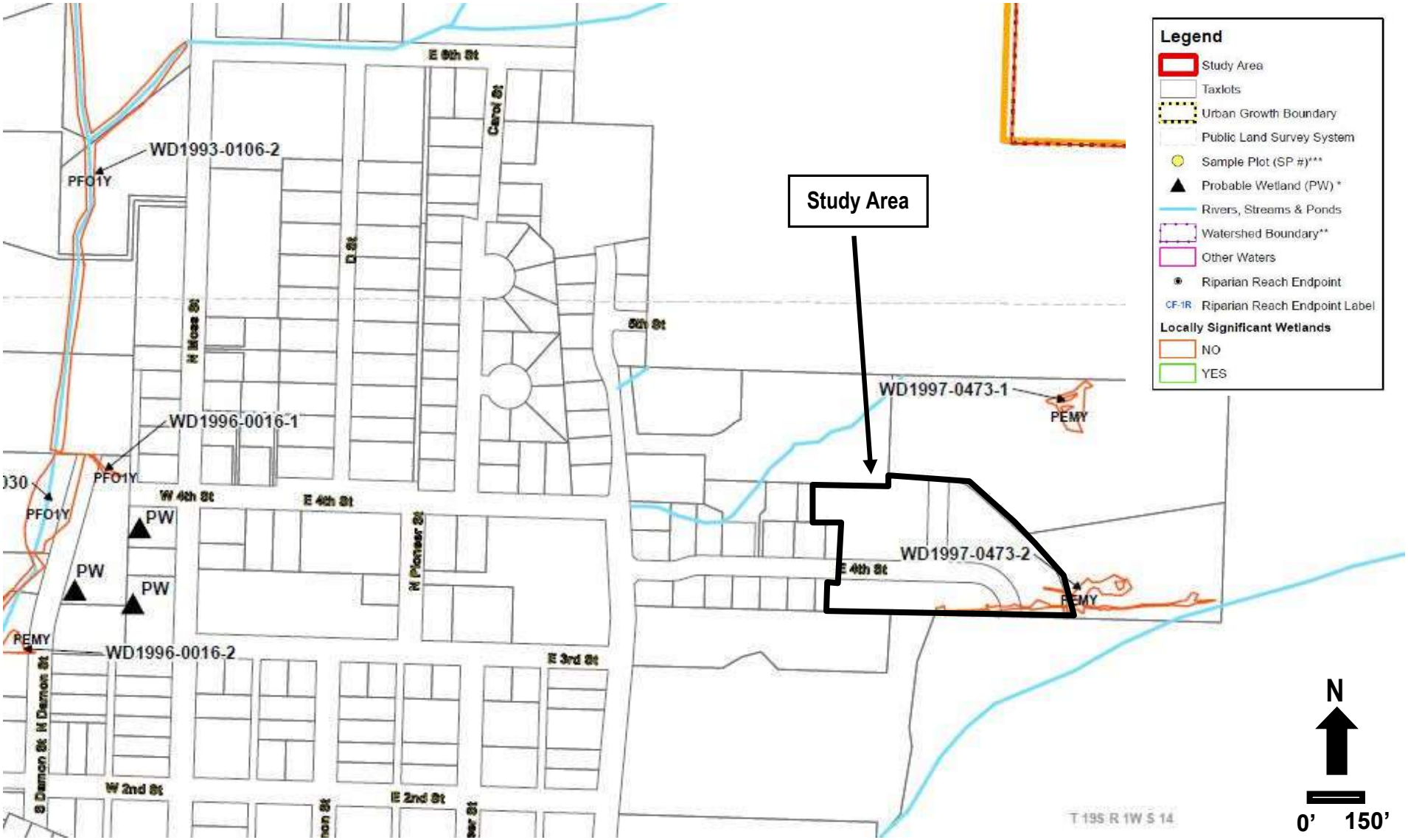
0’ 150’

Project #6957
9/9/2020

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map
Sunset Hills - Lowell, Oregon
The Oregon Map (ormap.net)

FIGURE
2

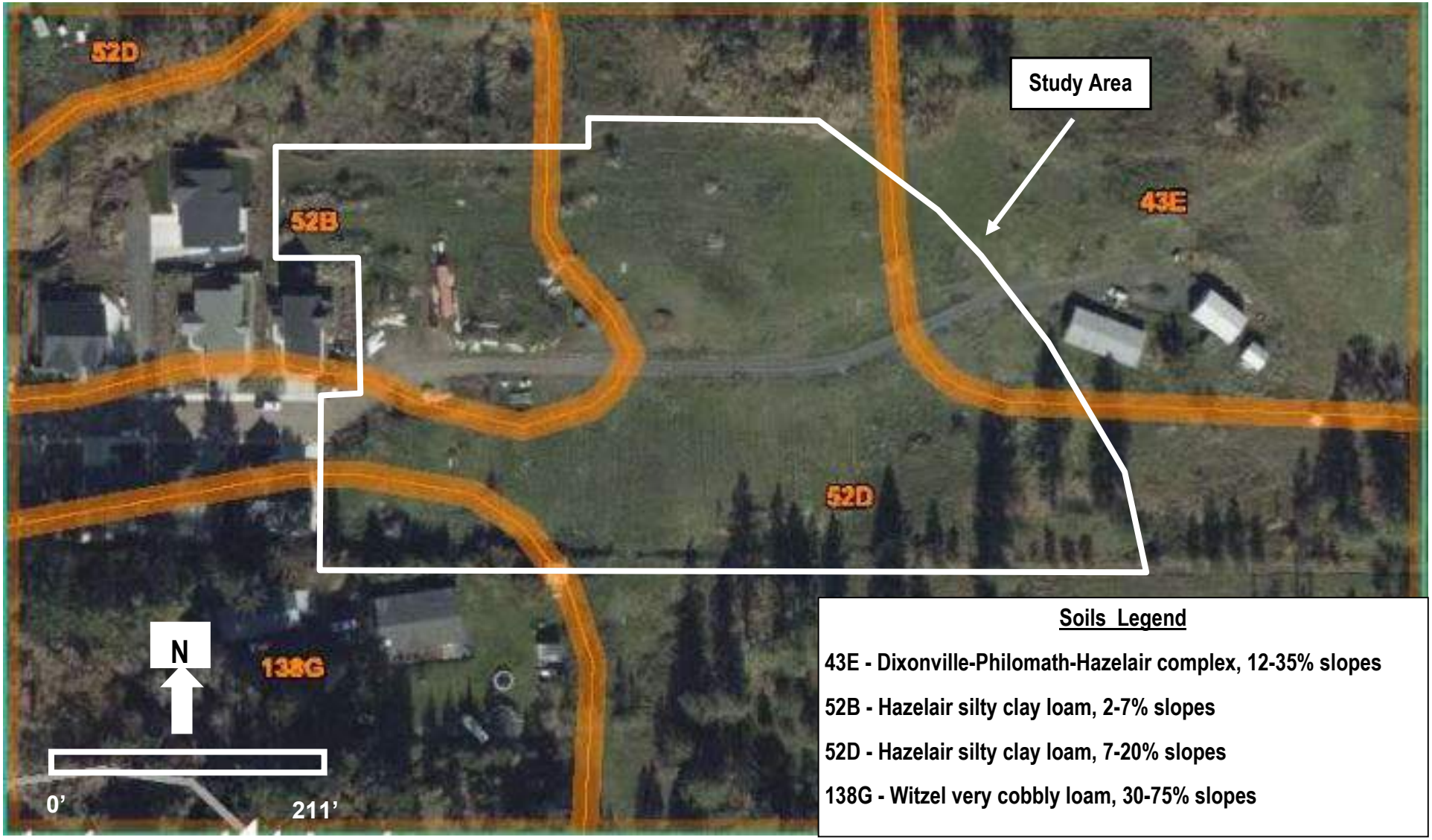


Project #6957
9/9/2020

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Local Wetland Inventory
Sunset Hills - Lowell, Oregon
ESA Adolfson, 2011

FIGURE
3



Project #6957
9/9/2020

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Soils
Sunset Hills - Lowell, Oregon
Natural Resources Conservation Services, Web Soil Survey, 2020
(websoilsurvey.sc.egov.usda.gov)

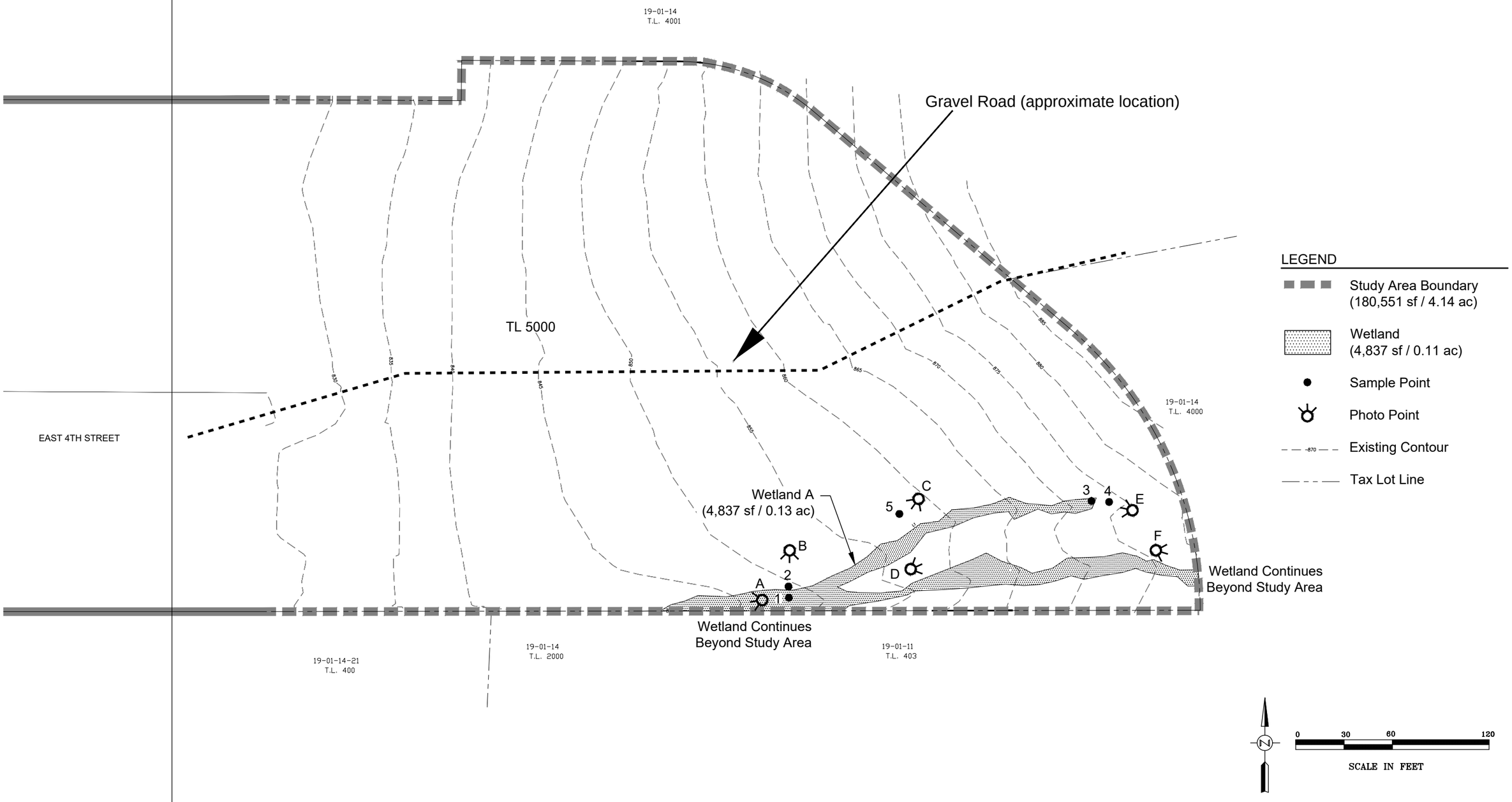
FIGURE
4

Project #6957
9/9/2020

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Aerial Photo
Sunset Hills - Lowell, Oregon
GoogleEarth, 2020

FIGURE
5



Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Survey provided by
Tolbert Associates, LLC, 2020
Survey and Sample Point Accuracy
is sub-centimeter.

Wetland Delineation
Sunset Hills - Lowell, Oregon

FIGURE
6

10-23-2020

Appendix B

Wetland Determination Data Sheets

PHS # 6957

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

Project/Site: **Sunset Hills** City/County: **Lowell/Lane** Sampling Date: **5/11/2020**

Applicant/Owner: **Bahen Investment Group, LLC** State: **OR** Sampling Point: **1**

Investigator(s): **CR/CM** Section, Township, Range: **Section 14, Township 19S, Range 1W**

Landform (hillslope, terrace, etc.:) **swale** Local relief (concave, convex, none): **concave** Slope (%): **<5**

Subregion (LRR): **LRR A** Lat: **43.9222** Long: **-122.7758** Datum: **WSG85**

Soil Map Unit Name: **Hazelair silty clay loam** 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? (Y/N) **Y**

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	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **15**)			
1 ***Rubus armeniacus***	**15**	**X**	**FAC**
2 ***Corylus cornuta***	**10**	**X**	**FACU**
3			
4			
5			
	25	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Vicia villosa***	**5**		**UPL**
2 ***Holcus lanatus***	**45**	**X**	**FAC**
3 ***Dipsacus fullonum***	**35**	**X**	**FAC**
4 ***Carex stipata***	**20**		**OBL**
5 ***Bromus sp.***	**5**		**UPL**
6 ***Schedonorus arundinaceus***	**5**		**FAC**
7			
8			
	115	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL

PHS # 6957 Sampling Point: 1

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

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	92	7.5YR 4/6	8	C	M	Silty Clay	fine-medium
8-16	10YR 3/2	95	7.5YR 3/4	5	C	M	Silty Clay	fine

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)	X	Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
X	High Water Table (A2)		
X	Saturation (A3)		Salt Crust (B11)
	Water Marks (B1)		Aquatic Invertebrates (B13)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (2 or more required)

	Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	Drainage Patterns (B10)
	Dry-Season Water Table (C2)
	Saturation Visible on Aerial Imagery (C9)
X	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Fac-Neutral Test (D5)
	Raised Ant Mounds (D6) **(LRR A)**
	Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No X	Depth (inches):	
Water Table Present?	Yes	X	No	Depth (inches):	4
Saturation Present? (includes capillary fringe)	Yes	X	No	Depth (inches):	0

Wetland Hydrology Present? Yes X No

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

Remarks:

PHS # 6957

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

Project/Site: **Sunset Hills** City/County: **Lowell/Lane** Sampling Date: **5/11/2020**

Applicant/Owner: **Bahen Investment Group, LLC** State: **OR** Sampling Point: **2**

Investigator(s): **CM/CR** Section, Township, Range: **Section 14, Township 19S, Range 1W**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **convex** Slope (%): **2**

Subregion (LRR): **LRR A** Lat: **43.9222** Long: **-122.7758** Datum: **WSG85**

Soil Map Unit Name: **Hazelair silty clay loam** 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? (Y/N) **Y**

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	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **15**)			
1 ***Rubus armeniacus***	**50**	**X**	**FAC**
2			
3			
4			
5			
	50	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Dactylis glomerata***	**10**		**FACU**
2 ***Holcus lanatus***	**20**	**X**	**FAC**
3 ***Vicia villosa***	**10**		**UPL**
4 ***Leucanthemum vulgare***	**10**		**FACU**
5 ***Alopecurus pratensis***	**5**		**FAC**
6 ***Schedonorus arundinaceus***	**50**	**X**	**FAC**
7 ***Cirsium arvense***	**5**		**FAC**
8			
	110	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **6957** Sampling Point: **2**

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

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 3/2**	**100**					**Silty Clay Loam**	**~50% gravel**
3-7	**10YR 3/2**	**25**	**10YR 5/8**	**3**	**C**	**M**	**Silty Clay**	**~50% gravel**
3-7	**10YR 4/3**	**50**	**10YR 5/8**	**1**	**C**	**M**	**Silty Clay**	**~50% gravel**
3-7	**10YR 5/3**	**20**	**10YR 5/8**	**1**	**C**	**M**	**Silty Clay**	**~50% gravel**
7-14	**10YR 3/2**	**98**	**10YR 3/3**	**2**	**C**	**M**	**Silty Clay**	**fine**

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- _____ Histosol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- _____ Loamy Gleyed Matrix (F2)
- _____ Depleted Matrix (F3)
- _____ Redox Dark Surface (F6)
- _____ Depleted Dark Surface (F7)
- _____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- _____ 2 cm Muck (A10)
- _____ Red Parent Material (TF2)
- _____ Very Shallow Dark Surface (TF12)
- _____ Other (explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** **X**

Remarks:

mixed matrix, disturbed soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _____ Surface Water (A1)
- _____ High Water Table (A2)
- _____ Saturation (A3)
- _____ Water Marks (B1)
- _____ Sediment Deposits (B2)
- _____ Drift Deposits (B3)
- _____ Algal Mat or Crust (B4)
- _____ Iron Deposits (B5)
- _____ Surface Soil Cracks (B6)
- _____ Inundation Visible on Aerial Imagery (B7)
- _____ Sparsely Vegetated Concave Surface (B8)
- _____ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- _____ Salt Crust (B11)
- _____ Aquatic Invertebrates (B13)
- _____ Hydrogen Sulfide Odor (C1)
- _____ Oxidized Rhizospheres along Living Roots (C3)
- _____ Presence of Reduced Iron (C4)
- _____ Recent Iron Reduction in Plowed Soils (C6)
- _____ Stunted or Stressed Plants (D1) **(LRR A)**
- _____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- _____ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- _____ Drainage Patterns (B10)
- _____ Dry-Season Water Table (C2)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Geomorphic Position (D2)
- _____ Shallow Aquitard (D3)
- _____ Fac-Neutral Test (D5)
- _____ Raised Ant Mounds (D6) **(LRR A)**
- _____ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	_____	No **X**	Depth (inches):	_____
Water Table Present?	Yes	_____	No **X**	Depth (inches):	**>14**
Saturation Present? (includes capillary fringe)	Yes	_____	No **X**	Depth (inches):	**>14**

Wetland Hydrology Present?

Yes _____ **No** **X**

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

Remarks:

PHS # 6957

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

Project/Site: **Sunset Hills** City/County: **Lowell/Lane** Sampling Date: **5/11/2020**

Applicant/Owner: **Bahen Investment Group, LLC** State: **OR** Sampling Point: **3**

Investigator(s): **CM/CR** Section, Township, Range: **Section 14, Township 19S, Range 1W**

Landform (hillslope, terrace, etc.:) **swale** Local relief (concave, convex, none): **concave** Slope (%): **5**

Subregion (LRR): **LRR A** Lat: **43.9224** Long: **-122.7751** Datum: **WSG85**

Soil Map Unit Name: **Hazelair silty clay loam** 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? (Y/N) **Y**

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	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **15**)			
1 ***Rubus armeniacus***	**10**	**X**	**FAC**
2 ***Malus fusca***	**5**	**X**	**FACW**
3			
4			
5			
	15	= Total Cover	
Herb Stratum (plot size: ____)			
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **6957** Sampling Point: **3**

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

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	**10YR 2/1**	**98**	**10YR 5/6**	**2**	**C**	**M**	**Silty Clay Loam**	**fine**
5-12	**10YR 2/1**	**95**	**10YR 5/6**	**5**	**C**	**M**	**Silty Clay**	**fine, ~5% cobble**

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- **X** Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):		
Water Table Present?	Yes ___	No **X**	Depth (inches):	**>12**	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	**>12**	

Wetland Hydrology Present? Yes X No ___

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

Remarks:

PHS # 6957

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

Project/Site: **Sunset Hills** City/County: **Lowell/Lane** Sampling Date: **5/11/2020**

Applicant/Owner: **Bahen Investment Group, LLC** State: **OR** Sampling Point: **4**

Investigator(s): **CR/CM** Section, Township, Range: **Section 14, Township 19S, Range 1W**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **convex** Slope (%): **<5**

Subregion (LRR): **LRR A** Lat: **43.9224** Long: **-122.7751** Datum: **WSG85**

Soil Map Unit Name: **Hazelair silty clay loam** 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? (Y/N) **Y**

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	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **15**)			
1 ***Rubus armeniacus***	**10**	**X**	**FAC**
2			
3			
4			
5			
	10	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Camassia quamash***	**20**	**X**	**FACW**
2 ***Myosotis discolor***	**5**		**FAC**
3 ***Geranium molle***	**50**	**X**	**UPL**
4 ***Leucanthemum vulgare***	**5**		**FACU**
5 ***Alopecurus pratensis***	**5**		**FAC**
6 ***Trifolium repens***	**5**		**FAC**
7 ***Vicia sativa***	**5**		**UPL**
8 ***Dipsacus fullonum***	**5**		**FAC**
	100	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

5% Arrhenatherum elatius (UPL)

SOIL PHS # **6957** Sampling Point: **4**

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

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	**10YR 3/2**	**100**					**Silt Loam**	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in Remarks)

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Fac-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	**>16**
Saturation Present? (includes capillary fringe)	Yes		No **X**	Depth (inches):	**>16**

Wetland Hydrology Present?

Yes _____ **No X**

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

Remarks:

PHS # 6957

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

Project/Site: **Sunset Hills** City/County: **Lowell/Lane** Sampling Date: **5/11/2020**

Applicant/Owner: **Bahen Investment Group, LLC** State: **OR** Sampling Point: **5**

Investigator(s): **CM/CR** Section, Township, Range: **Section 14, Township 19S, Range 1W**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **concave** Slope (%): **3**

Subregion (LRR): **LRR A** Lat: **43.9223** Long: **-122.7756** Datum: **WSG85**

Soil Map Unit Name: **Hazelair silty clay loam** 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? (Y/N) **Y**

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	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **15**)			
1 ***Rubus armeniacus***	**80**	**X**	**FAC**
2			
3			
4			
5			
	80	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Geranium molle***	**20**	**X**	**UPL**
2 ***Holcus lanatus***	**10**	**X**	**FAC**
3 ***Dipsacus fullonum***	**20**	**X**	**FAC**
4 ***Alopecurus pratensis***	**5**		**FAC**
5 ***Bromus sp.***	**10**	**X**	**UPL**
6 ***Schedonorus arundinaceus***	**10**	**X**	**FAC**
7 ***Myosotis discolor***	**10**	**X**	**FAC**
8 ***Camassia quamash***	**5**		**FACW**
	105	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **71%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

5% Hypericum perforatum (FACU), 5% Cirsium arvense (FAC), 5% Vicia villosa (UPL)

SOIL

PHS # 6957 Sampling Point: 5

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

Depth	Matrix		Redox Features				Texture	Remarks
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	**10YR 2/1**	**100**					**Silty Clay Loam**	
10-20	**10YR 2/1**	**98**	**10YR 5/6**	**2**	**C**	**M**	**Silty Clay**	**fine**

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in Remarks)

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Fac-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No	**X**	Depth (inches):	
Water Table Present?	Yes		No	**X**	Depth (inches):	**>20**
Saturation Present? (includes capillary fringe)	Yes	**X**	No		Depth (inches):	**18**

Wetland Hydrology Present?

Yes _____ **No X**

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

Remarks:

Appendix C

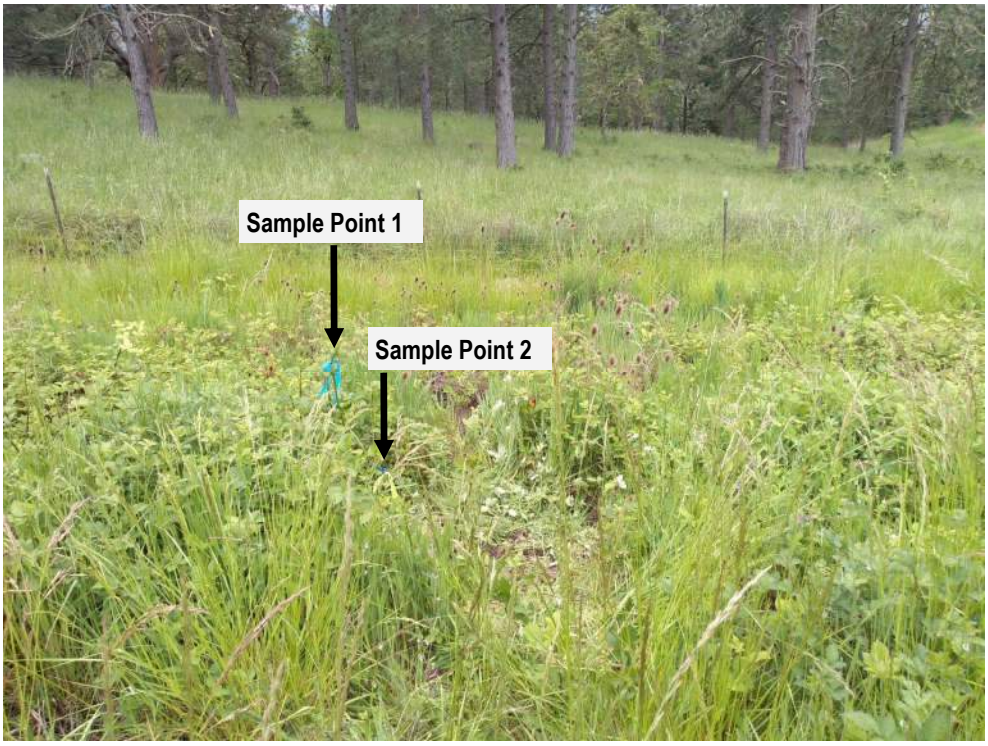
Site Photos

Photo A

Looking west at west end of Wetland A.

Photo B

Looking south at west end of Wetland A; Sample Points 1 and 2.



#6957
10/23/20

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Sunset Hills - Lowell, Oregon
Both photos taken on May 11, 2020

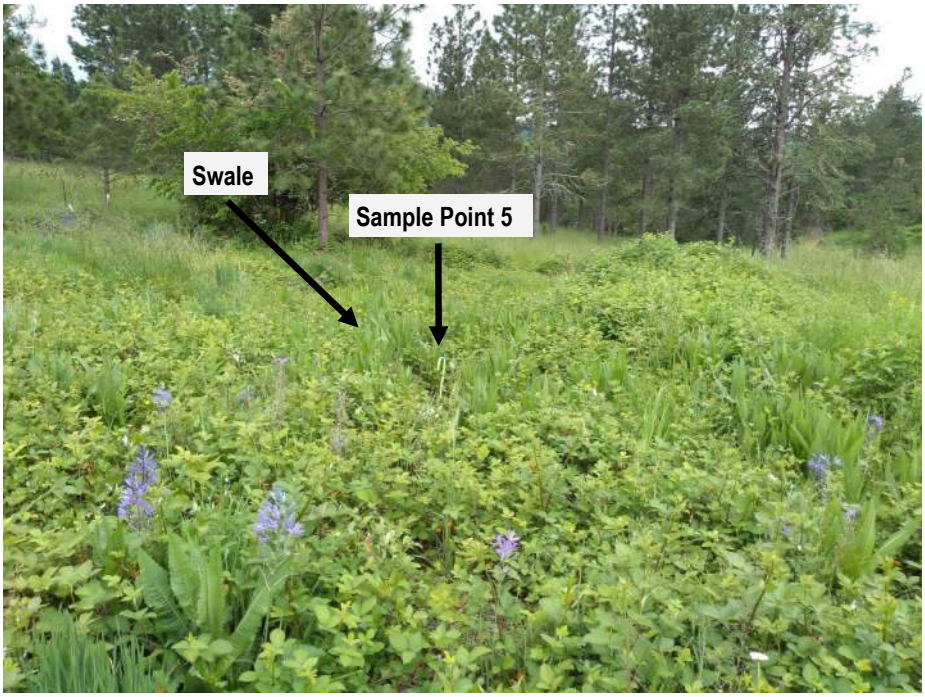
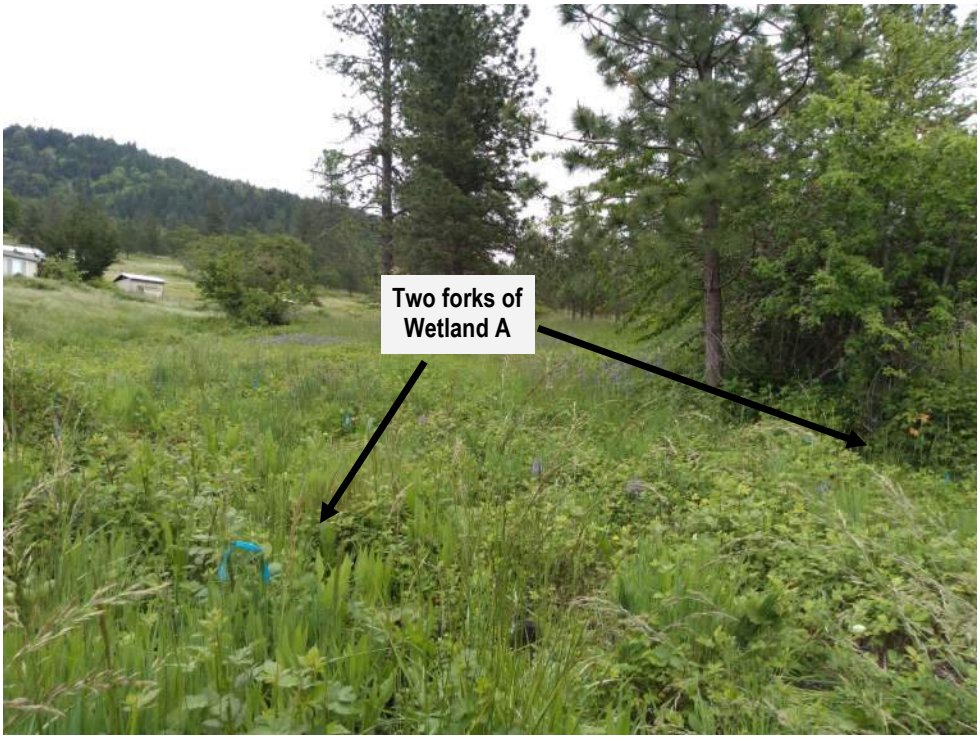


Photo C

Looking southwest at the north fork of Wetland A; Sample Point 5.

Photo D

Looking east between the two forks of Wetland A.



#6957
10/23/20

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Sunset Hills - Lowell, Oregon
Both photos taken on May 11, 2020

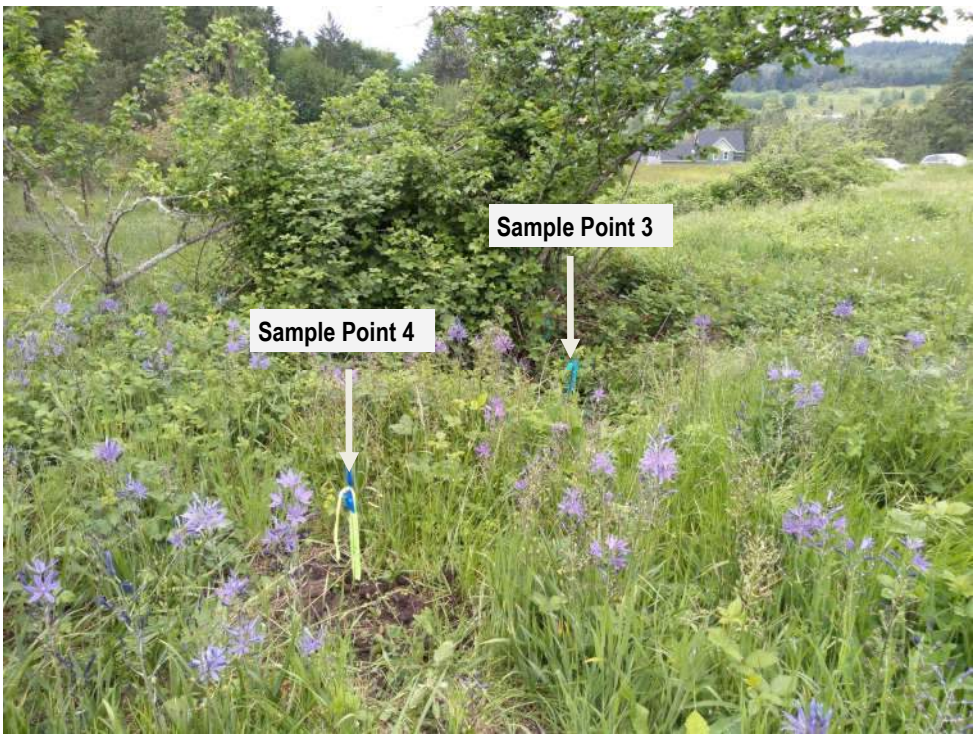


Photo E

Looking north/northwest at north fork of Wetland A; Sample Points 3 and 4.

Photo F

Looking east at the south fork of Wetland A in southeast corner of study area.

#6957
10/23/20

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Sunset Hills - Lowell, Oregon
Both photos taken on May 11, 2020

Appendix D

Wetland Definitions and Methodology

WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

Regulatory Jurisdiction

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

Waters of This State and Wetland Definition

Waters of This State are defined as "all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and nonnavigable bodies of water in this state and those portions of the ocean shore …" (DSL, 2009).

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (DSL 2009).

Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a "problem soil" in the Regional Supplement.

Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Plants that always occur in standing water or in saturated soils.
FACW	Facultative wetland. Plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands.
FAC	Facultative. Plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils.
FACU	Facultative upland. Plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils.
UPL	Obligate upland. Plants that rarely occur in water or saturated soils.

Observations of hydrology, soils, and vegetation were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated up to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5-foot radius of the sample point, and basal area cover for tree and woody vine species within a 30-foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets, which contain the information specified in the 1987 Corps Manual and the Regional Supplement.

ATTACHMENT P

Boeger & Associates, LLC
Civil and Environmental - Engineering and Planning

November 3, 2020

Dr. Matt Bahen
Sunset Hills Subdivision

RE: Sunset Hills Subdivision – Feasibility of Extending a 50 Foot Public Right-of-Way Through to Tax Lot 200

Dear Dr. Bahen,

This letter addresses a condition of the previous development of Sunset View Ranch to extend a 50 foot wide public right-of-way through the subject development to serve upper properties (tax lot 200, etc.).

The current proposed development of Sunset Hills Subdivision currently provides access and connection to both the north and the south for future public right-of-way and utility connections. It was recently mentioned that one of the conditions of the previous development (Sunset Hills Ranch) stated that the public roadway would extend the public right-of-way in the current alignment through Lot 16 (current development) up to tax lot 200 (adjacent and east of the proposed development). Extension of the public roadway to the east is not feasible per the discussion below.

Hillside Development Standards

Lots 23 through 27 currently have slopes ranging from 15% to 20%. These lots cover the entire eastern side of the proposed development, which an easterly extension of the public road would be built through. There are several limitations and concerns stated in the code that prohibit or strongly discourage the development of improvements in general. For example, Section 9.632(a) states that "*any grading performed within the boundaries of a hillside development shall be kept to a minimum and shall take in account the environmental characteristics of that property, including but not limited to prominent geological features, existing streambeds, drainage ways, and vegetative cover*

Section (b) addresses slope stability. The geotechnical report for this site includes discusses the existence of steep slopes and preventative measure to address them. Section (g) further addresses public streets in hillside developments, and lists numerous limitations which will not feasibly allow driveways or other amenities with slopes over 15%. There is a concern stated for cut slopes greater than 4 feet, which would easily be exceeded if a public right-of-way was extended to the east property boundary.

PO Box 21623, Eugene, OR 97402 ~ (541) 302-4996 ~ FAX (541) 302-4968 ~ dboeger@boegerassociates.com

Future Lots and Water Service

Two maps are attached for a visual reference to the subject subdivision. To illustrate the benefits of connecting to upslope developments via the currently proposed north and south streets for Wetleau Drive, a tentative layout has been performed. This tentative layout shows a number of potential lots
in both tax lot 100 (larger north parcel) and tax lot 200 (location of existing house) by extending Wetleau Drive north and south along the ground contours. If a public road was extended perpendicular to the ground slope (straight up in easterly direction), very few lots could potentially be developed, due to the current limit of the city's water pressure at this elevation.

Further, extending a full 50 foot public road right-of-way between lots 25 and 26 would typically bisect the common lot line between tax lots 100 and 200. This would result in a requirement for concurrent development of both tax lots, which is not likely as they have separate owners. The most efficient development with respect to elevations (water availability) and lot layouts for both tax lots would be supported by securing access from north or south Wetleau Drive.

September 10, 2020 Letter from Mia Nelson

Mia Nelson sent a memo to the city of Lowell to express various comments regarding the proposed development. She owns property adjacent to the southern boundary at the Wetleau Drive extension. Of the topics addressed, she listed major concerns with the proposed grades and cut banks needed to develop the most easterly lots. It should be noted that if proposed private lots would need to be carefully developed on an individual basis due to the city's code for hillside development, how much more of a concern is it to attempt to build a 50 foot wide public right-of-way with street improvements and utilities through this area?

Recorded Plat for Sunset View Ranch

A copy of the recorded re-plat of a portion of parcel 1 of Land Partition Plat No. 2003-P1708 for Sunset View Ranch shows the current connections of Wetleau Drive to the north and to the south, consistent with our current proposal. Both of these extended streets will provide the ability to extend the public roadway to future lots. Both public roads also easily meet the city's for non-hill side development and will allow a much more feasible means to extend public services to future developments. It should also be noted that it is not feasible to propose a total of three street extensions through the easterly end of Sunset Hills Subdivision

Summary

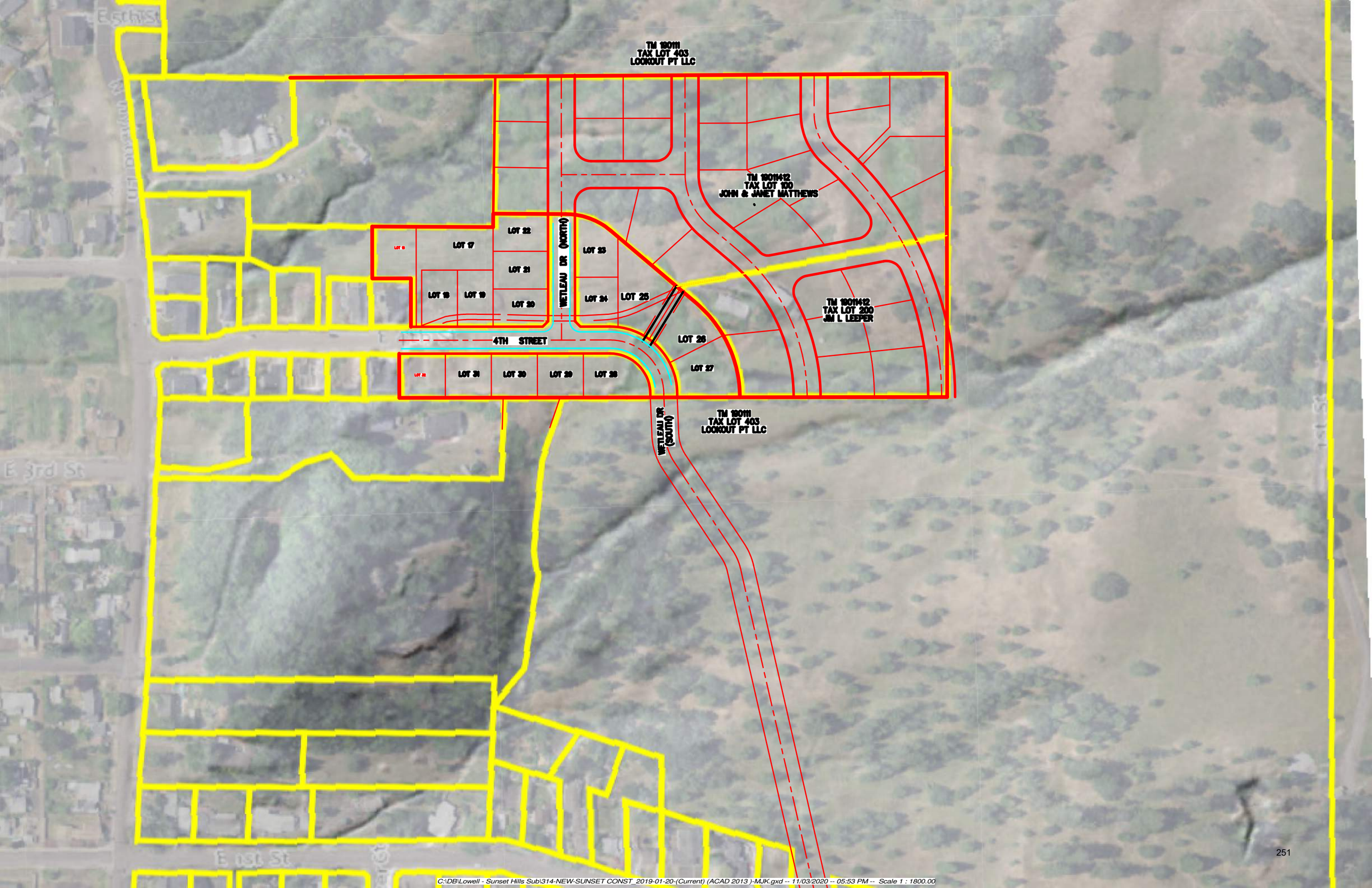
The extension of the public right-of-way up to the easterly property line of Sunset Hills Subdivision cannot feasibly be done due to the extreme slopes of the existing ground. Doing so would result in significant issues to meet the city's hillside development codes. It would also result in very steep road grades that would impact the ability to develop lots in a safe manner. In our professional opinion, it would also result in potentially hazardous conditions in inclement weather

and leave the city vulnerable. There are two proposed connections to extend city services for the public on both the north and south sides of the Sunset Hills Subdivision which are much flatter slopes and much safer.

Please review and respond with any questions or comments.

Sincerely,

Dennis J. Boeger, PE, CWRE
Principal Engineer



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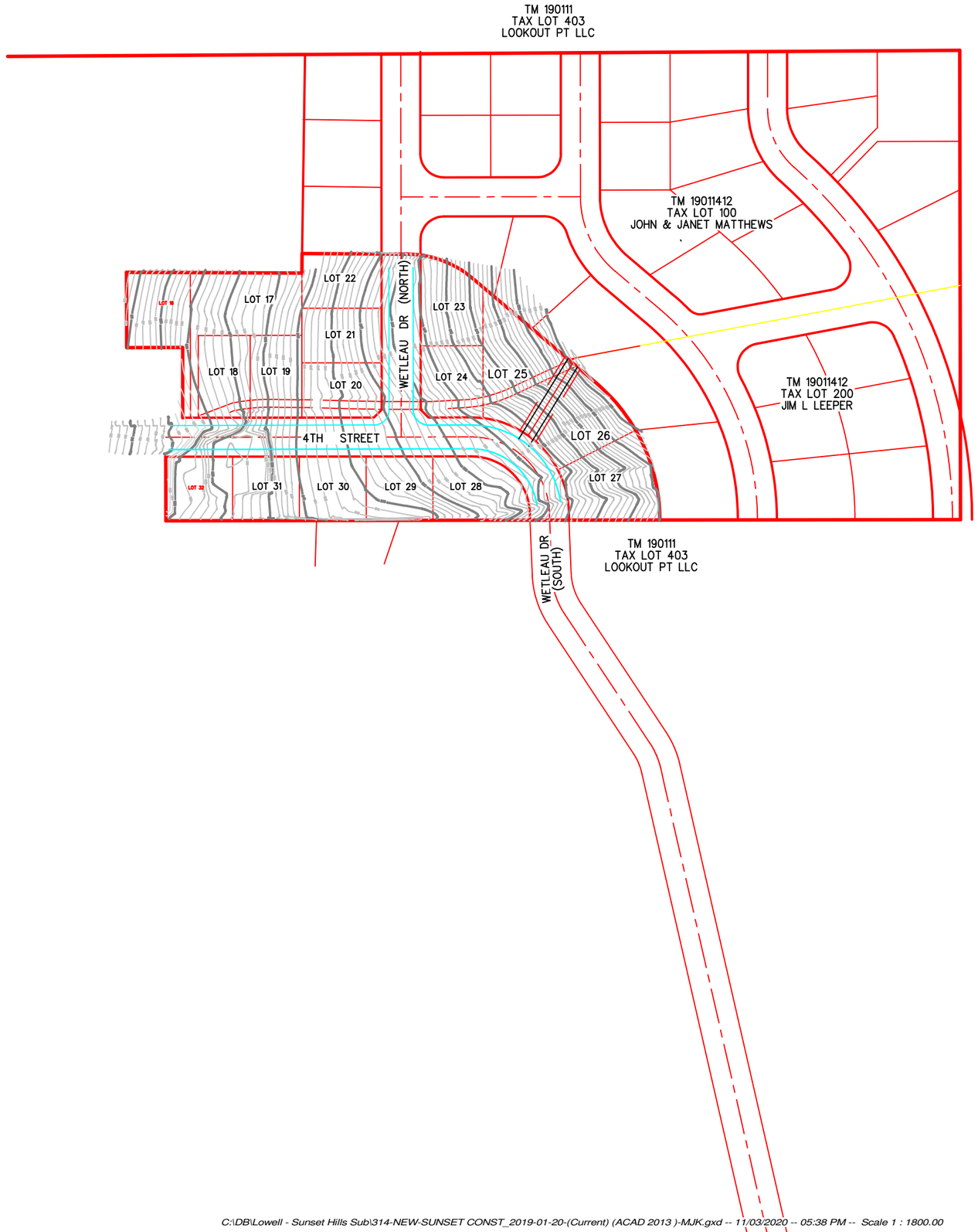

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Boeger & Associates, LLC
Civil and Environmental - Engineering and Planning

November 3, 2020

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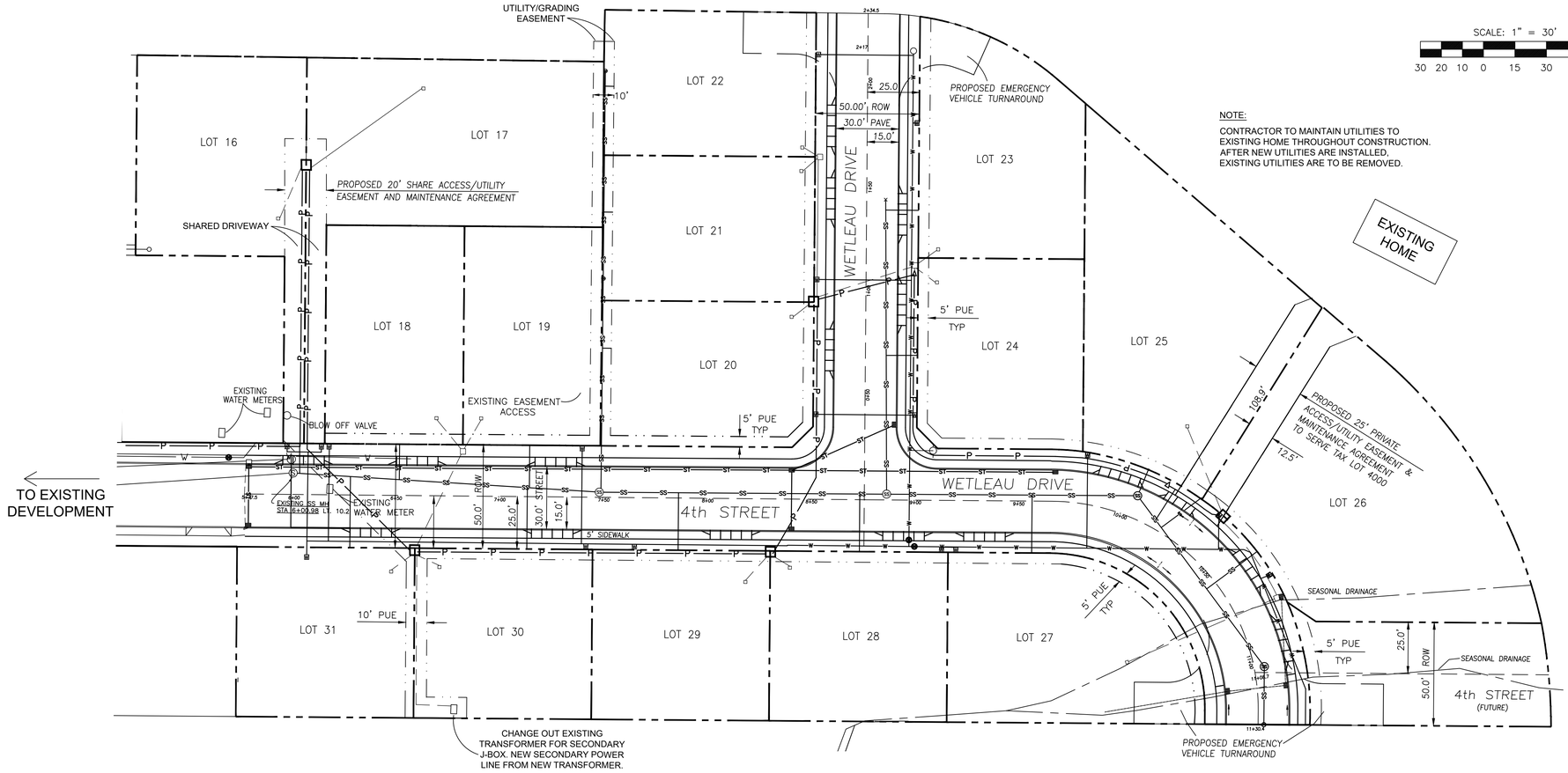
Please review and respond with any questions or comments.

Sincerely,

Dennis J. Boeger, PE, CWRE
Principal Engineer

TENTATIVE UTILITIES PLAN



SCALE: 1" = 30'

30 20 10 0 15 30 60

NOTE:
CONTRACTOR TO MAINTAIN UTILITIES TO EXISTING HOME THROUGHOUT CONSTRUCTION. AFTER NEW UTILITIES ARE INSTALLED, EXISTING UTILITIES ARE TO BE REMOVED.

LEGEND

- PROPERTY LINE (P.L.)
- PRIVATE LOT LINE
- W — NEW WATER LINE
- SS — NEW SEWER LINE
- ST — NEW STORM LINE
- NEW POWER VAULT
- P — PRIMARY POWER CONDUIT
- SECONDARY POWER CONDUIT
- EXISTING ELECTRIC METER
- JUNCTION BOX
- WATER METER
- WATER VALVE
- 10+00 — RIGHT OF WAY
- RIGHT OF WAY
- NEW SANITARY CLEANOUT
- NEW SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- SS — EXISTING SANITARY MANHOLE
- ST — EXISTING STORM
- W — EXISTING WATER
- NEW GRAVEL
- NEW RETAINING WALL
- NEW WATER METER
- NEW STORM DRAIN INLET
- EXISTING WATER VALVE
- EXISTING CATCH BASIN
- NEW MINOR CONTOR
- NEW MAJOR CONTOR
- 47 — SPACE NUMBER

Boeger & Associates, LLC
Civil and Environmental Engineering
1911 S. Bertelsen Road
P.O. Box 21623
Eugene, OR 97402
Ph:541.302.4996
Cell: 541.556.5779
Fax: 541.302.4868
dboeger@boegerassociates.com

REGISTERED PROFESSIONAL ENGINEER — OREGON — JAN. 19, 1988 — DENNIS J. BOEGER
EXPIRES: 12/31/2021

SUNSET HILLS
RESIDENTIAL SUBDIVISION
ASSESSORS MAP 19-01-14-21, Tax Lot 5000

Developer
Matthew Bahen
Bahen Investments
541-513-7623
speedyliv@gmail.com

W.O. No.	314
Design M.	KAISER
Drawn Z.	BOEGER
Check D.	BOEGER
Date	12/28/2020
Dwg 314	SUNSET HILLS

Sheet 2 of 2

REVISIONS

No.	Description/Date	By

Staff Report & Findings of Fact
Property Line Adjustment Application
Assessor's Map 19-01-14-24, Tax Lots 02100 & 19-01-14-24, Tax Lot 02200
City of Lowell Owned Properties
LU 2020-02
Staff Report Date: December 30, 2020

1. Proposal & Background. In September of 2020, the City of Lowell purchased two properties on Main Street in the designated Downtown Area. One of the subject properties located at 205 E Main Street is currently occupied with a single-family dwelling. This existing dwelling is proposed to be demolished sometime in early 2021. The other subject property, located at 295 E Main Street is presently vacant, open land with grass.

The Downtown Master Plan created a vision for the downtown area that includes this property. The Plan envisions a combination of city offices, a diversity of homes, public parks, multi-story buildings, commercial and mixed uses in the downtown area. The City purchased the properties with the intent to sell the properties for future commercial or mixed-use development in an effort to implement the strategies set forth in the Downtown Master Plan.

The City is seeking to perform a lot line adjustment to remove a common boundary between the two properties. Removal of this common property line will create one larger parcel that can better accommodate the type of development the City is promoting for this area.

Lane County recently secured a Safe Routes to School (SRTS) Grant on behalf of the City to construct sidewalks and a pedestrian refuge island surrounding this property. The sidewalk improvements in the area will expand pedestrian connectivity for students and people walking downtown. A copy of the plan is included in the staff report, as Attachment A – Applicant's Materials.

2. Approval Criteria. LDC, Section 9.213, establishes the decision process required for a property line adjustment. Because the City is the applicant in this case, and the City Administrator can approve property line adjustments, the City Administrator decided to elevate this application to be heard and reviewed by Planning Commission. Notice of the Planning Commission hearing was sent to surround properties within 300-feet of the subject properties. Notice of decision will be sent to the applicant. Referral of this application was sent to Lowell Rural Fire Protection District, Public Works, Lane County, City Engineer and ODOT.

3. Staff review of applicable criteria for property line adjustment

LDC 9.213. A Property Line Adjustment may be approved based upon compliance with the submittal requirements specified above and the following findings:

(a) The adjustment will not create an additional unit of land.

FINDING: As indicated on the sketch, the adjustment will not create an additional unit of land. The proposed elimination of the common property line will combine two units of land into one larger unit. Criterion met.

(b) The adjustment will not create a land-locked parcel.

FINDING: As indicated on the sketch, the adjustment will not create a land-locked parcel. Criterion met.

(c) The existing unit of land reduced in size by the adjustment complies with applicable City Ordinances and this Code and will not create a non-conforming lot or non-conforming development.

FINDING: The proposed property line adjustment does not propose the reduction of a unit of land; rather it proposes the elimination of a property line. Tax Lot 2100 presently contains a single-family dwelling that is slated for demolition in early 2021. This action of removing a home located in the Commercial District will the existing non-conforming structure placed in a commercial zone. The proposed property line adjustment will not create any non-conforming lots or structures. Following demolition and the combination of these two lots, the lots are likely to be sold for commercial development consistent with the City's Downtown Master Plan.

(d) The adjustment shall comply with any previous Conditions of Approval attached to the properties to be adjusted.

FINDING: No previous conditions of approval have been found related to the subject property. Criterion met.

(e) The adjustment shall comply with all state and county recording requirements.

CONDITION OF APPROVAL #1: Applicant shall submit all required documents and comply with any Lane County recording requirements for the property line adjustment to be filed and recorded with Lane County records.

7. Decision

The **Planning Commission APPROVES as conditioned,** a property line adjustment as indicated in the applicant's materials (Attachment A).

8. Attachments

Attachment A: Applicant's application

9. Findings of Fact to be Signed by Chair

This approval shall become final on the date this decision and supporting findings of fact are signed by a representative of the Planning Commission of City of Lowell, below. An appeal of the Planning Commission's decision must be submitted to the City within 15 days of the Planning Commission's within the Planning Commission's notice of decision, in conformance with Section 9.309. Failure of the applicant to raise constitutional or other issues relating to proposed conditions of approval with sufficient specificity to allow the City to respond to the issue precludes an action for damages in circuit court.

_____ _____

Lon Dragt, Planning Commission Chair Date

Land Use Permit Application

____Site Plan Review ___X___ 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# 19-01-14-24 Lot # 02100

Map# 19-01-14-24 Lot # 02200

Map# _____ Lot # _____

Street Address (if applicable): 205 E Main Street & 295 E Main St (vacant)

Area of Request (square feet/acres): .5 acre

Existing Zoning: C, Commercial

Existing Use of the Property: Residential and vacant

Proposed Use of the Property Commercial or Mixed Use (house will be removed)

Pre-application Conference Held: No X 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 plans11X17 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. RLID Map b. _____

c. City of Lowell Downtown Study Area d. _____

e. SRTS Grant Area f. _____

_____ 5. Filing Fee: Amount Due: N/A.

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): City of Lowell Phone: 541-937-2157

Address: 107 E 3rd Street

City/State/Zip: Lowell OR 97452

Signature: Marsha Muller Interim City Administrator

APPLICANT, If Different

Name (print): _____ Phone: _____

Company/Organization: _____

Address: _____

City/State/Zip: _____

Signature: _____

E-mail (if applicable): _____

APPLICANTS REPRESENTATIVE, if applicable

Name (print): _____ Phone: _____

Company/Organization: _____

Address: _____

City/State/Zip: _____

E-mail (if applicable): _____

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 _____

CITY OF Lowell

City Administrator's Office
P.O. Box 490 Lowell, OR 97452
Phone: 541-937-2157
Email: mmiller@ci.lowell.or.us

September 23, 2020

To Whom It May Concern for Purposes of Recording,

Consistent with the authority granted to the City Administrator by Lowell Charter and/or Lowell Revised Code Section 2.040, and as required by ORS 93.808, I accept the conveyance to the City of Lowell: the real property known as 295 E. Main Street, Lowell, OR 97452 more particularly described as:
All of Block 11 of the PLAT OF LOWELL, as platted and recorded in Book 4, Page 37, Lane County Oregon Plat Records, in Lane County, Oregon;

EXCEPT THEREFROM the West 75 feet thereof, in Lane County, Oregon;

ALSO EXCEPTING THEREFROM: Beginning at a point in the South half of the Northwest quarter of Section 14, Township 19 South, Range 1 West of the Willamette Meridian that is distant 100 feet measured Southwesterly at a right angle from a point on the center line of the constructed track of the Central Pacific Railway Company, formerly the Oregon Eastern Railway Company, extending from Natron Southeasterly known as Engineer Survey Station "L" 1254 x 50.0 which is also a point on the Southwesterly boundary line of the present right of way of the said central Pacific Railway Company; thence in a South-westerly direction a distance of 50 feet to a point that is distant 150 feet measured of at right angles from a point on said center line of constructed track known as Engineer Survey Station "L" 1254 x 50.0; thence Southwesterly parallel with and 150 feet Southwesterly from said center line of constructed track a distance of 40 feet, more or less, to a point on the Westerly line of Hyland Lane in the PLAT OF LOWELL, as platted and recorded in Book 4, Page 37, Lane County Oregon Plat Records; thence Northerly along said Westerly line of Hyland Lane to a point that is distant 100 feet measured Southwesterly at a right angle from said central line of constructed track; thence Northwesterly parallel with and 100 feet Southwesterly from said center line of constructed track to the point of beginning; the above described tract or parcel of land being a portion of the South half of the Northwest quarter Section 14, Township 19 South, Range 1 West of the Willamette Meridian, all in Lane County, Oregon.

NOTE: This Legal Description was created prior to January 01, 2008.
Sincerely,

Marsha A. Miller
City Administrator
City of Lowell

CITY OF Lowell

City Administrator's Office
P.O. Box 490 Lowell, OR 97452
Phone: 541-937-2157
Email: mmiller@ci.lowell.or.us

September 23, 2020

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Consistent with the authority granted to the City Administrator by Lowell Charter and/or Lowell Revised Code Section 2.040, and as required by ORS 93.808, I accept the conveyance to the City of Lowell: the real property known as 205 E. Main Street, Lowell, OR 97452 more particularly described as:

The West 75 feet of Block Eleven (11), PLAT OF LOWELL, as platted and recorded in Book 4, Page 37, Lane County Oregon Plat Records, in Lane County, Oregon. EXCEPT that portion conveyed to Lane County by Warranty Deed recorded May 23, 2005, Reception No. 2005-037352, Lane County Deeds and Records, in Lane County, Oregon.

Sincerely,

Marsha A. Miller
City Administrator
City of Lowell

DATE:12/11/20 FILE:O:\CW_Projects\2101 Lowell\2101-001-01 General Engineering Services\2101-001.01 General Engineering\SURVEYS\Block 11.dwg

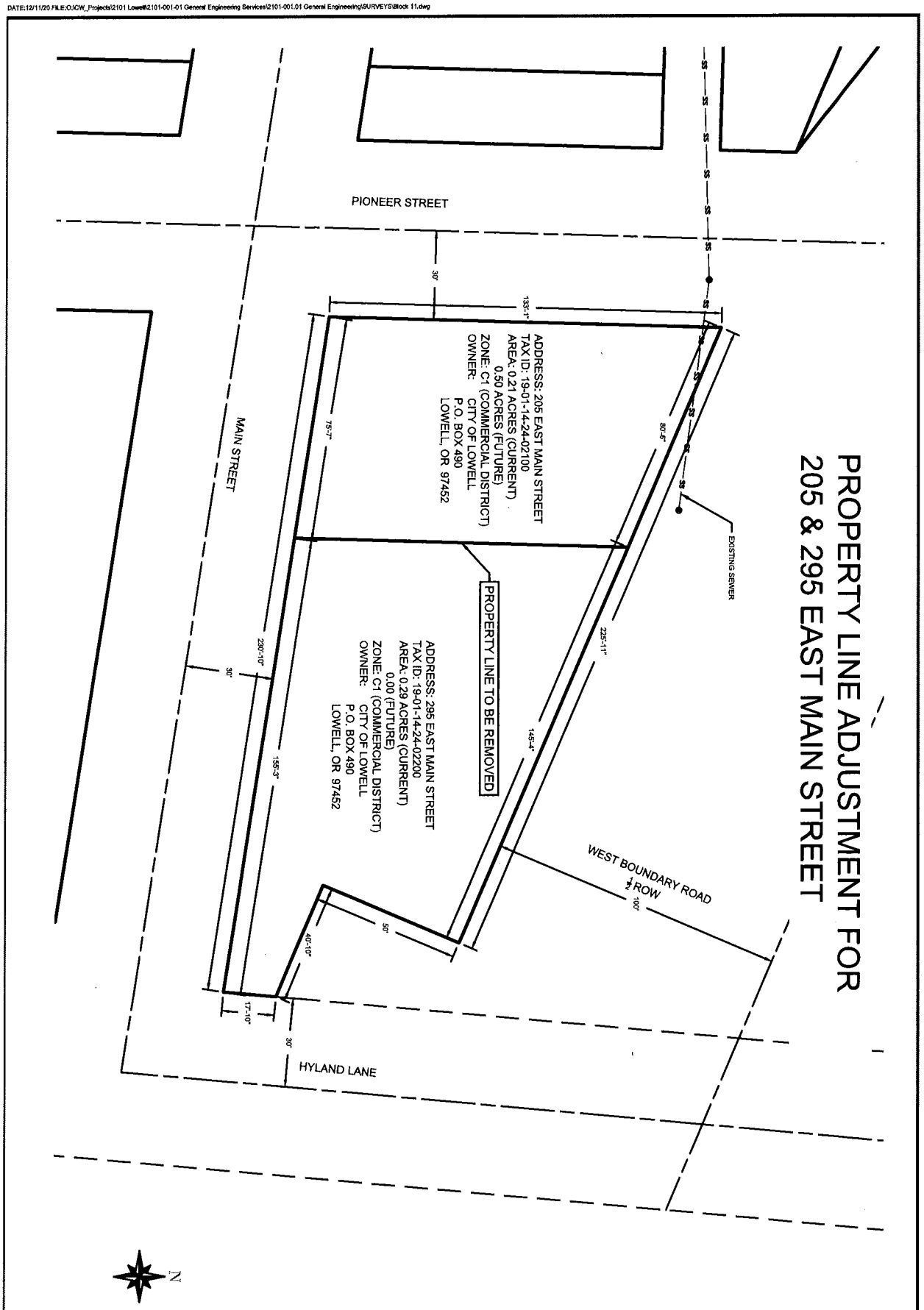


FIGURE 1	0 1" 1" = 30' DRAWN BY: MDW DATE: DECEMBER 11, 2020	205 E. MAIN ST PROPERTY LINE ADJUSTMENT	CITY OF LOWELL LANE COUNTY, OREGON	

CITY OF Lowell

Lowell City Hall
P.O. Box 490 Lowell, OR 97452
Phone: 541-937-2157
Email: info@ci.lowell.or.us

TO: City of Lowell Planning Commission

FROM: Marsha Miller, Interim City Administrator

DATE: December 17, 2020

SUBJECT: Applicant's Statement for a Land Use Permit for a Property Line Adjustment

In September of this year, the City of Lowell purchased two properties on Main Street in the designated Downtown area. One lot, 205 E Main Street, is currently occupied with a single-family dwelling. The other lot, 295 E Main Street, is vacant.

The Downtown Master Plan created a vision for the downtown area that includes this property. The plan envisions a combination of city offices, a diversity of homes, public parks, multi-story buildings, commercial and mixed uses in the downtown area. The City purchased the two properties with the intent to sell the property for future commercial or mixed-use development in order to implement the strategies laid out in the Downtown Master Plan.

The City is seeking a property line adjustment to remove the lot line between the properties. Removal of this lot line will create a larger parcel that can better accommodate the type of development the City is promoting for this area.

Lane County recently secured a Safe Routes to School (SRTS) Grant on behalf of the City to construct sidewalks and a pedestrian refuge island surrounding this property. The sidewalk improvements in the area will expand pedestrian connectivity for students and people walking downtown. A copy of the plan area is included in the application packet.

The request for this property line adjustment is in compliance with the requirements in Lowell Code Section 9.213 Decision criteria.

a. The adjustment will not create an additional unit of land. This adjustment will combine two units of land.
b. The adjustment will not create a land-locked parcel. It will not.
c. The existing unit of land reduced in size by the adjustment complies with applicable City Ordinances and this Code and will not create a non-conforming lot or non-conforming development. This is not applicable as there is no reduction of size of either parcel.
d. The adjustment shall comply with any previous conditions of approval attached to the properties to be adjusted. There are no previous conditions of approval attached to either of these parcels. There is an existing sewer line on the NW corner of lot 2100 that will not be affected by this adjustment.

e. The adjustment shall comply with all state and county recording requirements. If approved, the City will file with the County Clerk all required documents in accordance with ORS 92.190.

Typically the decision process for a lot line adjustment includes consideration and approval by the City Administrator. Since this application is submitted on behalf of the City of Lowell by the City Administrator, a Planning Commission review and consideration is appropriate.

Thank you for your review of this request.

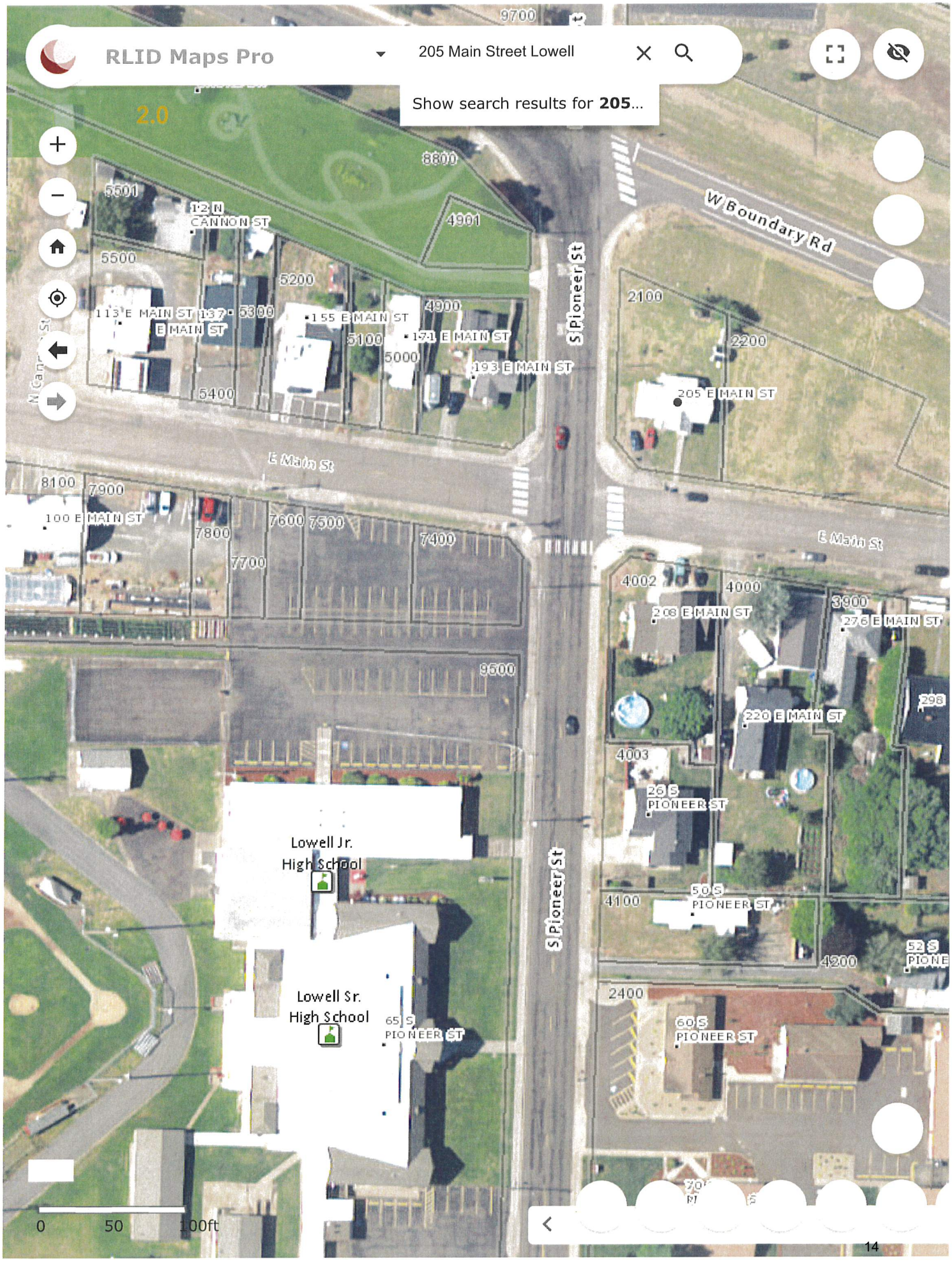
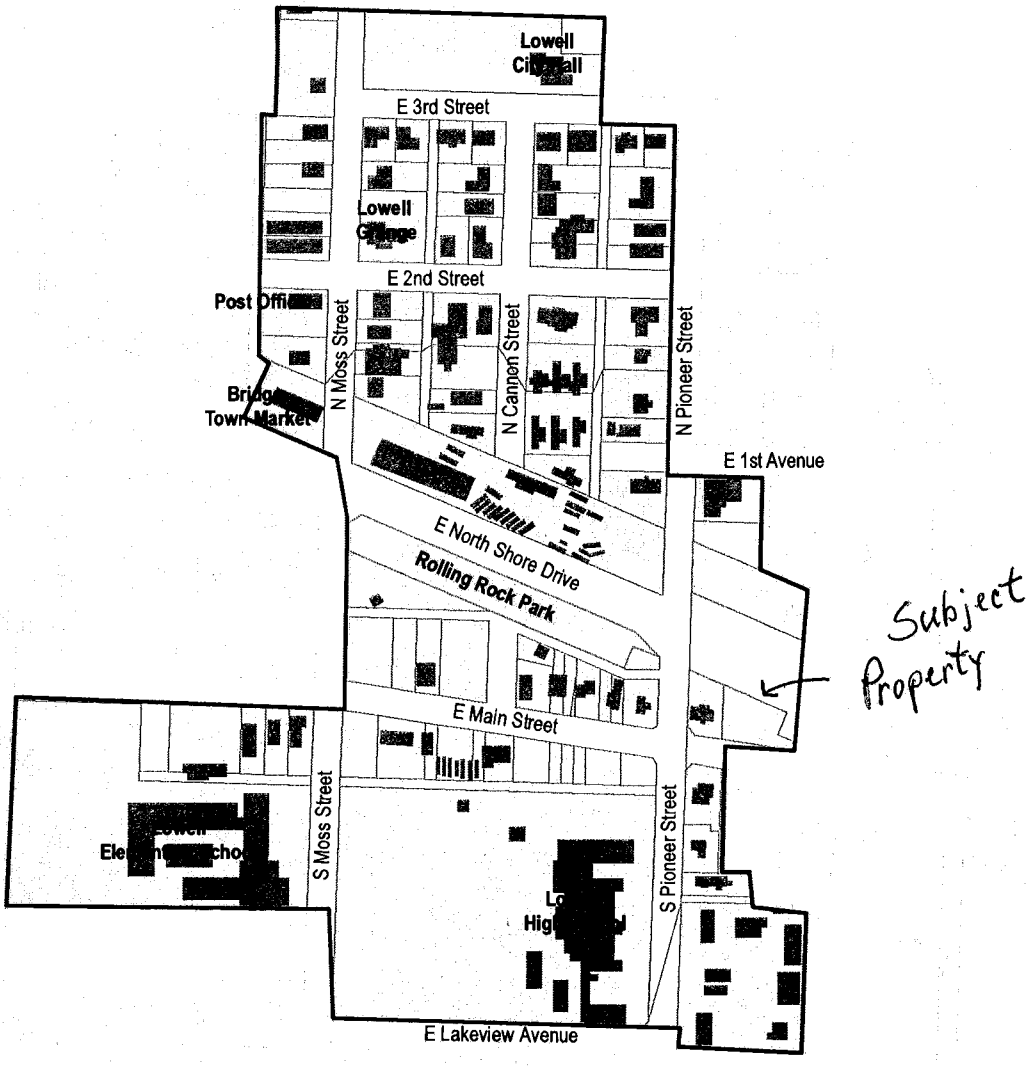

RLID Maps Pro
205 Main Street Lowell
Show search results for 205...
9700
8800
5501
112 N CANNON ST
4901
5500
5200
5300
4900
113 E MAIN ST
137 E MAIN ST
155 E MAIN ST
171 E MAIN ST
5100
5000
193 E MAIN ST
5400
205 E MAIN ST
2100
2200
W Boundary Rd
S Pioneer St
E Main St
8100
7900
100 E MAIN ST
7800
7600
7500
7400
7700
4002
4000
208 E MAIN ST
3900
276 E MAIN ST
9500
220 E MAIN ST
298
4003
26 S PIONEER ST
Lowell Jr. High School
Lowell Sr. High School
65 S PIONEER ST
50 S PIONEER ST
4100
4200
52 S PIONE
2400
60 S PIONEER ST
0
50
100ft

Figure 1. City of Lowell, Downtown Study Area



G:\MapRequests\Becky_Taylor\Lowell\Lowell_STRS.mxd

Potential SRTS Grant
School
Taxlot
Road

N

0 100 200 Feet

Potential SRTS Grant
City of Lowell

Lane County, Oregon

8/6/2020

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.

N/A Yards, open space and landscaping.

N/A Walls and fences: location, height and materials.

N/A Off-street parking: location, number of spaces, dimensions of parking area and internal circulation patterns.

N/A Access: pedestrian, vehicular, service, points of ingress and egress.

N/A Signs: location, size, height and means of illumination.

N/A Loading: location, dimension, number of spaces, internal circulation.

N/A Lighting: location and general nature, hooding devices.

N/A Street dedication and improvements.

N/A 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.

N/A The number of people that will occupy the site including family members, employees or customers.

N/A The number of generated trips per day from each mode of travel by type: employees, customers, shipping, receiving, etc.

N/A Time of operation, where appropriate. Including hours of operation, days of the week and number of work shifts.

N/A 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.

N/A 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.