



TUALATIN CITY COUNCIL

Monday, January 25, 2016

JUANITA POHL CENTER

8513 SW Tualatin Road

Tualatin, OR 97062

WORK SESSION begins at 6:00 p.m.
BUSINESS MEETING begins at 7:00 p.m.

Mayor Lou Ogden

Council President Monique Beikman

Councilor Wade Brooksby Councilor Frank Bubenik
Councilor Joelle Davis Councilor Nancy Grimes
Councilor Ed Truax

Welcome! By your presence in the City Council Chambers, you are participating in the process of representative government. To encourage that participation, the City Council has specified a time for your comments on its agenda, following Announcements, at which time citizens may address the Council concerning any item not on the agenda or to request to have an item removed from the consent agenda. If you wish to speak on a item already on the agenda, comment will be taken during that item. Please fill out a Speaker Request Form and submit it to the Recording Secretary. You will be called forward during the appropriate time; each speaker will be limited to three minutes, unless the time limit is extended by the Mayor with the consent of the Council.

Copies of staff reports or other written documentation relating to each item of business referred to on this agenda are available for review on the City website at www.tualatinoregon.gov/meetings, the Library located at 18878 SW Martinazzi Avenue, and on file in the Office of the City Manager for public inspection. Any person with a question concerning any agenda item may call Administration at 503.691.3011 to make an inquiry concerning the nature of the item described on the agenda.

In compliance with the Americans With Disabilities Act, if you need special assistance to participate in this meeting, you should contact Administration at 503.691.3011. Notification thirty-six (36) hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to this meeting.

Council meetings are televised *live* the day of the meeting through Washington County Cable Access Channel 28. The replay schedule for Council meetings can be found at www.tvctv.org. Council meetings can also be viewed by live *streaming video* on the day of the meeting at www.tualatinoregon.gov/meetings.

Your City government welcomes your interest and hopes you will attend the City of Tualatin Council meetings often.

PROCESS FOR LEGISLATIVE PUBLIC HEARINGS

A **legislative** public hearing is typically held on matters which affect the general welfare of the entire City rather than a specific piece of property.

1. Mayor opens the public hearing and identifies the subject.
2. A staff member presents the staff report.
3. Public testimony is taken.
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When the Council has finished questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *deny*, or *continue* the public hearing.

PROCESS FOR QUASI-JUDICIAL PUBLIC HEARINGS

A **quasi-judicial** public hearing is typically held for annexations, planning district changes, conditional use permits, comprehensive plan changes, and appeals from subdivisions, partitions and architectural review.

1. Mayor opens the public hearing and identifies the case to be considered.
2. A staff member presents the staff report.
3. Public testimony is taken:
 - a) In support of the application
 - b) In opposition or neutral
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When Council has finished its questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *approve with conditions*, or *deny the application*, or *continue* the public hearing.

TIME LIMITS FOR PUBLIC HEARINGS

The purpose of time limits on public hearing testimony is to provide all interested persons with an adequate opportunity to present and respond to testimony. All persons providing testimony **shall be limited to 3 minutes**, subject to the right of the Mayor to amend or waive the time limits.

EXECUTIVE SESSION INFORMATION

An Executive Session is a meeting of the City Council that is closed to the public to allow the City Council to discuss certain confidential matters. An Executive Session may be conducted as a separate meeting or as a portion of the regular Council meeting. No final decisions or actions may be made in Executive Session. In many, but not all, circumstances, members of the news media may attend an Executive Session.

The City Council may go into Executive Session for certain reasons specified by Oregon law. These reasons include, but are not limited to: ORS 192.660(2)(a) employment of personnel; ORS 192.660(2)(b) dismissal or discipline of personnel; ORS 192.660(2)(d) labor relations; ORS 192.660(2)(e) real property transactions; ORS 192.660(2)(f) information or records exempt by law from public inspection; ORS 192.660(2)(h) current litigation or litigation likely to be filed; and ORS 192.660(2)(i) employee performance of chief executive officer.



OFFICIAL AGENDA OF THE TUALATIN CITY COUNCIL MEETING FOR January 25, 2016

A. CALL TO ORDER

Pledge of Allegiance

B. CITIZEN COMMENTS

This section of the agenda allows anyone to address the Council regarding any issue not on the agenda, or to request to have an item removed from the consent agenda. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.

C. CONSENT AGENDA

The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda. The matters removed from the Consent Agenda will be considered individually at the end of this Agenda under, Items Removed from the Consent Agenda. The entire Consent Agenda, with the exception of items removed from the Consent Agenda to be discussed, is then voted upon by roll call under one motion.

1. Consideration of Approval of the Minutes for the Regular City Council Meeting of January 11, 2016

D. PUBLIC HEARINGS – Quasi-Judicial

1. Request for Review of SB15-0002, Sagert Farm Subdivision land use decision located at 20130 SW 65th Avenue.

E. ITEMS REMOVED FROM CONSENT AGENDA

Items removed from the Consent Agenda will be discussed individually at this time. The Mayor may impose a time limit on speakers addressing these issues.

F. COMMUNICATIONS FROM COUNCILORS

G. ADJOURNMENT



STAFF REPORT

CITY OF TUALATIN

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Nicole Morris, Deputy City Recorder

DATE: 01/25/2016

SUBJECT: Consideration of Approval of the Minutes for the Regular City Council Meeting of January 11, 2016

ISSUE BEFORE THE COUNCIL:

The issue before the Council is to approve the minutes for the Regular City Council Meeting of January 11, 2016.

RECOMMENDATION:

Staff respectfully recommends that the Council adopt the attached minutes.

Attachments: [City Council Meeting Minutes of January 11, 2016](#)



OFFICIAL MINUTES OF THE TUALATIN CITY COUNCIL MEETING FOR JANUARY 11, 2016

Present: Mayor Lou Ogden; Councilor Wade Brooksby; Councilor Frank Bubenik; Councilor Ed Truax

Absent: Council President Monique Beikman; Councilor Joelle Davis; Councilor Nancy Grimes

Staff Present: City Manager Sherilyn Lombos; City Attorney Sean Brady; Police Chief Kent Barker; Finance Director Don Hudson; Deputy City Recorder Nicole Morris; Information Services Manager Lance Harris; Teen Program Specialist Julie Ludemann; Assistant City Manager Alice Cannon; Library Manager Jerianne Thompson; Public Works Director Jerry Postema

A. Pledge of Allegiance

B. ANNOUNCEMENTS

1. Update on the Tualatin Youth Advisory Council's Activities for January 2016

Members of the Youth Advisory Council (YAC) presented a PowerPoint on their latest activities and upcoming events. The YAC has four goals they are working towards: 1) Advise City Council on issues that affect youth. 2) Provide primary communication link for youth to government. 3) Identify and advocate for the needs of youth. 4) Carry out events and activities for youth. YAC is currently planning for Project FRIENDS, a day long anti-bullying workshop for Tualatin 5th graders.

2. New Employee Introduction- Police Officer Daniel Hernandez

Police Chief Kent Barker introduced Police Officer Daniel Hernandez. The Council welcomed him.

3. New Employee Introduction- Police Officer Jacob Smith

Police Chief Kent Barker introduced Police Office Jacob Smith. The Council welcomed him.

4. New Employee Introduction- Economic Development Manager Melinda Anderson

Assistant City Manager Alice Canon introduced Economic Development Manager Melinda Anderson. The Council welcomed her.

5. New Employee Introduction- Assistant to the City Manager Tanya Williams

City Manager Sherilyn Lombos introduced Assistant to the City Manager Tanya Williams. The Council welcomed her.

C. CITIZEN COMMENTS

This section of the agenda allows anyone to address the Council regarding any issue not on the agenda, or to request to have an item removed from the consent agenda. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.

None.

D. CALL TO ORDER

Councilor Brooksby joined the meeting via phone.

Mayor Ogden called the meeting to order at 7:17 p.m.

E. CONSENT AGENDA

The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda. The matters removed from the Consent Agenda will be considered individually at the end of this Agenda under, Items Removed from the Consent Agenda. The entire Consent Agenda, with the exception of items removed from the Consent Agenda to be discussed, is then voted upon by roll call under one motion.

MOTION by Councilor Ed Truax, SECONDED by Councilor Frank Bubenik to approve the consent agenda.

Aye: Mayor Lou Ogden, Councilor Wade Brooksby, Councilor Frank Bubenik, Councilor Ed Truax

Other: Council President Monique Beikman (Absent), Councilor Joelle Davis (Absent), Councilor Nancy Grimes (Absent)

MOTION CARRIED

1. Consideration of Approval of the Minutes for the City Council Work Session and Regular Meeting of December 14, 2015
2. Consideration of Approval of a New Liquor License Application for Ugly Fish
3. Consideration of **Resolution No. 5261-15** to Establish the City of Tualatin Water Supply Shortage Curtailment Plan

F. ITEMS REMOVED FROM CONSENT AGENDA

Items removed from the Consent Agenda will be discussed individually at this time. The Mayor may impose a time limit on speakers addressing these issues.

G. COMMUNICATIONS FROM COUNCILORS

Councilor Bubenik thanked the Commercial Citizen Involvement Organization (CCIO) for holding the Map Your Neighborhood class.

H. ADJOURNMENT

Mayor Ogden adjourned the meeting at 7:20 p.m.

Sherilyn Lombos, City Manager

_____ / Nicole Morris, Recording Secretary

_____ / Lou Ogden, Mayor



STAFF REPORT

CITY OF TUALATIN

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Tony Doran, Engineering Associate
Jeff Fuchs, City Engineer

DATE: 01/25/2016

SUBJECT: Request for Review of SB15-0002, Sagert Farm Subdivision land use decision located at 20130 SW 65th Avenue.

ISSUE BEFORE THE COUNCIL:

A hearing before the City Council for consideration of approval of SB15-0002, Sagert Farm subdivision. The Subdivision Review Findings and Decision SB15-0002 was proposed by staff with conditions on December 3, 2015. On December 16, 2015, a Request for Review was received from Brittany Ruedlinger of Folawn Alterman & Richardson LLP on behalf of the Tualatin Professional Center Condominium Association.

RECOMMENDATION:

Staff requests that City Council consider the staff report and attachments, which include:

- Application Submittal attachments 101A-S
- Issued Decision attachments 102A-D
- Request for Review attachment 103
- Applicant's Response to Request for Review attachment 104
- Applicant's Materials for the Request for Review attachments 105A-E

Staff recommends that the City Council approve the SB15-0002, Sagert Farm with the recommended conditions of approval imposed. Staff finds City Council approval is supported by the findings of this report and on the supporting materials and information cited in the findings.

EXECUTIVE SUMMARY:

This is a quasi-judicial hearing before Council to consider approving SB15-0002, Sagert Farm subdivision, under the Evidentiary Hearing procedures in TDC 31.077. To approve the Sagert Farm subdivision, Council must find that the subdivision meets the subdivision criteria with or without imposing conditions. The applicable subdivision criteria used to evaluate the subdivision application are listed in Attachment 102A and are discussed more fully in that document.

Council may rely on the evidence submitted into the record at the evidentiary hearing, including

documents and testimony.

SB15-0002, Sagert Farm is a residential subdivision located at 20130 SW 65th Avenue, consisting of 20.9 acres on tax lots 21E30B 00300 and 00600 with the division resulting in 79 lots with supporting tracts and public streets. The subdivision approval includes public improvements, including: property dedication and construction of the Saum Creek Trail through the southern extent of the property and connecting to Sequoia Ridge subdivision; a shared use path along 65th Avenue; intersection improvements and a new traffic signal at the 65th Avenue and Sagert Street intersection; signal timing coordinated with the Borland Road signal to improve traffic flow; protection of existing Sequoia trees on the northeast corner of the development, including dedication of property; bike lane improvements on 65th Avenue adjacent to Atfalti Park; and removal of the existing Sequoia Ridge pump station and construction of a gravity sewer to serve that development as well as Sagert Farm.

The application was submitted June 4, 2015 and deemed complete on September 14, 2015. The 14 day comment period ended October 1, 2015.

Eight public comments were received during the 14-day comment period, including one from Brittany Ruedlinger of Folawn Alterman & Richardson LLP on behalf of the Tualatin Professional Center Condominium Association (hereafter TPC). Staff and the Applicant responded to all comments and incorporated the comments into the subdivision decision where appropriate. In addition the Applicant and City staff worked with other people who submitted comments, including five nearby homeowners, to address their concerns.

In addition to neighborhood meetings on December 5, 2013, May 20, 2014, and February 18, 2015 where TPC representatives were present, the Applicant met with TPC on May 23, 2014 and February 20, 2015 as they prepared their subdivision application. The Applicant provided multiple layouts for the proposed Sagert Street improvements to TPC in an effort to balance public safety standards and TPC's continued access. TPC rejected all proposed layouts developed by the Applicant and the Applicant's engineer.

The subdivision approval was issued on December 3, 2015. The 14 day appeal period ended December 17, 2015.

On December 3, 2015, the City Engineer proposed the subdivision decision with conditions. On December 16, 2015, the TPC filed a Request for Review to submit the matter to Council.

REQUEST FOR REVIEW

The Request for Review (Attachment 103) submitted by TPC challenges the Conditions of Approval No. 16 and 48 of the City Engineer's decision, which required improvements to Sagert Street within the existing City's right-of-way. TPC claims the condition to construct the improvements to Sagert Street violate the Access Management standards in TDC Chapter 75 and specifically TDC 75.140. TPC claims TDC Chapter 75 is violated because the Sagert Street improvements would impact the private driveway improvements that TPC installed within the City's right-of-way.

The proposed subdivision meets the land use requirements for the applicable criteria, with certain conditions imposed, as described in Attachment 102A. The issues raised by TPC are not grounds for denying the subdivision decision or for modifying any recommended conditions, because TPC's requested change is inconsistent with City code.

The Applicant has provided a response to points raised in the Request for Review in Attachment 104.

In the Discussion section below, Staff provides responses to the claims made in the Request for Review.

TIMING:

Under ORS 227.178, State land use rules require a decision to be made within 120-days after the application is deemed complete by the City.

The application was deemed complete on September 14, 2015. The original 120th day was January 12, 2016. To allow the City time to process the appeal and prepare for the hearing before Council, the applicant extended the 120-day review period by a total of 29 days, which makes the 120th day **February 13, 2016**.

Background regarding TPC Driveway Improvements within City Right-of-Way

In 1984, TPC sought to develop its property. One of the requirements for this development was to construct improvements on 65th Avenue and Sagert Street. Rather than requiring construction, the City allowed TPC to provide what is known as a “fee-in-lieu.” TPC paid \$15,613.95 to the City and in exchange the City allowed the development to proceed without making the improvements to 65th Avenue and Sagert Street.

In addition, the City allowed TPC to construct temporary driveway improvements within the City’s right-of-way. Section 11 of the original Agreement (Attachment 101J) explicitly provides: “*The DEVELOPER agrees that the driveway improvement to S.W. Sagert Street are temporary in nature and agrees to maintain said driveway improvements at his [sic] expense.*” The Agreement had a five year term that ended in 1989.

After 1989, the driveway improvements were no longer subject to the agreement. By City code, Council action through consideration of a revocable permit is required before a private improvement is allowed to encroach within City right-of-way. No record exists of the City Council granting a revocable permit or any other type of permission to TPC to allow their private driveway improvements to be located within the City’s right-of-way. As a result, for almost 30 years TPC has used the City’s right-of-way for the private driveway improvements without any legal basis to do so.

STAFF RESPONSE

In their Request for Review, TPC claims the Sagert Street improvements proposed should not be constructed because the public improvements impact the TPC driveway, which TPC constructed within the City’s right-of-way. TPC claims the subdivision decision violates the Access Management provisions in TDC Chapter 75; and specifically Section 75.140.

TDC Chapter 75.140

TPC claims the subdivision decision violates TDC 75.140, which provides:

Section 75.140 Access Management for Collectors.

(a) Major Collectors. Direct access from newly constructed single family homes, duplexes or triplexes shall not be permitted. As major collectors in residential areas are fully improved, or adjacent land redevelops, direct access should be relocated to the nearest local street where feasible.

(b) Minor Collectors. Residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available.

(c) If access is not able to be relocated to the nearest local street, the City Engineer may allow interim access in accordance with 75.090 of this chapter to provide for the eventual implementation of the overall access plan.

Sagert Street is a minor collector and as such, subsection 75.140(b) applies.

TPC claims the subdivision decision violates subsection 75.140(b) because their development has more than 70 feet of frontage and this prevents the City from requiring the Developer to improve Sagert Street within existing right-of-way. This allegation misapplies the law and misapplies the facts.

First, the land use criterion applies to the subdivision, not to TPC's encroachment on City right-of-way. Applying the proper criterion to the proper subject, the subdivision complies with TDC 75.140 because Sagert Farm's lots are not taking any direct access from the collector. (See the Site Plans in Attachment 101B).

Second, TDC 75.140 simply allows direct access to minor collector streets, which Sagert Street is, if the abutting property has 70 or more feet of frontage. TPC has 230 feet of frontage and will retain their driveway access from Sagert Street to their site. The proposed subdivision application with the proposed conditions, maintains two existing driveways for access to two parking lots that serve TPC. In order to ensure the safety of all traveling public, the eastern driveway would be for only right-in / right-out movements. To improve safety, left turns into or out of the driveway would be prohibited by a raised median on Sagert Street as allowed by TDC 75.060.

TPC's Request for Review also makes reference to consolidating joint driveways. TDC 75.130 requires joint driveways for multiple properties when appropriate driveway spacing cannot be accomplished, consistent with the access control goals of Chapter 75. This reference does not apply to this situation because the term "joint access" as used in TDC Chapter 75 refers to an access or driveway shared by multiple properties. In the case of TPC, the Appellant appears to be using joint access to refer to consolidating two accesses on one property. Further, TPC was developed with two driveways to each of their two parking lots because the parking lots are not connected on site due to elevation differences between the lots and the configuration of buildings on the site.

Finally, TPC's driveway improvements, which encroach on City right-of-way, are blocking the City's use and expansion of Sagert Street. TPC has no legal right to locate their driveway improvements within the City's right-of-way. Furthermore, TPC has known since 1984 that the driveway improvements are temporary and similarly knew the City's intent to expand Sagert Street west from 65th Avenue within the existing right-of-way. TPC dedicated the Sagert Street right-of-way as part of the development of its property over 30 years ago, so Sagert Street could

ultimately be extended. Moreover, TPC is still allowed both of its current driveways onto Sagert Street and has two other driveways off of Borland Road. TPC's access is not restricted at all and there is no violation of TDC Chapter 75.

TPC's Proposed Alignment is Less Safe

In their Request for Review, TPC claims the subdivision approval violates the goals stated in TDC Chapter 75 and in the City's Transportation System Plan. TPC's request proposed shifting Sagert Street south "a few feet" to allow TPC's encroachments to remain.

As specifically provided in the Finding of the Subdivision Decision (Attachment 102A), the subdivision decision and specifically the proposed improvements to Sagert Street comply with Chapter 75 by providing "*safe, convenient and economic transportation systems and to preserve the safety and capacity of the street system by limiting conflicts resulting from uncontrolled driveway access, street intersections, and turning movements while providing for appropriate access for all properties.*"

The changes to Sagert Street proposed by TPC would result in less public access and safety when compared to the recommended subdivision condition of approval No. 16 and 48.

The changes requested by TPC do not provide a safer facility for people accessing TPC or for other users on the public roadways. In fact, the design change proposed by TPC would result in a roadway section on Sagert Street that does not meet current standards for minor collectors and does not provide access for all roadway users.

In order to accommodate TPC's proposed changes, Sagert would need to be constructed with minimum width lanes for westbound and eastbound left-turn lanes, without a westbound bicycle lane, without a planter strip on the north side of the street, and it would require vacation of City right-of-way or the City would have to accept a misaligned intersection at Sagert Street and 65th, which would potentially jeopardize the safety of people using that busy intersection. In an effort to reduce impacts to TPC in the proposed subdivision approval, the City is already accepting a street section with minimum lane width and no planter strips near the intersection. However, the proposal in the subdivision approval does include bike lanes and provide full accommodation for all roadway users.

The proposed change that TPC submitted was not supported by evidence from a professional engineer that the proposed design changes are safe or consistent with established roadway design standards. In order to determine the affect of TPC's proposed changes, the Applicant's engineer prepared engineered drawings showing how the proposed change could be accommodated.

The request by TPC to "*shift the location of Sagert Street a few feet south to accommodate the construction of an access route between TPC's east and west parking lots*" is not possible if Sagert is to be built to the City's minimum design standards for a minor collector.

Shifting the location of Sagert Street south a few feet is not easy to accomplish. The center line of the intersection is effectively fixed by the western leg of the intersection that abuts Affalti Park. Safe alignment of the intersection includes aligning opposing legs of the intersection and avoiding offset lanes. Shifting the eastern leg of the intersection south would require the western leg to also be shifted south. Shifting the whole roadway south adjacent to TPC would require shifting the roadway south into the Park. Tualatin's charter, TMC CHAPTER XI

Protection of City Owned Parks and Open Spaces, requires that vacations and major change in use of Tualatin park property for non-park uses requires a vote and approval by Tualatin's registered voters.

Recommended Condition of Approval No. 16 and 48 Provides the safest alignment.

Recommended Condition of Approval No. 16 and 48 will provide the safest configuration for all roadway users and will not "*potentially endanger visitors to TPC*", as claimed by the Appellant.

TDC chapter 75 accomplishes the City's stated goals of providing safe, convenient and economic transportation systems by regulating the locations of driveways relative to intersections and other driveways, by limiting driveway access to certain roadway classifications, and by allowing safety provisions such as medians to restrict access to right-in / right-out only configurations. Driveway access is subservient to the primary rights of the public to the free use of the streets for the purposes of travel and other incidental purposes.

The proposed preliminary plat, with the proposed conditions, meets the requirements of TDC 75.120(b), which requires extension of Sagert Street to the east when development occurs. While the Transportation System Plan (TSP) is not a criteria used for making land-use decisions, the Sagert Street alignment that was proposed with the Sagert Farm subdivision is consistent with the goals of the TSP to serve the needs of all roadway users, including bicyclists, pedestrians, and drivers on Sagert Street.

Condition of Approval No. 16 and 48 requires Sagert Farm Subdivision to construct the Sagert Street improvements and maintain two existing driveways for access to two parking lots that serve TPC. In order to ensure the safety of the traveling public, the eastern driveway would be configured for only right-in / right-out movements. To improve safety, left turns into or out of the driveway would be prohibited by a raised median on Sagert Street as allowed by TDC 75.060.

The existing and proposed driveway configuration for TPC meets spacing requirements between driveways and both driveways serve a single property. However, the eastern driveway is less than 150-feet from the intersection, so TDC 73.400(15)(d) and 75.060(2) allows the City to restrict turning movement to right-in / right-out only to improve safety for all roadway users.

TDC 75.060 allows such a configuration when a driveway is located too close to an intersection. The purpose of limiting turning movements to right in/right-out is to eliminate the danger from vehicles stacking into the intersection while waiting to turn left into TPC's eastern driveway.

TPC's Claim Regarding Traffic Circulation

In their Request for Review, TPC provided a figure (Attachment 103) showing one possible traffic circulation scenario that they claim could result from the proposed improvements to Sagert Street. Their claim is made in response to the proposed median that would limit access to their western driveway to right-in / right-out.

City staff and the Applicant's traffic engineer, Kittelson and Associates, do not believe the right-in / right-out restrictions to the western driveway will result in the traffic circulation described by TPC. TPC's claim focused only on the southern two driveways that access TPC's development. Their claim did not consider the two existing driveways on Borland Road or the new north south roadway (SW 61st Terrace) that will connect Sagert Street and Borland Road after it is constructed as part of the Sagert Farm subdivision.

TPC's claim is not supported by evidence from a from a traffic engineer. In order to evaluate TPC's claim, the Applicant provided Attachment 104 prepared by a professional traffic engineer from Kittelson, which shows the likely flow of traffic to TPC based on the two existing driveways on Sagert Street, two existing driveways on Borland Street, and the new local roadway (SW 61st Terrace) that will connect Sagert Street to Borland Street when this subdivision is complete.

The configuration for Sagert Street proposed with conditions 16 and 48 does not remove the eastern driveway or remove access between lots. The configuration leaves the existing driveways in their current locations and controls access to the eastern driveway to right-in /right-out because the driveway is located too close to the intersection. Prohibiting left turns (northbound) into the eastern driveway and prohibiting left turns (eastbound) out of the eastern driveway does change how some vehicles will enter or exit TPC. Vehicles that want to turn left into TPC's eastern driveway will now need to travel north on 65th Avenue, turn right on Borland Road, and turn right into TPC's eastern parking lot. Similarly, vehicles who want to turn left from the eastern driveway will now turn right on Sagert, right on 65th, right on Borland, and right into the western lot.

Based on a traffic circulation plan prepared by Kittelson and Associates (Attachment 104), there are multiple traffic circulation patterns, which are more likely to occur than the traffic circulation pattern submitted by TPC. The additional traffic circulation patterns identified by Kittelson demonstrate that trip length is not unreasonably increased for visitors to TPC; access for emergency vehicles is not impacted by the mountable curbs proposed for the channelization median at the eastern driveway; and the proposed configuration provides for safe transportation for all roadway users. The traffic circulation pattern prepared by Kittelson shows that there are multiple opportunities for people to safely access and exit TPC's parking lots.

STAFF CONCLUSION:

Staff recommends that the City Council approve the SB15-0002, Sagert Farm with the recommended conditions of approval imposed. Staff finds City Council approval is supported by the findings of this report and on the supporting materials and information cited in the findings.

OUTCOMES OF DECISION:

Approval of the SB15-0002, Sagert Farm Subdivision Review Findings and Decision with respect to the issues raised in the Request for Review will result in the following: Approval of the December 3, 2015 SB15-0002, Sagert Farm Subdivision Review Findings and Decision, subject to the original conditions imposed.

ALTERNATIVES TO RECOMMENDATION:

The alternatives for City Council are: Council approves the Decision with conditions originally imposed. Council can modify the proposed conditions. Council can deny the request.

FINANCIAL IMPLICATIONS:

The appellant submitted the required \$145 fee with the Request for Review for SB15-0002.

Attachments: [101A Subdivision Application](#)
[101B Preliminary Land Use Plans](#)
[101C Narrative](#)
[101D Preliminary Title Report](#)
[101E Neighborhood Mailing](#)
[101F Neighborhood Meeting May 2014](#)
[101G Neighborhood Meeting December 2014](#)
[101H Neighborhood Meeting January 2015](#)
[101I Tualatin Professional Center Meeting Minutes](#)
[101J Tualatin Professional Center Sagert St ClackCo Recorded Document 84-16656-7](#)
[101K MEI Building Meeting Minutes](#)
[101L PGE Meeting Notes](#)
[101M Arborist Report](#)
[101N Traffic Study With Borland Access Update Memorandum](#)
[101O Clackamas County Modification Request Submittal - Borland](#)
[101P Clackamas County Modification Request Submittal - Sagert & 65th Modification](#)
[101Q Geotechnical Report Addendum](#)
[101R Stormwater Report](#)
[101S Clean Water Services' Service Provider Letter](#)
[102A SB15-0002 Sagert Farm Issued Decision](#)
[102B Tualatin - Sagert Farm Subdivision - Water Hydraulic Analysis 7-15 FINAL](#)
[102C Agency Requirements](#)
[102D Citizen Comments With Developers Response](#)
[103 Request For Review](#)
[104 Applicant's Response](#)
[105A Lennar Hearing Memo](#)
[105B ClackCo Recorded Document 84-16656-7](#)
[105C LP 83-01 Documents](#)
[105D SW 65TH AVE ROADWAY AND DRAINAGE IMPROVEMENTS](#)
[105E ARB 83-06](#)



CITY OF TUALATIN
 18880 SW Martinazzi Ave
 Tualatin, OR 97062-7092
 Phone: (503) 692-2000
 Fax: (503) 692-0147

**DEVELOPMENT APPLICATION:
 SUBDIVISION/PARTITION/
 PROPERTY LINE ADJUSTMENT**

Application for: Subdivision Partition Property Line Adjustment

Project Address: 20130 SW 65th AVE. Planning District: _____

Project Tax Map Number: 21E30B Tax Lot Number(s): 300, 600

Property Owner(s): Sagert Family, LLC Attn. John Pinkstaff, Esq. Lane Powell PC

Property Owner's Address: 601 SW Second Avenue, Suite 210 Portland, OR 97204

Owner's Phone Number: (503) 788-2186 Fax Number: _____

Owner's Email Address: pinkstaff@lanepowell.com

Owner's Signature: *Herald E. Sagert* Date: 6/1/15

Owner's Signature: _____ Date: _____

Owner's Signature: _____

Applicant's Name: Lennar Northwest, Inc C/O Mike Loomis

Applicant's Address: 11807 NE 99th St. Suite 1170, Vancouver, WA 98682

Applicant's Phone Number: (360) 258-7900 Fax Number: _____

Applicant's Email Address: mike.loomis@lennar.com

Applicant's Signature: _____ Date: _____

Consultant's Name: Andrew Tull

Consultant's Company: 3J Consulting, Inc.

Consultant's Address: 5075 SW Griffith Drive, Suite 150

Consultant's Phone Number: (503) 545-1907 Fax Number: _____

Consultant's Email Address: andrew.tull@3j-consulting.com

Direct Communication to: Owner Applicant Consultant

Existing Use: Single Family Residential Proposed Use: Single Family Residential

Total Acreage: 20.9 acres No. of Lots/Parcels: 79

Average Lot/Parcel Width: 61.5 FT Average Lot/Parcel Area: 6,506 SF

Subdivision Name (if applicable): Sagert Farms

Receipt Number: _____ Fee: \$ _____ Job Number: _____

By: _____ Date: _____



CITY OF TUALATIN
 1888o SW Martinazzi Ave
 Tualatin, OR 97062-7092
 Phone: (503) 692-2000
 Fax: (503) 692-0147

**DEVELOPMENT APPLICATION:
 SUBDIVISION/PARTITION/
 PROPERTY LINE ADJUSTMENT**

Application for: Subdivision Partition Property Line Adjustment

Project Address: 20130 SW 65th AVE. Planning District: _____

Project Tax Map Number: 21E30B Tax Lot Number(s): 300, 600

Property Owner(s): Sagert Family, LLC Attn. John Pinkstaff, Esq. Lane Powell PC

Property Owner's Address: 601 SW Second Avenue, Suite 210 Portland, OR 97204

Owner's Phone Number: (503) 788-2186 Fax Number: _____

Owner's Email Address: pinkstaff@lanepowell.com

Owner's Signature: _____ Date: _____

Owner's Signature: _____ Date: _____

Owner's Signature: _____

Applicant's Name: Lennar Northwest, Inc C/O Mike Loomis

Applicant's Address: 11807 NE 99th St. Suite 1170, Vancouver, WA 98682

Applicant's Phone Number: (360) 258-7900 Fax Number: _____

Applicant's Email Address: mike.loomis@lennar.com

Applicant's Signature:  DIRECTOR LAND DEVELOPMENT Date: 6/2/15

Consultant's Name: Andrew Tull

Consultant's Company: 3J Consulting, Inc.

Consultant's Address: 5075 SW Griffith Drive, Suite 150

Consultant's Phone Number: (503) 545-1907 Fax Number: _____

Consultant's Email Address: andrew.tull@3j-consulting.com

Direct Communication to: Owner Applicant Consultant

Existing Use: Single Family Residential Proposed Use: Single Family Residential

Total Acreage: 20.9 acres No. of Lots/Parcels: 79

Average Lot/Parcel Width: 61.5 FT Average Lot/Parcel Area: 6,506 SF

Subdivision Name (if applicable): Sagert Farms

Receipt Number: _____ Fee: \$ _____ Job Number: _____

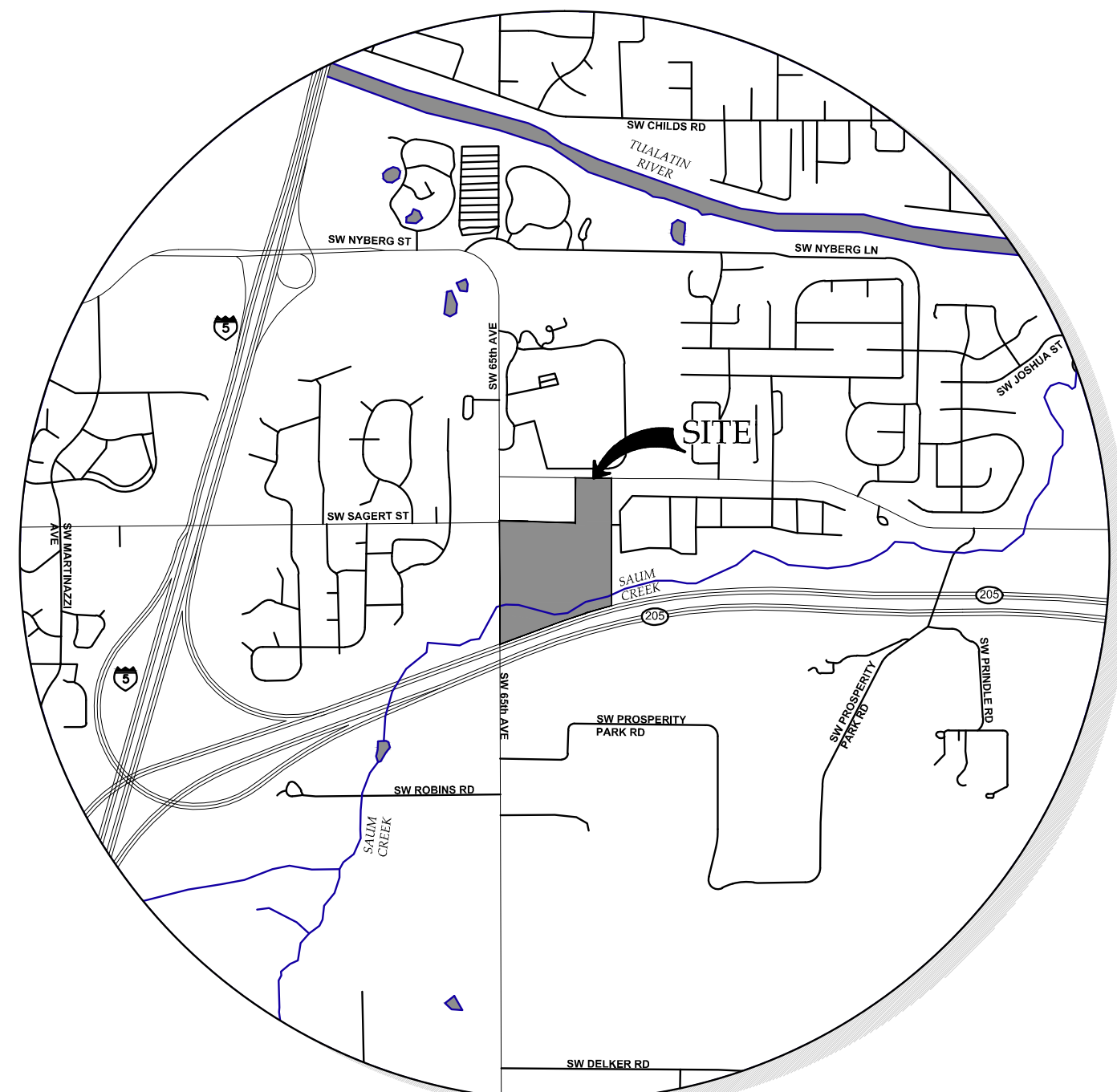
By: _____ Date: _____

TYPE II LAND USE DOCUMENTS

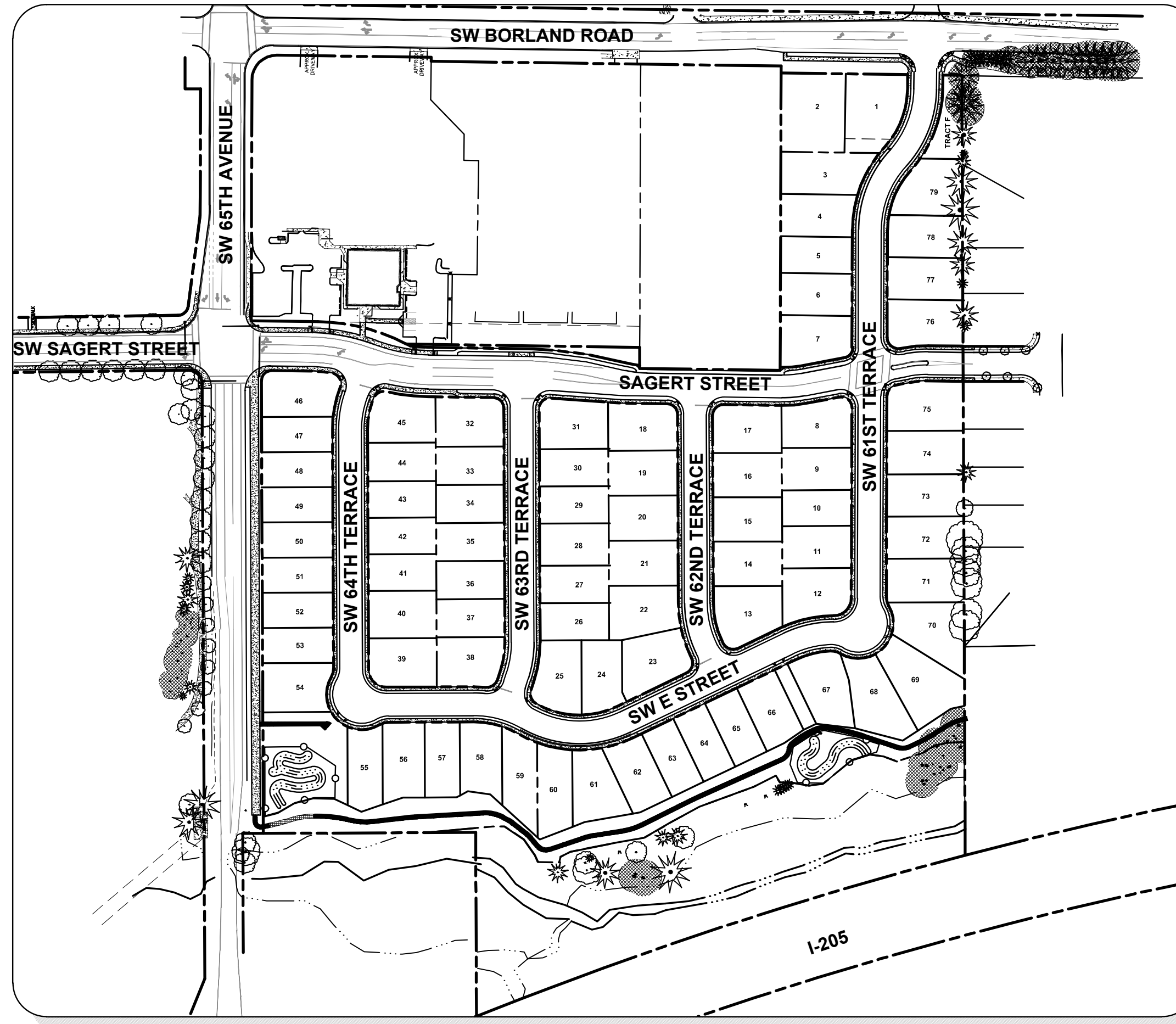
FOR

SAGERT FARM SUBDIVISION

PREPARED FOR
LENNAR NORTHWEST INC.



VICINITY MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

PARCEL 1, PARTITION PLAT NO. 2005-121
LOCATED IN THE NE 1/4 OF THE NW 1/4 OF SECTION 4, T.2S., R.1E., W.M.
CLACKAMAS COUNTY, OREGON

SHEET LIST

CS	COVER SHEET
C010	OVERALL TENTATIVE PLAT
C011	TENTATIVE PLAT I
C012	TENTATIVE PLAT II
C013	TENTATIVE PLAT III
C014	TENTATIVE PLAT IV
C015	CIRCULATION PLAN
C100	OVERALL EXISTING CONDITIONS
C101	EXISTING CONDITIONS PLAN I
C102	EXISTING CONDITIONS PLAN II
C103	EXISTING CONDITIONS PLAN III
C104	EXISTING CONDITIONS PLAN IV
C105	TREE PROTECTION & REMOVAL I
C106	TREE PROTECTION & REMOVAL II
C107	TREE PROTECTION & REMOVAL III
C108	TREE PROTECTION AND REMOVAL IV
C109	TREE PROTECTION AND REMOVAL V
C111	DEMOLITION PLAN I
C112	DEMOLITION PLAN II
C113	DEMOLITION PLAN III
C114	DEMOLITION PLAN IV
C116	PHASE 1 EROSION CONTROL PLAN I
C117	PHASE 1 EROSION CONTROL PLAN II
C118	PHASE 1 EROSION CONTROL PLAN III
C119	PHASE 1 EROSION CONTROL PLAN IV
C121	PH 2 GRADING & ESC PLAN
C122	PH2 GRADING & ESC PLAN II
C123	PH2 GRADING & ESC PLAN III
C124	PH 2 GRADING & ESC PLAN IV
C200	OVERALL SITE PLAN
C201	OVERALL COMPOSITE UTILITY PLAN
C211	STREET & STORM PLAN I
C212	STREET & STORM PLAN II
C213	STREET & STORM PLAN III
C214	STREET & STORM PLAN IV
C220	BORLAND RD. IMPROVEMENT PLAN
C221	SAGERT ST. & 65th AVE. INTERSECTION PLAN
C222	65TH AVE. IMPROVEMENT PLAN I
C223	65TH AVE. IMPROVEMENT PLAN II
C230	ONSITE TYPICAL SECTIONS I
C231	ONSITE TYPICAL SECTIONS II
C251	ILLUMINATION PLAN I
C252	ILLUMINATION PLAN II
C253	ILLUMINATION PLAN III
C254	ILLUMINATION PLAN IV
C260	SAUM CREEK TRAIL PLAN
C401	SANITARY SEWER & WATER PLAN I
C402	SANITARY SEWER & WATER PLAN II
C403	SANITARY SEWER & WATER PLAN III
C404	SANITARY SEWER & WATER PLAN IV
L100	STREET TREE PLANTING PLAN
L101	STREET TREE PLANTING PLAN
L102	WATER QUALITY SWALE PLANTING PLAN
L103	PLANTING DETAILS & NOTES

PROJECT TEAM

OWNER/APPLICANT

LENNAR NORTHWEST INC.
11807 NE 99th STREET SUITE 1170
VANCOUVER, WA 98682
CONTACT: MIKE LOOMIS
PHONE: 306-258-7882
EMAIL: mike.loomis@lennar.com

PLANNING CONSULTANT

3J CONSULTING, INC
5075 SW GRIFFITH DRIVE, SUITE 150
BEAVERTON, OR 97005
CONTACT: ANDREW TULL
PHONE: 503-946-9365
EMAIL: andrew.tull@3j-consulting.com

CIVIL ENGINEER

3J CONSULTING, INC.
5075 SW GRIFFITH DRIVE, SUITE 150
BEAVERTON, OR 97005
CONTACT: JOHN HOWORTH
PHONE: (503) 946-9365
EMAIL: john.howorth@3j-consulting.com

GEOTECHNICAL CONSULTANT

GEOPACIFIC ENGINEERING, INC.
14835 SW 72ND AVENUE
PORTLAND, OR 97224
CONTACT: JIM IMBRIE
PHONE: (503) 625-4455
EMAIL: jimbrie@geopacificeng.com

LAND SURVEYOR

COMPASS SURVEYING
4107 SE INTERNATIONAL WAY, SUITE 705
MILWAUKIE, OR 97222
CONTACT: DON DEVLAMINCK
PHONE: 503-653-9093
EMAIL: dond@compass-engineering.com

LANDSCAPE ARCHITECT

MEARS DESIGN GROUP, LLC.
5075 SW GRIFFITH DRIVE, SUITE 150
BEAVERTON, OR 97005
CONTACT: TROY MEARS
PHONE: (971) 255-7474
EMAIL: troym@meardsdesigngroup.com

UTILITIES & SERVICES

STREET, STORM, SEWER

CITY OF TUALATIN
CONTACT: MIKE DARBY
PHONE: (503) 692-2000
EMAIL: mdarby@ci.tualatin.or.us

POWER

PGE
CONTACT: LORRAINE KATZ
PHONE: (503) 672-5484
EMAIL: lorraine.katz@pgn.com

GAS

NORTHWEST NATURAL - ENGINEERING
CONTACT: BRIAN KELLEY
PHONE: (503) 220-2427
EMAIL: brian.kelley@nwnatural.com

FIRE

TUALATIN VALLEY FIRE & RESCUE

WATER

CITY OF TUALATIN
CONTACT: MICK WILSON
PHONE: (503) 691-3095
EMAIL:

TELECOMMUNICATIONS

CENTURY LINK - REGIONAL ENGINEER
CONTACT: KENNETH SCIULLI
PHONE: (503) 242-0304
EMAIL: kenneth.sciulli@centurylink.com

CENTURY LINK - REGIONAL MANAGER

CONTACT: JEREMY MORRIS
PHONE: (503) 293-4567
EMAIL: jeremy.morris@centurylink.com

POLICE, ROADS, PARKS

CITY OF TUALATIN

CABLE

COMCAST
CONTACT: KENNETH WILLS
PHONE: (503) 793-9981
EMAIL: kenneth_wills@cable.comcast.com

SCHOOLS

TIGARD - TUALATIN SCHOOL DISTRICT
PHONE: (503) 431-4000

SITE INFORMATION

SITE ADDRESS

20130 SW 65th AVENUE
TUALATIN, OR

JURISDICTION

CITY OF TUALATIN

ZONING

RL

TAX LOT(S)

21E30B 00300, 00600

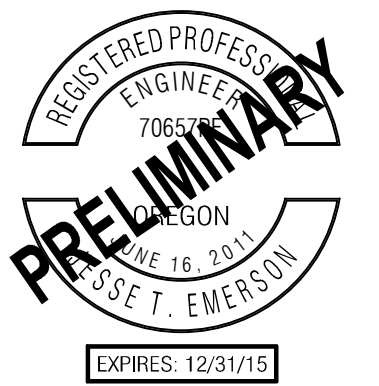
FLOOD HAZARD

MAP NUMBER: 4102770004C
ZONE X (UNSHADED)

NOT FOR CONSTRUCTION

TYPE II LAND USE
REVISION SUMMARY
BY DATE

COVER SHEET
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, KWK
CHECKED BY | JTE, JDH

SHEET TITLE
COVER SHEET

SHEET NUMBER

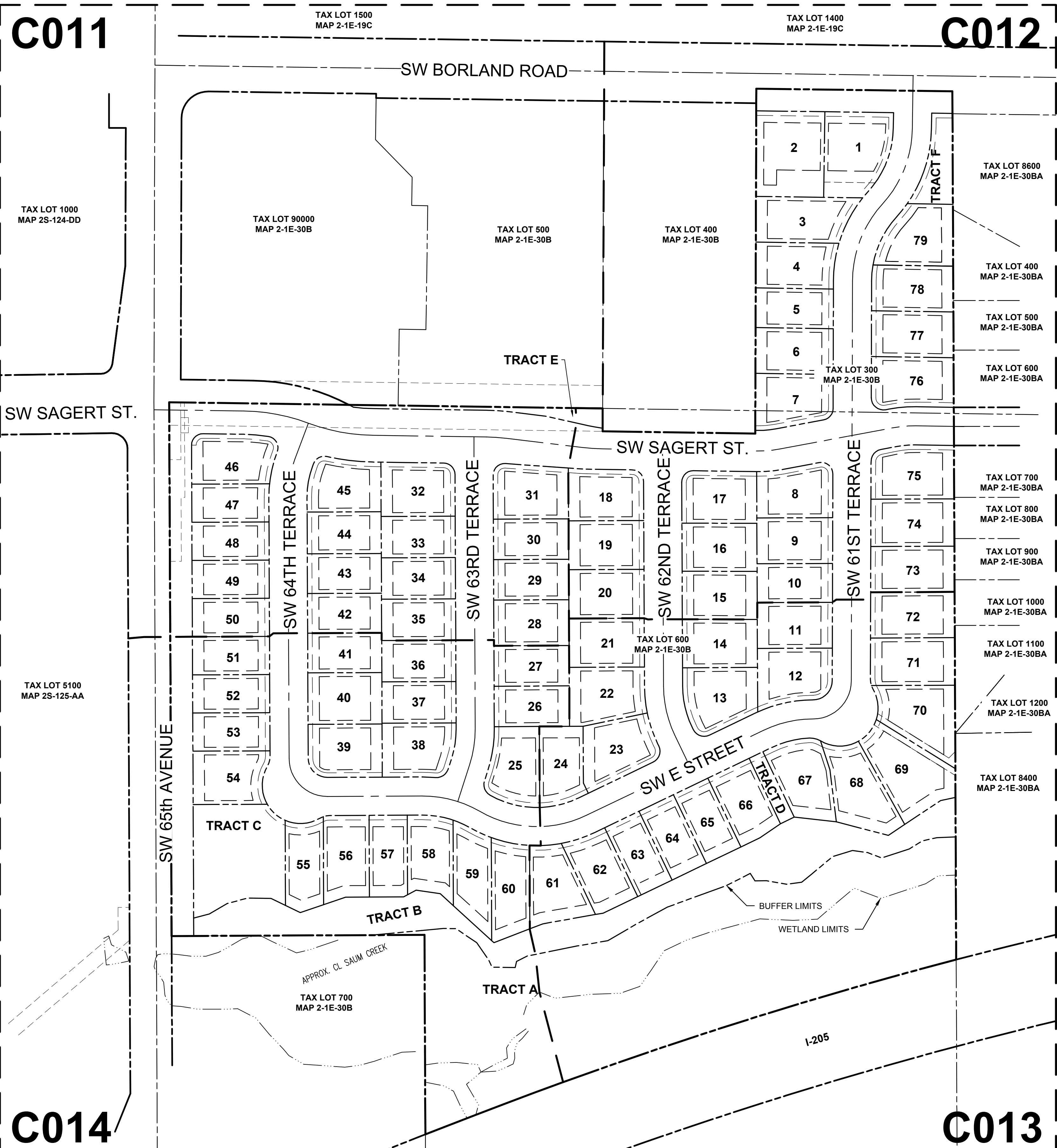
C000

C011

C012

C014

C013



LEGEND

- BOUNDARY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING CENTERLINE
- EXISTING LOT LINE
- SETBACK LINE
- LOT LINE
- RIGHT-OF-WAY
- ROAD CENTERLINE
- WETLAND BOUNDARY
- EASEMENT REMOVAL

SITE STATISTICS

SITE ADDRESS	20130 SW 65th AVE
TAX LOTS	21E030B 00600 21E030B 00300
JURISDICTION	CITY OF TUALATIN
LOT SITE AREA	00600 - 18.54 ACRES 00300 - 2.55 ACRES
GROSS SITE AREA	21.09 ACRES
PROPERTY ZONING	LOW DENSITY RESIDENTIAL
FLOOD HAZARD MAP NUMBER	4102770004C

SETBACKS:	STANDARD:
FRONT	15'
SIDE	5'
REAR	15'
STREET SIDE	10'
MAX. HEIGHT	35'

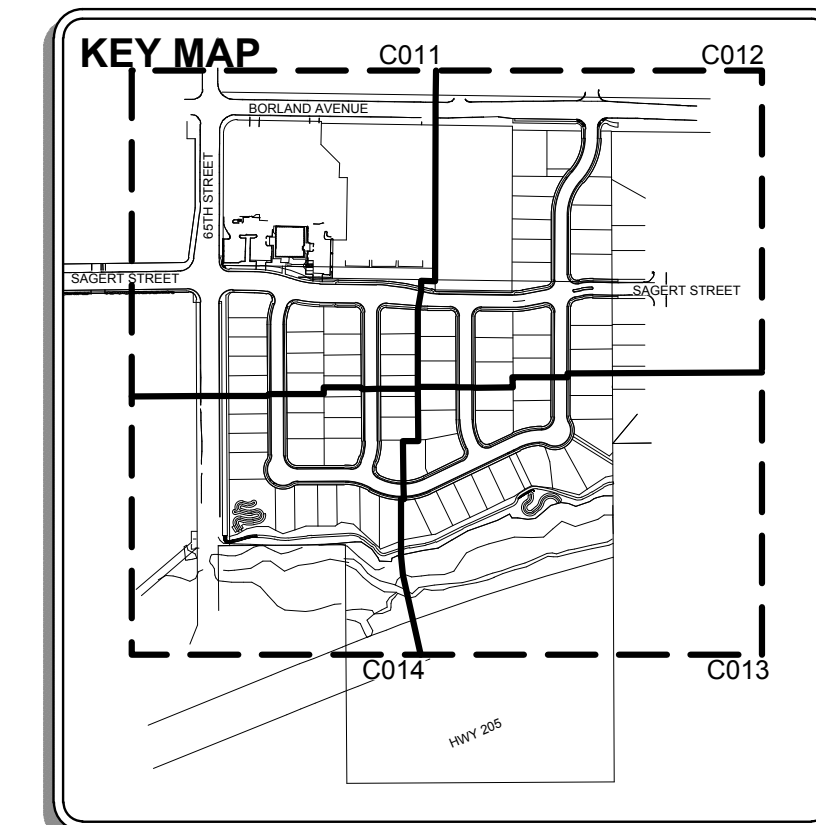
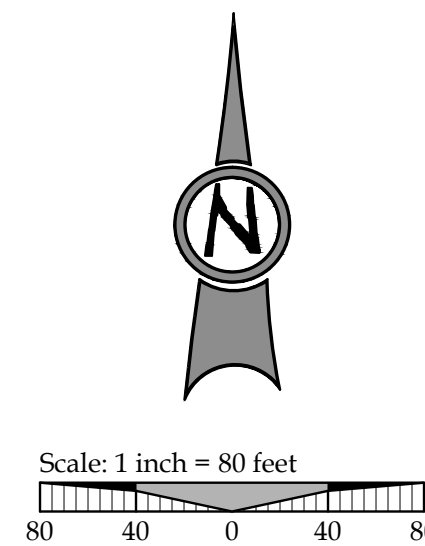
SUBDIVISION STATISTICS

RIGHT OF WAY DEDICATION	5.24 ACRES
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	5,000 SF
MINIMUM LOT DENSITY	5.3
MAXIMUM LOT DENSITY	7.5
PROPOSED LOT DENSITY	7.0

GENERAL NOTES

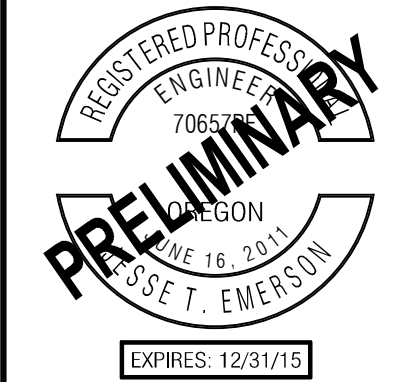
EASEMENT REMOVAL AREA = 6,000 SF

THE PURPOSE OF THIS TENTATIVE PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. SEE SHEETS C011-C014 FOR DETAIL.



TYPE II LAND USE
REVISION SUMMARY
DATE
BY

OVERALL TENTATIVE PLAT
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J CONSULTING, INC.
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5365

3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 2S1E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
TENTATIVE PLAT
SHEET NUMBER
C010

TAX LOT 1500
MAP 2-1E-19C

SW BORLAND ROAD

TAX LOT 90000
MAP 2-1E-30B

TAX LOT 500
MAP 2-1E-30B

TAX LOT 1000
MAP 2S-124-DD

SW 65TH AVENUE

N0°10'16"E 402.56'

68.0'
EXISTING ROW

MATCHLINE - SEE SHEET C012

LEGEND

- BOUNDARY LINE
- - - EXISTING RIGHT-OF-WAY
- EXISTING ROAD CENTERLINE
- - - EXISTING LOT LINE
- - - SETBACK LINE
- LOT LINE
- - - RIGHT-OF-WAY

SITE STATISTICS

SITE ADDRESS	20130 SW 65th AVE
TAX LOTS	21E030B 00600 21E030B 00300
JURISDICTION	CITY OF TUALATIN
LOT SITE AREA	00600 - 18.54 ACRES 00300 - 2.55 ACRES
GROSS SITE AREA	21.09 ACRES
PROPERTY ZONING	LOW DENSITY RESIDENTIAL
FLOOD HAZARD MAP NUMBER	4102770004C

SUBDIVISION STATISTICS

RIGHT OF WAY DEDICATION	5.24 ACRES
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	5,000 SF
MINIMUM LOT DENSITY	5.3
MAXIMUM LOT DENSITY	7.5
PROPOSED LOT DENSITY	7.0

SETBACKS:	STANDARD:
FRONT	15'
SIDE	5'
REAR	15'
STREET SIDE	10'
MAX. HEIGHT	35'

THE PURPOSE OF THIS TENTATIVE PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. SEE SHEET C001 FOR OVERALL TENTATIVE PLAT.

TAX LOT 5100
MAP 2S-125-AA

29.0'
ROW DEDICATION

84.0'
PROPOSED ROW

55.0'
EXISTING ROW

MATCHLINE - SEE SHEET C014

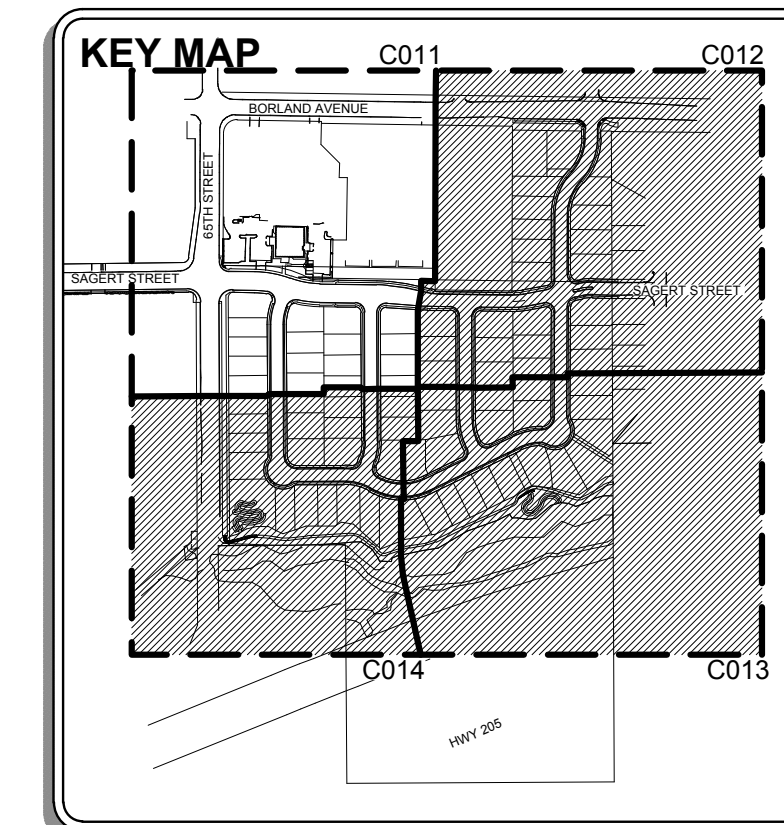
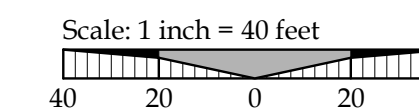
TRACT E
2,751 SF

SW SAGERT STREET

TAX LOT 600
MAP 2-1E-30B

SW 63RD TERRACE

SW 64TH TERRACE



TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

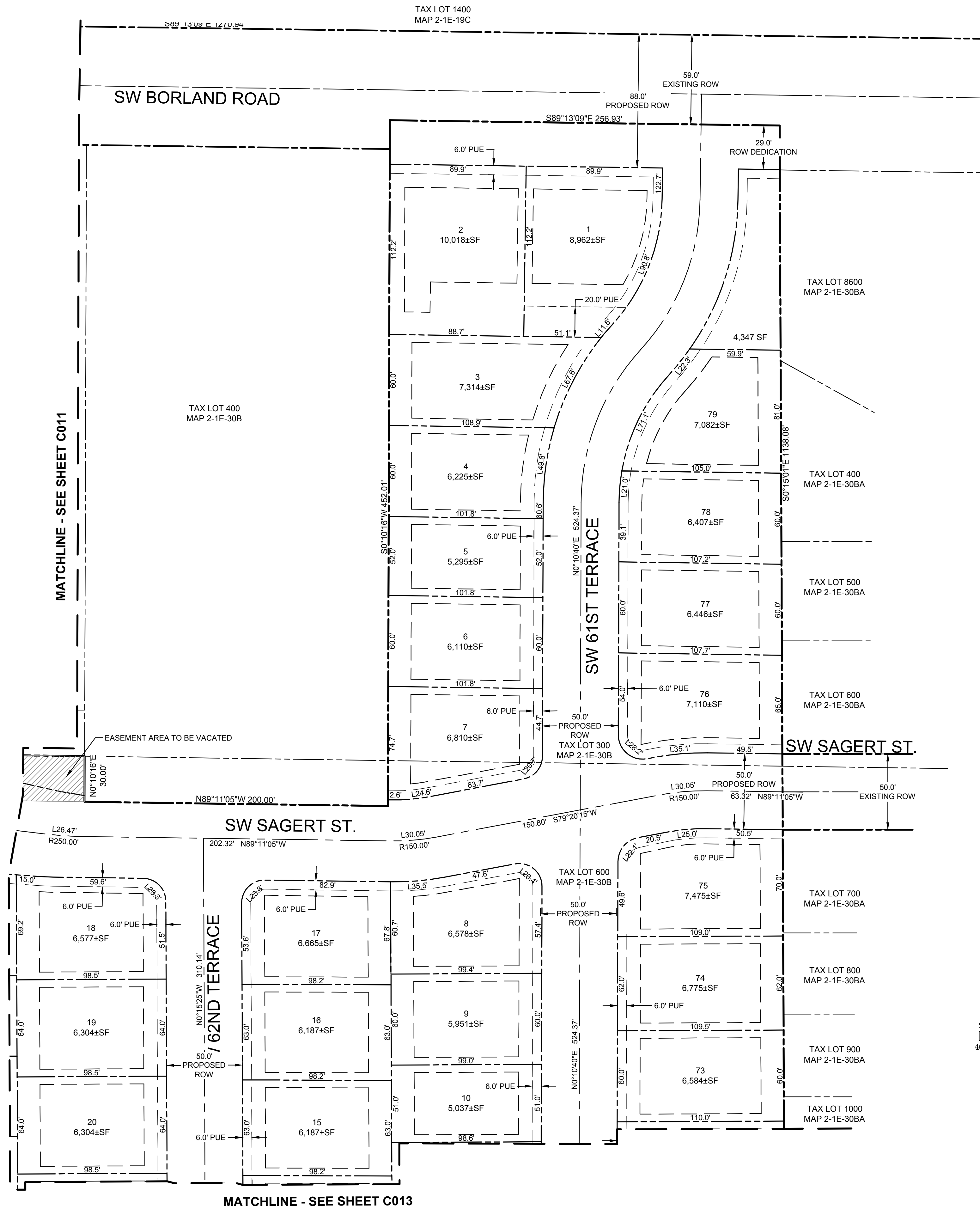
TENTATIVE PLAT I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J CONSULTING, INC
3J
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5365

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
TENTATIVE PLAT I
SHEET NUMBER
C011



LEGEND

- BOUNDARY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD CENTERLINE
- EXISTING LOT LINE
- SETBACK LINE
- LOT LINE
- RIGHT-OF-WAY
- WETLAND BOUNDARY

SITE STATISTICS

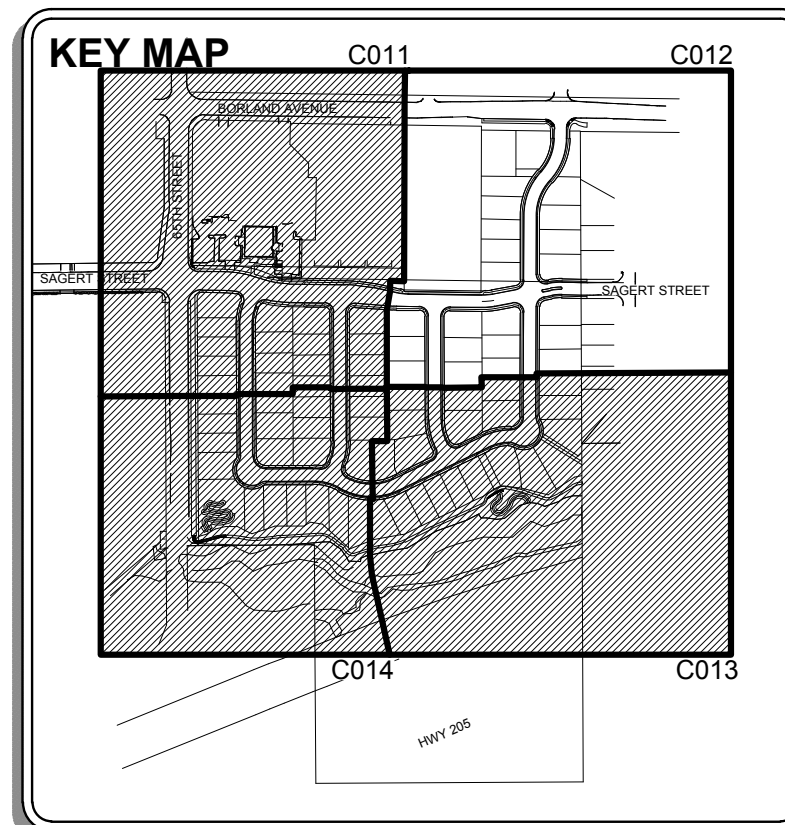
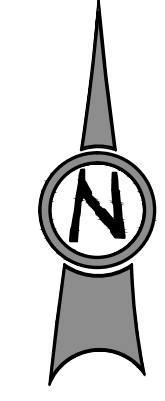
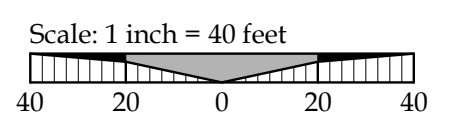
SITE ADDRESS	20130 SW 65th AVE
TAX LOTS	21E030B 00600 21E030B 00300
JURISDICTION	CITY OF TUALATIN
LOT SITE AREA	00600 - 18.54 ACRES 00300 - 2.55 ACRES
GROSS SITE AREA	21.09 ACRES
PROPERTY ZONING	LOW DENSITY RESIDENTIAL
FLOOD HAZARD MAP NUMBER	4102770004C

SUBDIVISION STATISTICS

RIGHT OF WAY DEDICATION	5.24 ACRES
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	5,000 SF
MINIMUM LOT DENSITY	5.3
MAXIMUM LOT DENSITY	7.5
PROPOSED LOT DENSITY	7.0

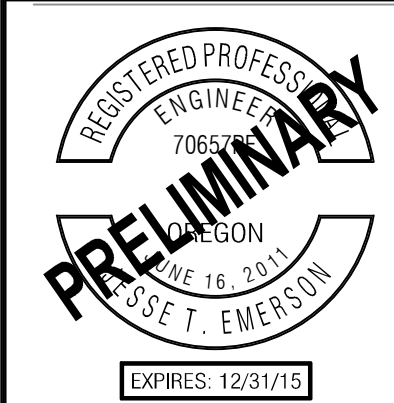
SETBACKS:	STANDARD:
FRONT	15'
SIDE	5'
REAR	15'
STREET SIDE	10'
MAX. HEIGHT	35'

THE PURPOSE OF THIS TENTATIVE PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. SEE SHEET C001 FOR OVERALL TENTATIVE PLAT.



TYPE II LAND USE REVISION SUMMARY BY DATE
8/11/15

TENTATIVE PLAT II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



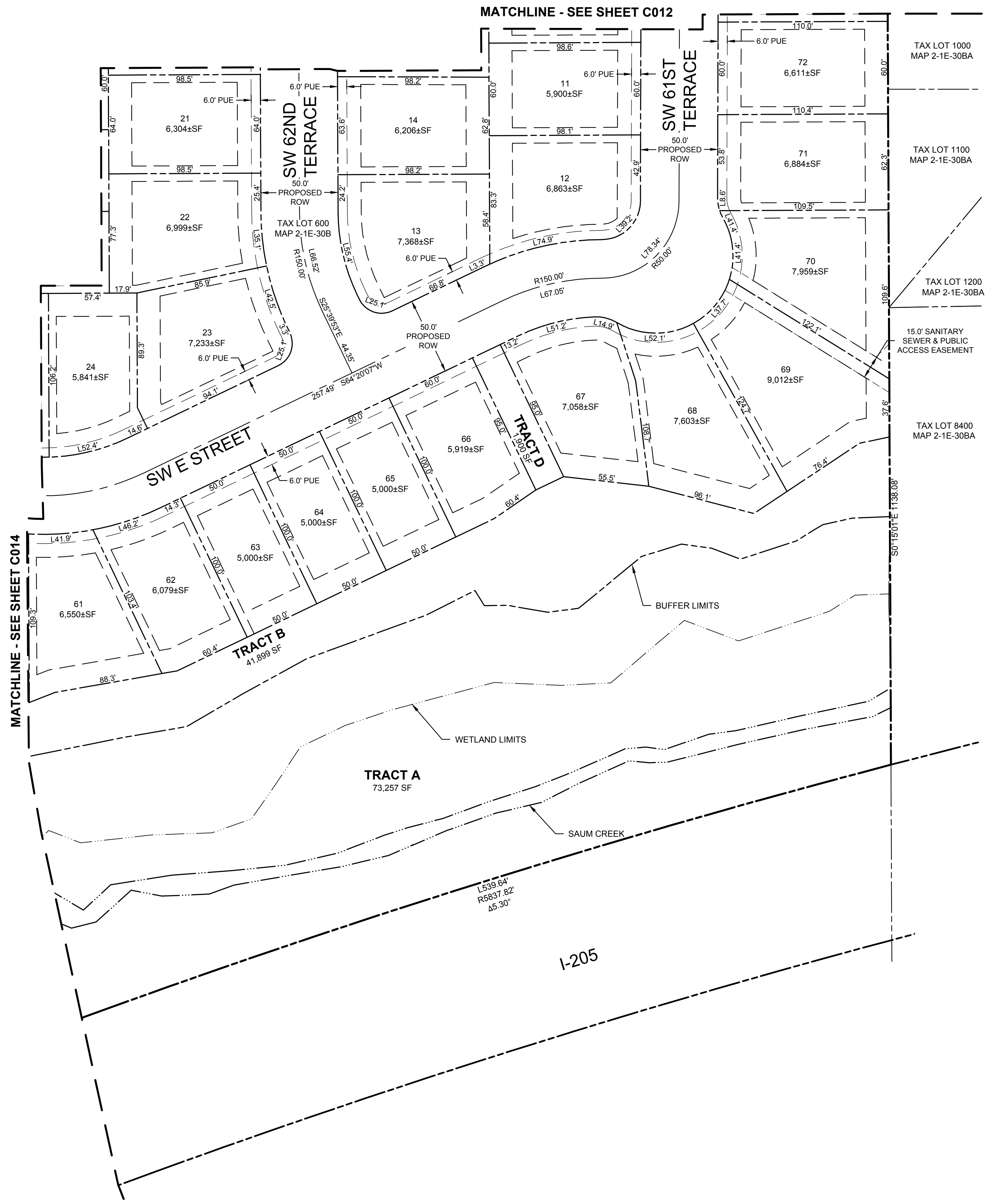
3J CONSULTING, INC.

CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING

5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
TENTATIVE PLAT II
 SHEET NUMBER
C012



LEGEND

- BOUNDARY LINE
- - - - EXISTING RIGHT-OF-WAY
- - - - EXISTING ROAD CENTERLINE
- - - - EXISTING LOT LINE
- - - - SETBACK LINE
- - - - LOT LINE
- - - - RIGHT-OF-WAY
- - - - WETLAND BOUNDARY

SITE STATISTICS

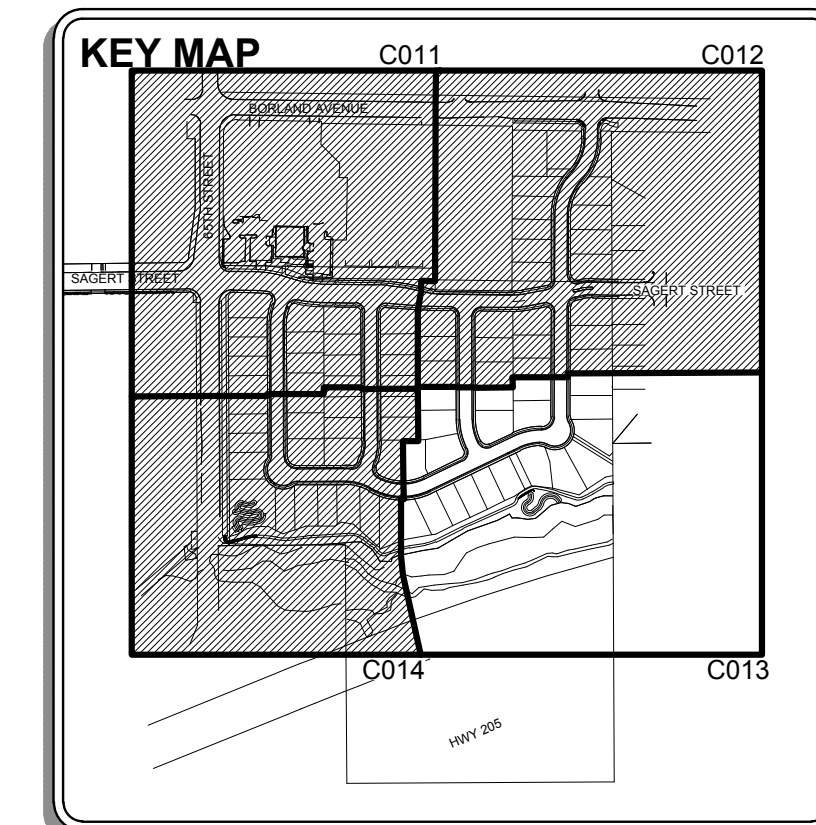
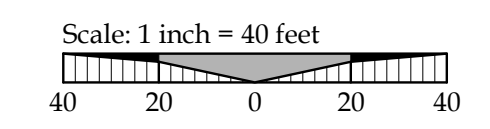
SITE ADDRESS	20130 SW 65th AVE
TAX LOTS	21E030B 00600 21E030B 00300
JURISDICTION	CITY OF TUALATIN
LOT SITE AREA	00600 - 18.54 ACRES 00300 - 2.55 ACRES
GROSS SITE AREA	21.09 ACRES
PROPERTY ZONING	LOW DENSITY RESIDENTIAL
FLOOD HAZARD MAP NUMBER	4102770004C

SUBDIVISION STATISTICS

RIGHT OF WAY DEDICATION	5.24 ACRES
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	5,000 SF
MINIMUM LOT DENSITY	5.3
MAXIMUM LOT DENSITY	7.5
PROPOSED LOT DENSITY	7.0

SETBACKS:	STANDARD:
FRONT	15'
SIDE	5'
REAR	15'
STREET SIDE	10'
MAX. HEIGHT	35'

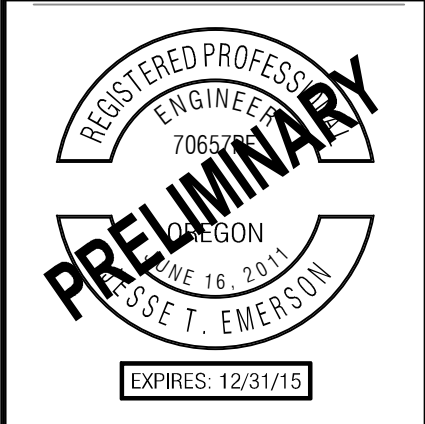
THE PURPOSE OF THIS TENTATIVE PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. SEE SHEET C001 FOR OVERALL TENTATIVE PLAT.



TYPE II LAND USE

REVISION SUMMARY	BY	DATE
		8/11/15

TENTATIVE PLAT III
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



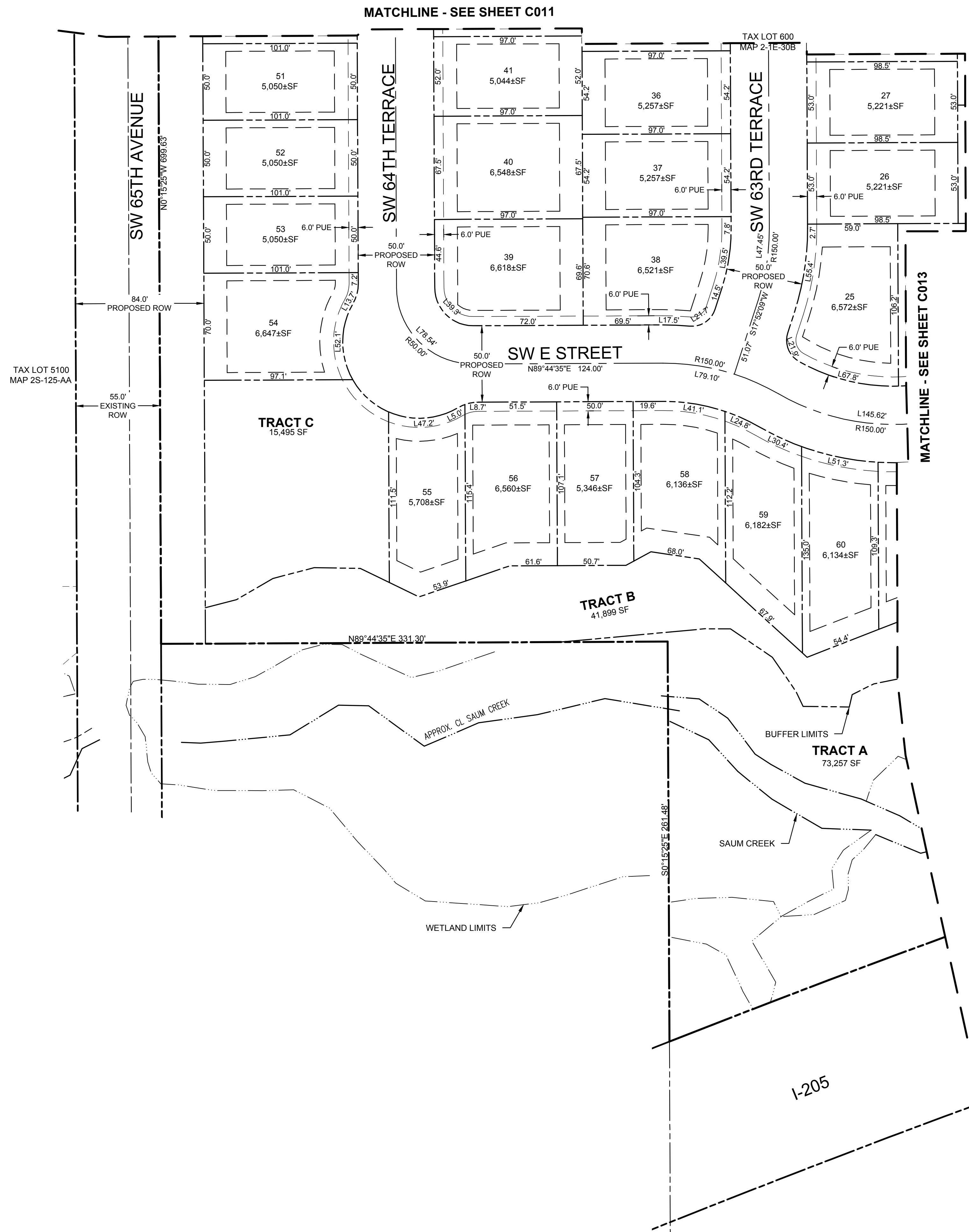
3J CONSULTING, INC.

CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING

5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	I 13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, KW
CHECKED BY	JTE, JDH

SHEET TITLE
TENTATIVE PLAT III
 SHEET NUMBER
C013



LEGEND

- BOUNDARY LINE
- - - EXISTING RIGHT-OF-WAY
- - - EXISTING ROAD CENTERLINE
- - - EXISTING LOT LINE
- - - SETBACK LINE
- - - LOT LINE
- - - RIGHT-OF-WAY
- - - WETLAND BOUNDARY

SITE STATISTICS

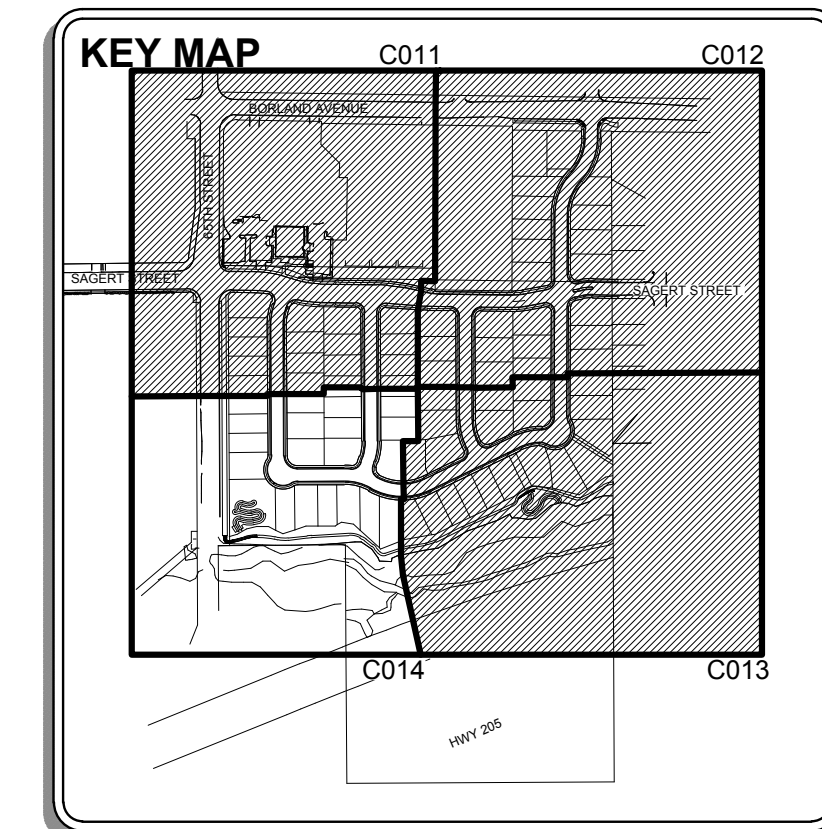
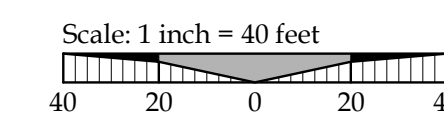
SITE ADDRESS	20130 SW 65th AVE
TAX LOTS	21E030B 00600 21E030B 00300
JURISDICTION	CITY OF TUALATIN
LOT SITE AREA	00600 - 18.54 ACRES 00300 - 2.55 ACRES
GROSS SITE AREA	21.09 ACRES
PROPERTY ZONING	LOW DENSITY RESIDENTIAL
FLOOD HAZARD MAP NUMBER	4102770004C

SUBDIVISION STATISTICS

RIGHT OF WAY DEDICATION	5.24 ACRES
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	5,000 SF
MINIMUM LOT DENSITY	5.3
MAXIMUM LOT DENSITY	7.5
PROPOSED LOT DENSITY	7.0

SETBACKS:	STANDARD:
FRONT	15'
SIDE	5'
REAR	15'
STREET SIDE	10'
MAX. HEIGHT	35'

THE PURPOSE OF THIS TENTATIVE PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. SEE SHEET C001 FOR OVERALL TENTATIVE PLAT.



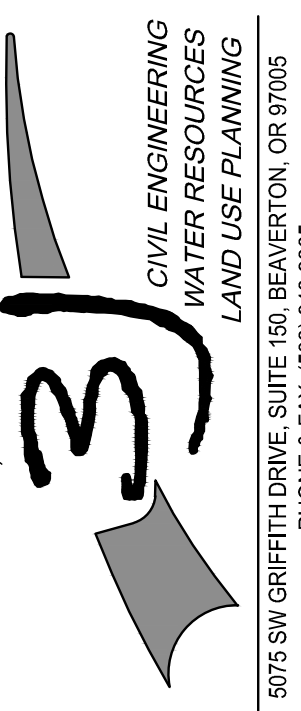
TYPE II LAND USE

8/11/15

REVISION SUMMARY

BY DATE

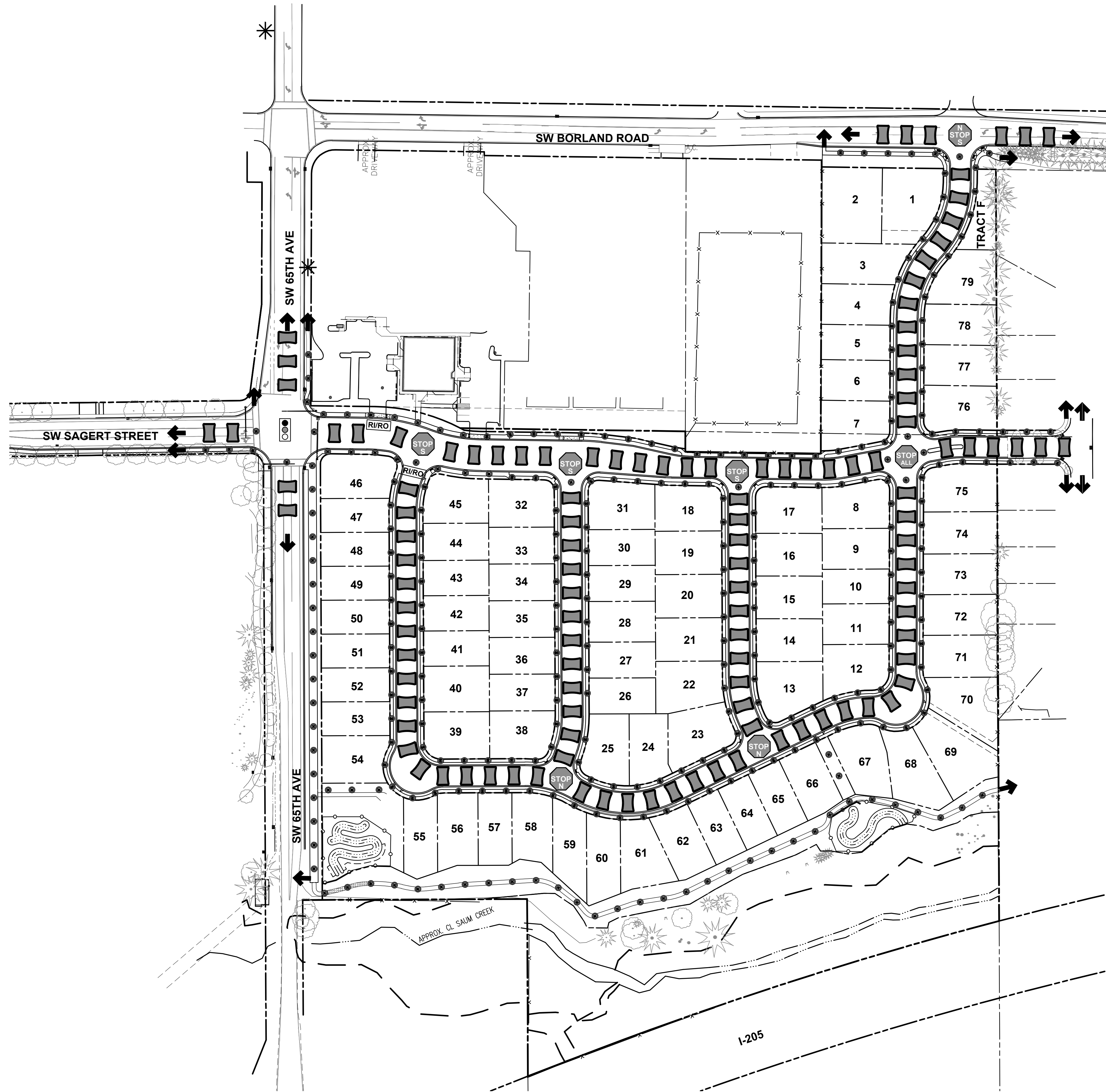
TENTATIVE PLAT IV
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E030B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
TENTATIVE PLAT IV
 SHEET NUMBER

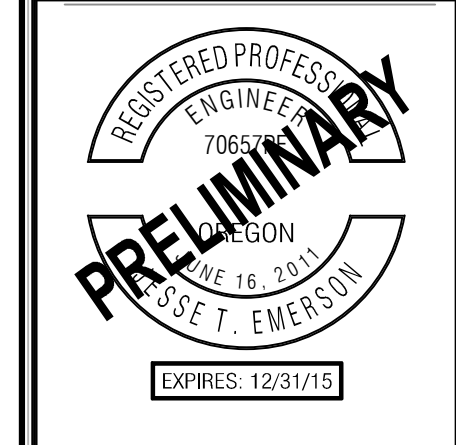
C014



- LEGEND**
- BOUNDARY LINE
 - - - EXISTING RIGHT-OF-WAY
 - EXISTING CENTERLINE
 - - - EXISTING LOT LINE
 - LOT LINE
 - - - RIGHT-OF-WAY
 - ROAD CENTERLINE
 - [Symbol] AUTOMOTIVE CIRCULATION
 - [Symbol] PEDESTRIAN CIRCULATION
 - [Symbol] TRANSIT STOP
 - [Symbol] R/I/O RIGHT IN - RIGHT OUT CONTROL
 - [Symbol] STOP S STOP CONTROL - SOUTH
 - [Symbol] STOP N STOP CONTROL - NORTH
 - [Symbol] STOP ALL STOP CONTROL - ALL WAY
 - [Symbol] ↑ CIRCULATION CONTINUES TO EXISTING TRAFFIC SYSTEM
 - [Symbol] [Symbol] SIGNALIZED INTERSECTION

TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

CIRCULATION PLAN
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC

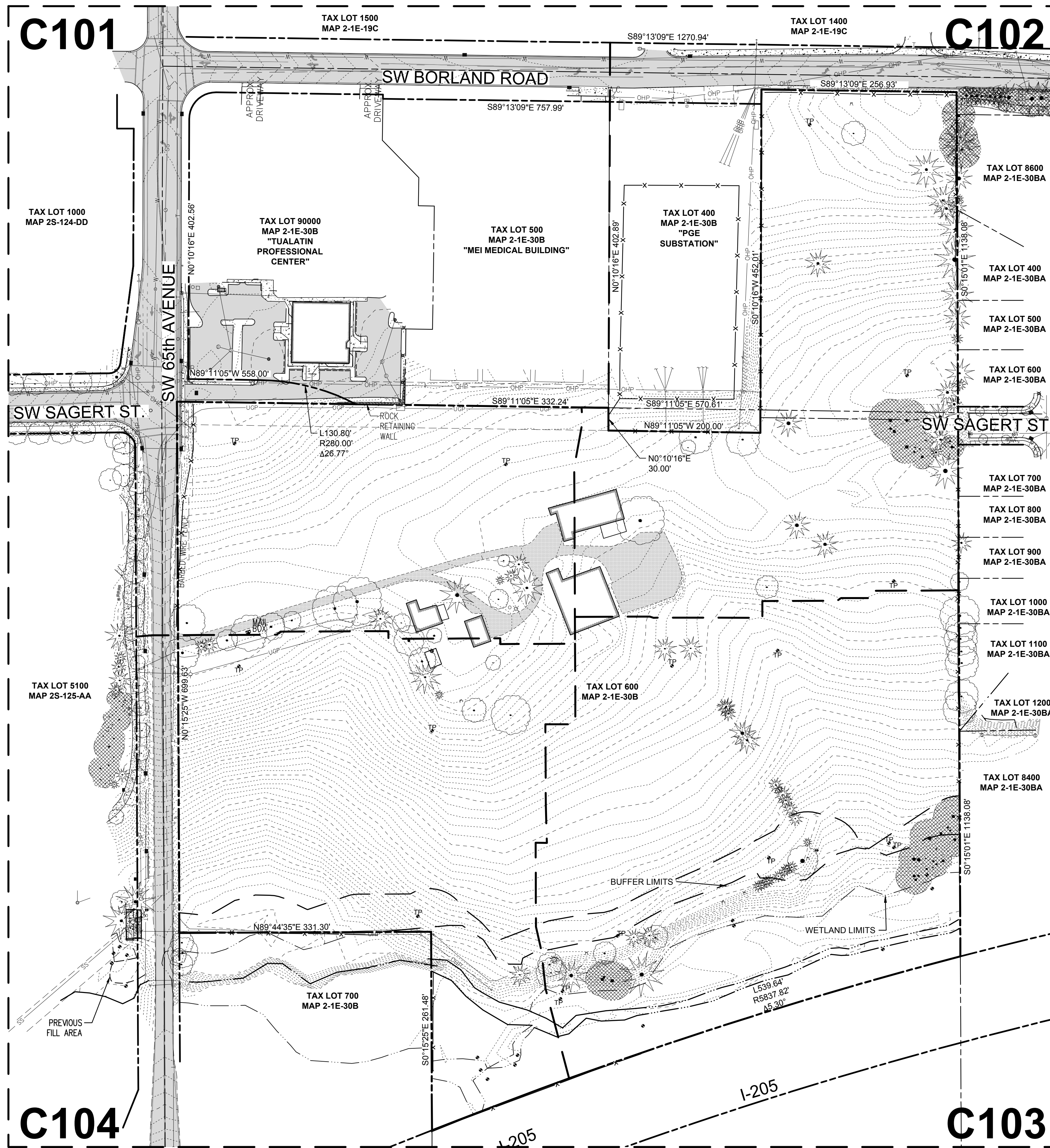
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-8385

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
CIRCULATION
 SHEET NUMBER
C015

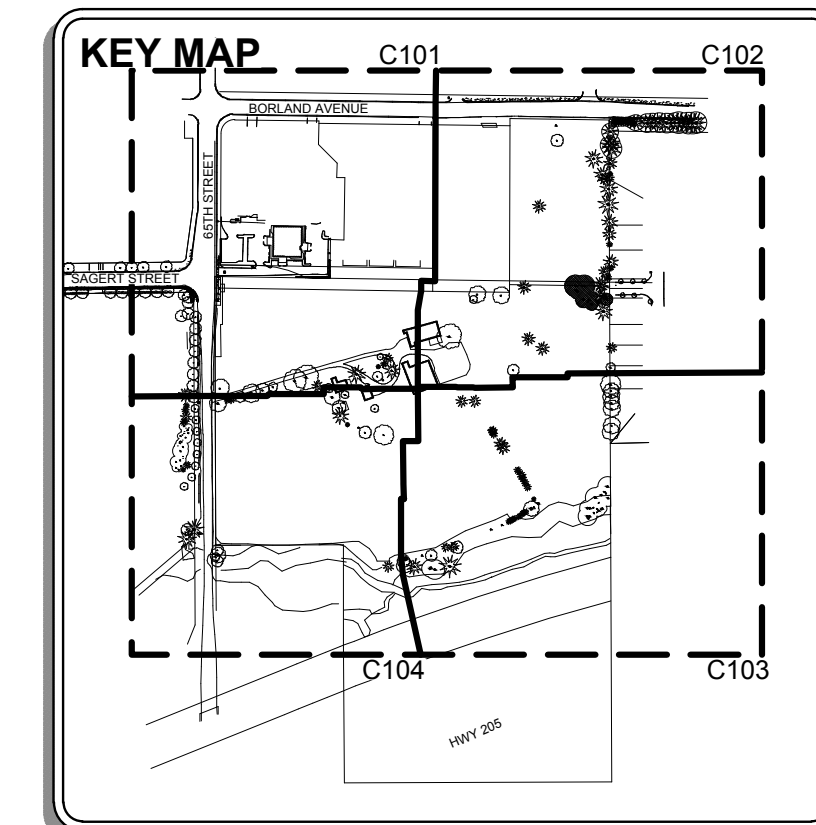
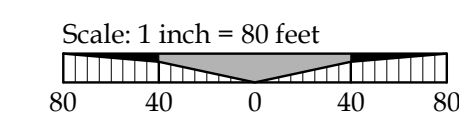
Scale: 1 inch = 80 feet

 Know what's below.
 Call before you dig.



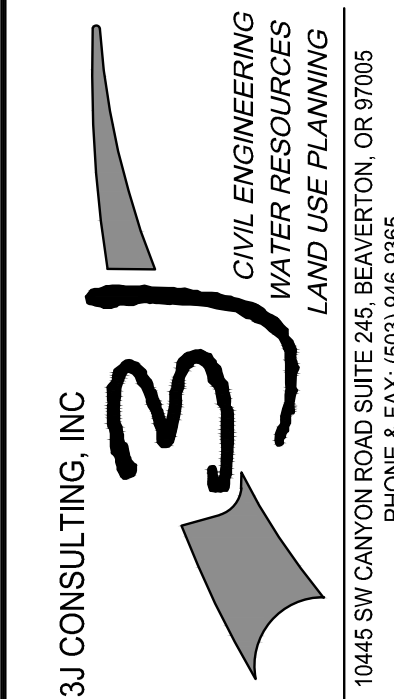
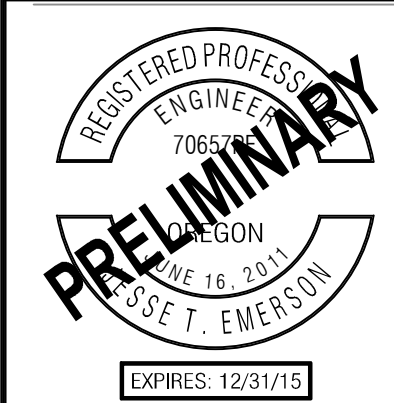
LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		BUILDING
	1 FT CONTOUR		EXISTING TREES
	5 FT CONTOUR		EXISTING STUMP
	SANITARY SEWER		LIGHT POLE
	SANITARY SEWER FORCEMAIN		WATER VALVE
	STORM SEWER		WATER METER
	WATER LINE		FIRE HYDRANT
	GAS LINE		SEWER MANHOLE
	UNDERGROUND POWER		CURB INLET
	OVERHEAD POWER		GAS VALVE
	BARBED WIRE FENCE		PHONE PEDESTAL
	CHAIN LINK FENCE		SIGN
	WETLAND		TEST PIT
	STREAM OR WETLAND BUFFER		UTILITY POLE
	EDGE OF BRUSH		TRAFFIC SIGNAL BOX
	TREE CANOPY		



TYPE II LAND USE
REVISION SUMMARY
BY DATE

OVERALL EXISTING CONDITIONS
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
EXIST. COND.

SHEET NUMBER
C100

TAX LOT 1500
MAP 2-1E-19C

SW BORLAND ROAD

TAX LOT 90000
MAP 2-1E-30B
"TUALATIN
PROFESSIONAL
CENTER"

TAX LOT 500
MAP 2-1E-30B
"MEI MEDICAL
BUILDING"

TAX LOT 1000
MAP 2S-124-DD

(EX) STM MH
RIM 226.10
IE E 219.78
SUMP 219.53

(EX) CB (TRAP NE)
RIM 225.63
IE OUT 224.53
SUMP 222.98

(EX) CURB INLET
RIM 224.97
IE OUT S. 221.87
SUMP 220.47

(EX) CURB INLET
RIM 224.23
IE OUT S. 221.23
SUMP 219.88

STOP SIGN (MUTCD #R1-1)
TRAFFIC SIGNAL
SUPPORT POLE

FOUND BRASS DISC
(SECTION CORNER)

SW SAGERT ST.

STOP SIGN (MUTCD #R1-1)

"ATFALATI PARK" SIGN

(EX) CURB INLET
RIM 220.62
IE IN N. 217.02
IE IN E. 216.92
IE OUT S. 216.82

TAX LOT 5100
MAP 2S-125-AA

PP# 2 C 21 25A
(2 UG DROPS)

DITCH INLET
UPPER RIM 208.91
LOWER RIM 207.51
IE IN 204.91
IE OUT 204.46

#2683
(EX) SAN MH
(END FORCE MAIN)
RIM 228.81
IE 8" OUT N. 218.15
TOP OF FLANGE 226.31

(EX) CB (TRAP SW)
RIM 226.45
IE OUT 225.35
SUMP 223.75

(EX) STM MH
RIM 226.61
IE IN SW 220.01
IE IN E 220.01
IE IN NW 220.01
IE OUT 219.91

(EX) CB (TRAP W)
RIM 224.10

(EX) STM MH
RIM 224.10
SUMP 211.05

(EX) CB (TRAP N)
RIM 220.85

ILLUMINATED BUSINESS SIGN
STOP SIGN (MUTCD #R1-1)

"BORLAND NEXT SIGNAL" SIGN
UTILITY EASEMENT

TRAFFIC SIGNAL
SUPPORT POLE

"SW 65TH AVE" SIGN
"SW SAGERT ST" SIGN
STOP SIGN (MUTCD #R1-1)

(EX) CURB INLET
RIM 220.69
IE IN N. 218.39
IE OUT W. 218.29
SUMP 216.74

SLOPE-EASEMENT

BARBED WIRE FENCE

MAIL BOX

SUPPORT POLE

ELEC METERS

FUEL TANK

GRAVEL DRIVE

LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCEMAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	TREE CANOPY		

EXISTING CONDITIONS PLAN

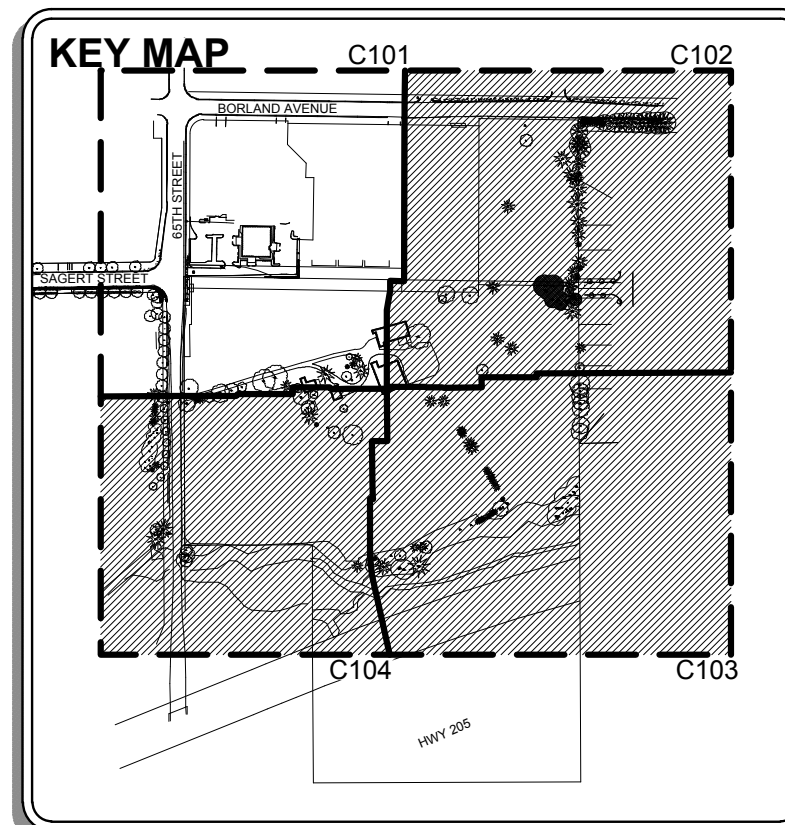
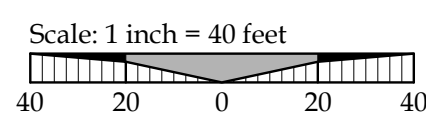
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ZONE X (UN-SHADED)

THE SITE IS LOCATED WITHIN ZONE X (UN-SHADED) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 41005C 0255 D FEMA'S DEFINITION OF ZONE X (UN-SHADED) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD. IN COMMUNITIES THAT PARTICIPATE IN THE NFIP, FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RENTERS IN THESE ZONES.

SURVEYOR'S NOTE

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- VERTICAL DATUM: NGVD '88.
- CONTOUR INTERVAL IS ONE FOOT.
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MATCHLINE - SEE SHEET C102

MATCHLINE - SEE SHEET C104

TYPE II LAND USE
REVISION SUMMARY
BY DATE

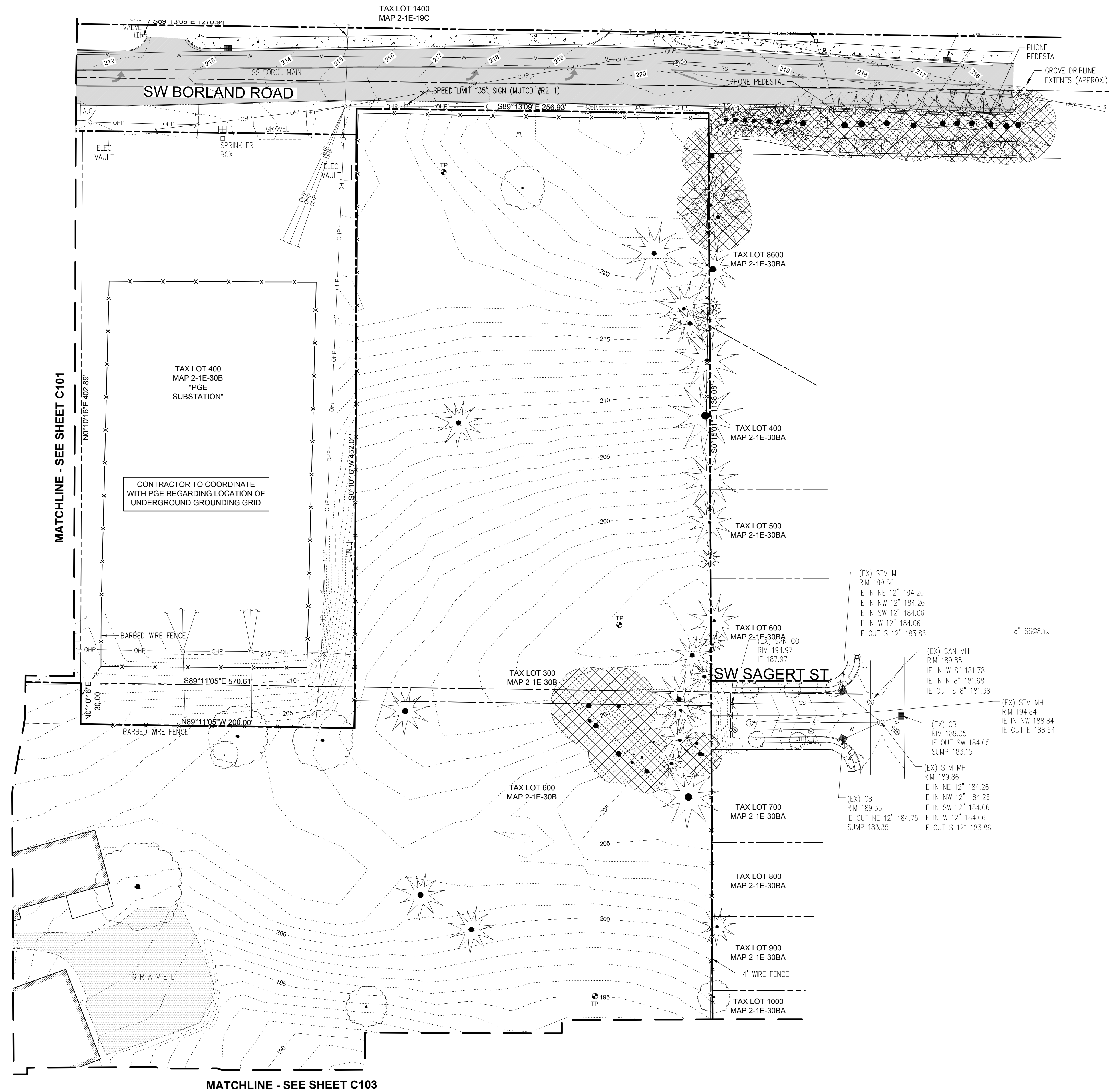
EXISTING CONDITIONS PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON

3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD, SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5885

3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 2S1E30B 300 & 600
DESIGNED BY | JTE, JCP, KWK
CHECKED BY | JTE, JDH

SHEET TITLE
EXIST. COND. I

SHEET NUMBER
C101



LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCEMAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	OVERHEAD PHONE LINE		UTILITY POLE
	BARBED WIRE FENCE		TRAFFIC SIGNAL BOX
	CHAIN LINK FENCE		
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	TREE CANOPY		

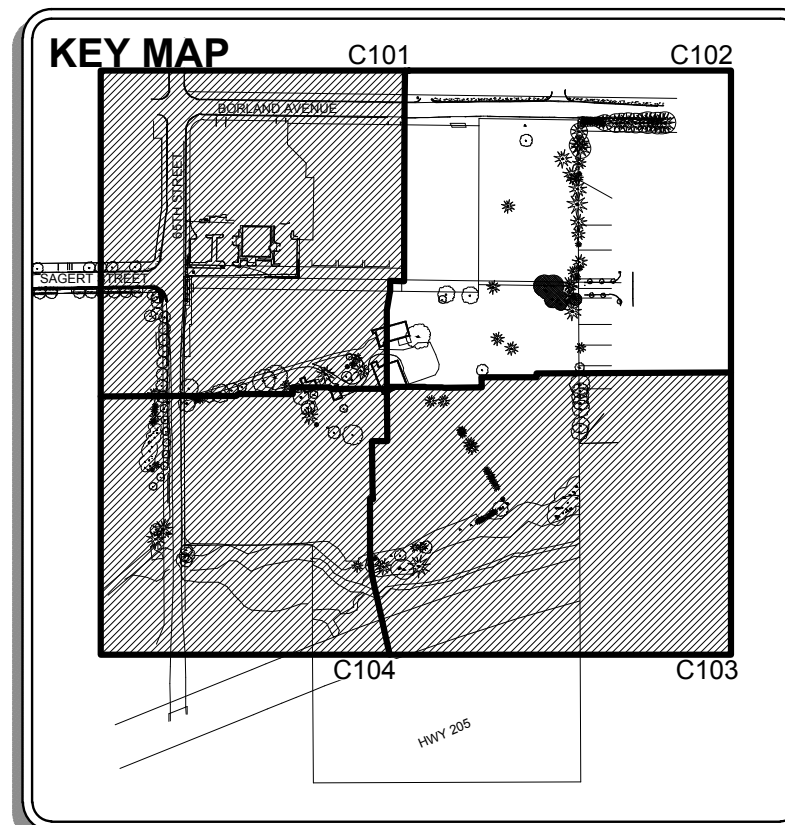
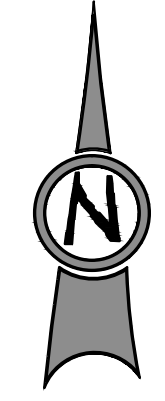
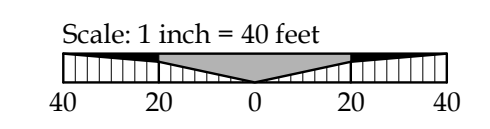
EXISTING CONDITIONS PLAN

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ZONE X (UN-SHADED)

THE SITE IS LOCATED WITHIN ZONE X (UN-SHADED) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 41005C 0255 D FEMA'S DEFINITION OF ZONE X (UN-SHADED) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD. IN COMMUNITIES THAT PARTICIPATE IN THE NFIP, FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RENTERS IN THESE ZONES.

- SURVEYOR'S NOTE**
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 - VERTICAL DATUM: NGVD '88.
 - CONTOUR INTERVAL IS ONE FOOT.
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8/11/15
BY DATE

TYPE II LAND USE
REVISION SUMMARY

EXISTING CONDITIONS PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON

REGISTERED PROFESSIONAL ENGINEER
7065700
PRELIMINARY
JULY 16, 2014
SSE T. EMERSON
EXPIRES: 12/31/15

3J CONSULTING, INC.
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5885

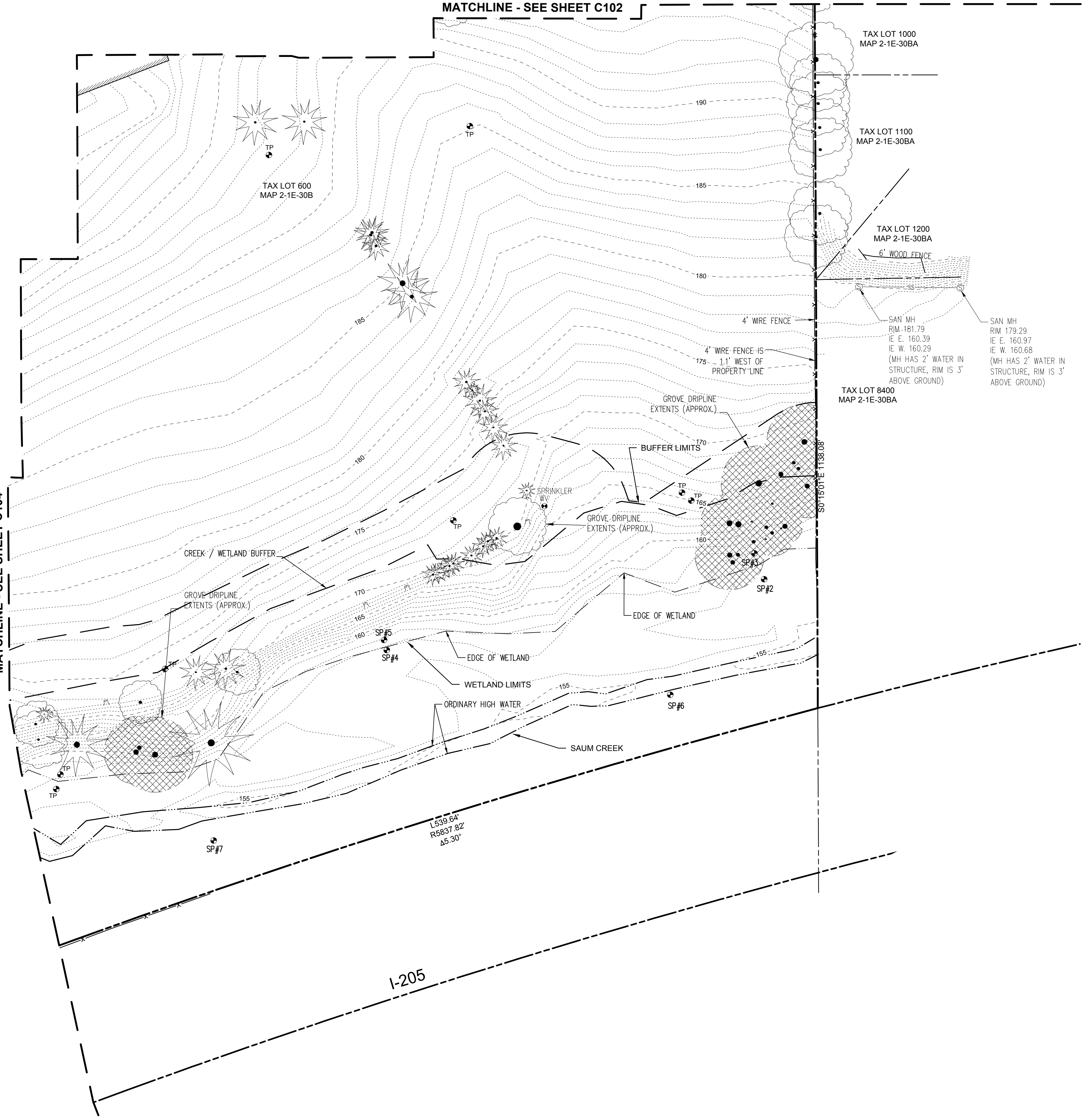
3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
EXIST. COND. II

SHEET NUMBER
C102

MATCHLINE - SEE SHEET C104

MATCHLINE - SEE SHEET C102



LEGEND

--- (dashed)	BOUNDARY LINE	--- (dotted)	CURB
--- (dash-dot)	RIGHT-OF-WAY	--- (dotted)	ASPHALT
--- (solid)	LOT LINE	--- (dotted)	CONCRETE
--- (dashed)	CENTERLINE	--- (dotted)	GRAVEL
--- (dashed)	EASEMENT	--- (dotted)	EXISTING TREES
--- (dotted)	BUILDING	--- (dotted)	EXISTING STUMP
--- (dotted)	1 FT CONTOUR	--- (dotted)	LIGHT POLE
--- (dotted)	5 FT CONTOUR	--- (dotted)	WATER VALVE
SS	SANITARY SEWER	--- (dotted)	WATER METER
SS	SANITARY SEWER FORCEMAIN	--- (dotted)	FIRE HYDRANT
ST	STORM SEWER	--- (dotted)	SEWER MANHOLE
W	WATER LINE	--- (dotted)	CURB INLET
G	GAS LINE	--- (dotted)	GAS VALVE
UGP	UNDERGROUND POWER	--- (dotted)	PHONE PEDESTAL
T	UNDERGROUND PHONE LINE	--- (dotted)	SIGN
OHP	OVERHEAD POWER	--- (dotted)	TEST PIT
X	BARBED WIRE FENCE	--- (dotted)	UTILITY POLE
--- (dotted)	CHAIN LINK FENCE	--- (dotted)	TRAFFIC SIGNAL BOX
--- (dotted)	WETLAND		
--- (dotted)	STREAM OR WETLAND BUFFER		
--- (dotted)	EDGE OF BRUSH		

EXISTING CONDITIONS PLAN

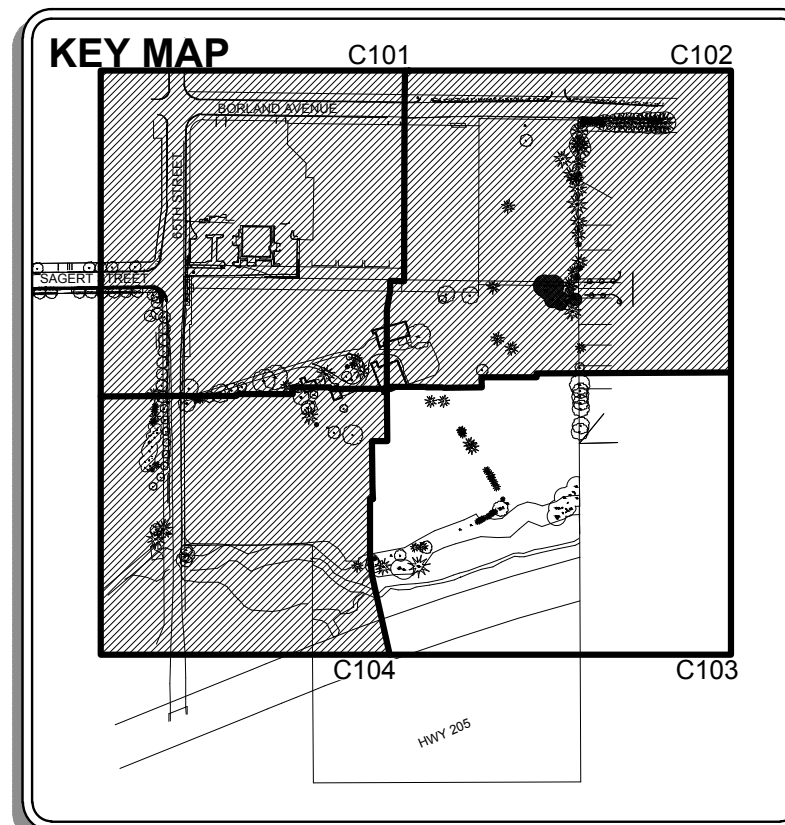
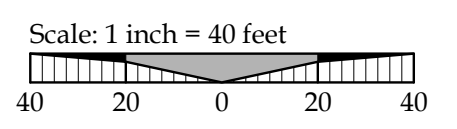
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ZONE X (UN-SHADED)

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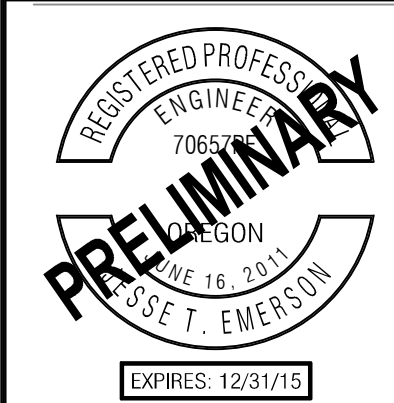
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8/11/15
BY DATE
REVISION SUMMARY

EXISTING CONDITIONS PLAN III
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



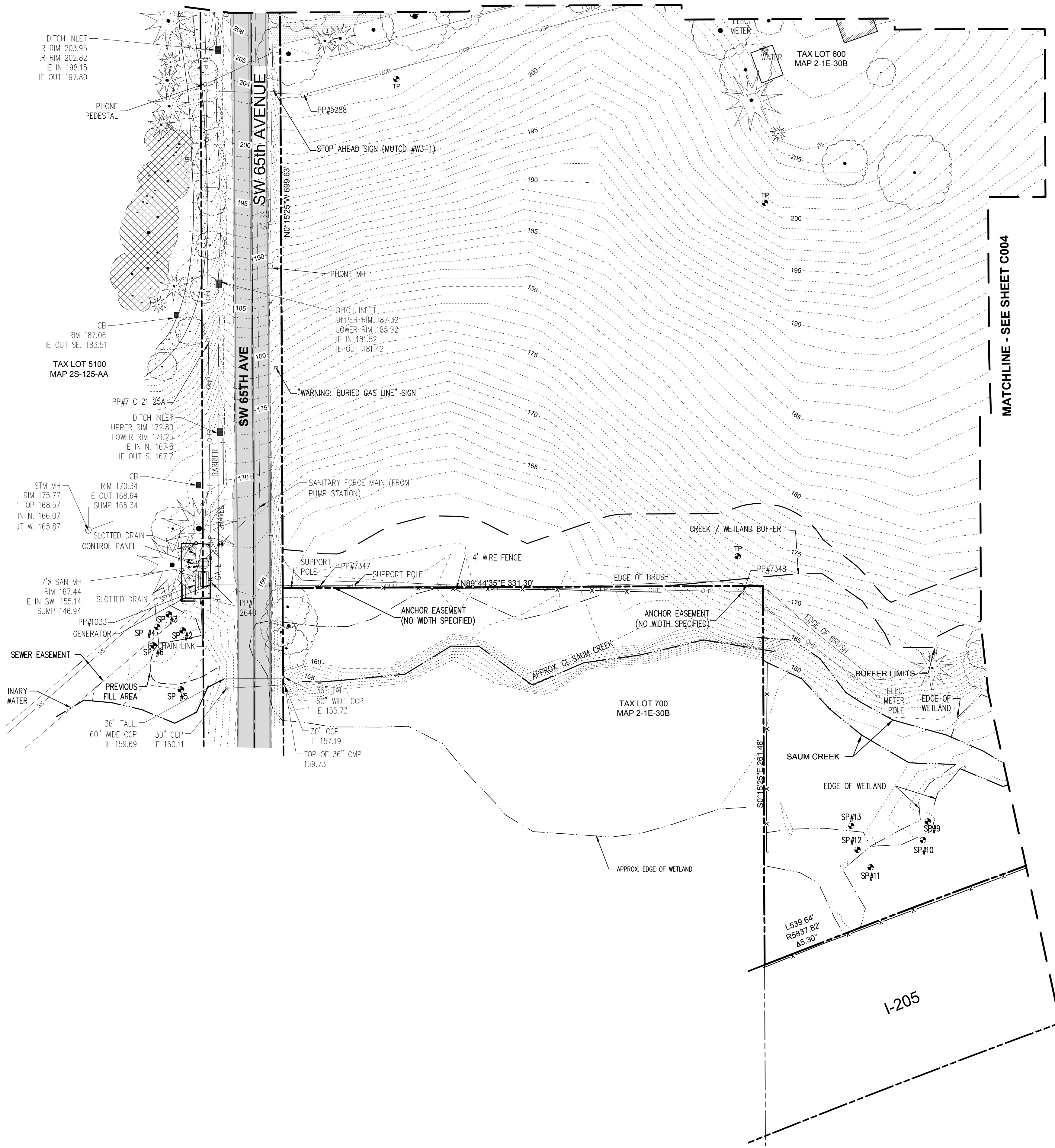
3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5885

3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
EXIST. COND. III

SHEET NUMBER
C103

MATCHLINE - SEE SHEET C002



LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCE MAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	TREE CANOPY		

EXISTING CONDITIONS PLAN

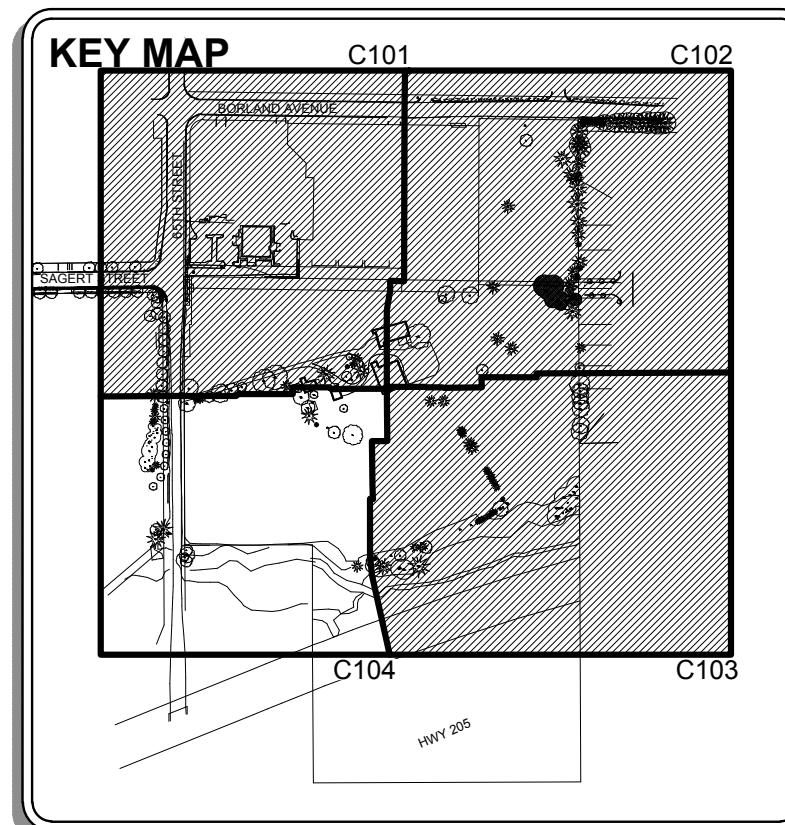
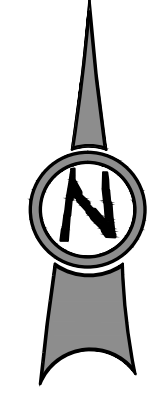
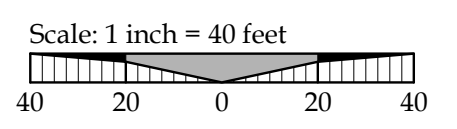
THIS PLAN IS INTENDED FOR USE AS AN EXISTING CONDITIONS PLAN SHOWING THE CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN WAS DEVELOPED FROM THE TOPOGRAPHIC SURVEY, AERIAL PHOTOS, AND SITE OBSERVATIONS BY THE ENGINEER. NOT ALL SURFACE FEATURES OR UTILITIES MAY BE SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION TO DETERMINE WORK SPECIFIC DETAILS. TOPOGRAPHIC INFORMATION PROVIDED BY COMPASS LAND SURVEYING, DATED DEC. 2013.

EXISTING CONDITIONS PLAN

ZONE X (UN-SHADED) THE SITE IS LOCATED WITHIN ZONE X (UN-SHADED) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 41005C 0255 D FEMA'S DEFINITION OF ZONE X (UN-SHADED) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD. IN COMMUNITIES THAT PARTICIPATE IN THE NFIP, FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RENTERS IN THESE ZONES.

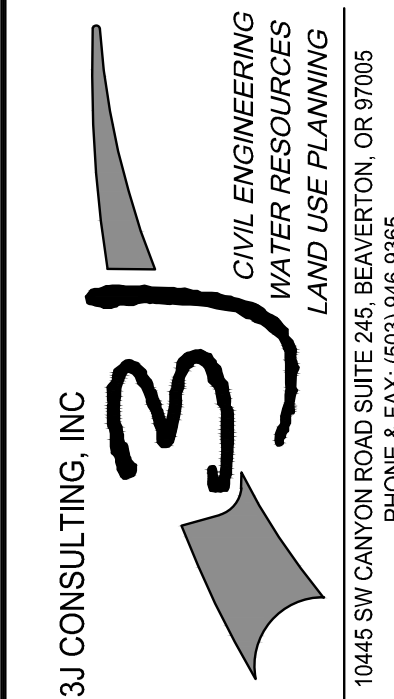
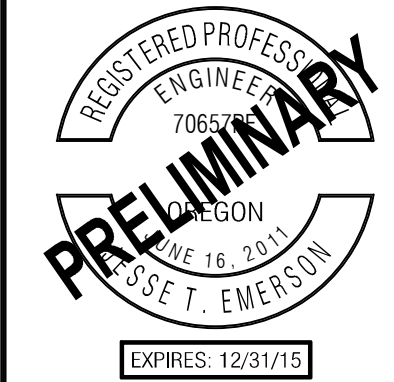
SURVEYOR'S NOTE

- UTILITY INFORMATION SHOWN ON THIS MAP IS BASED UPON OBSERVED FEATURES, RECORD DATA AND TONE MARKS PROVIDED BY PUBLIC UTILITY LOCATION SERVICES. NO WARRANTIES ARE MADE REGARDING THE ACCURACY OR COMPLETENESS OF THE UTILITY INFORMATION SHOWN. ADDITIONAL UTILITIES MAY EXIST. INTERESTED PARTIES ARE HEREBY ADVISED THAT UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO DESIGN OR CONSTRUCTION OF ANY CRITICAL ITEMS.
- VERTICAL DATUM: NGVD '88.
- CONTOUR INTERVAL IS ONE FOOT.
- TOPOGRAPHIC FEATURES SHOWN ON THIS MAP WERE LOCATED USING STANDARD PRECISION TOPOGRAPHIC MAPPING PROCEDURES. THIRD PARTY USERS OF DATA FROM THIS MAP PROVIDED VIA AUTOCAD DRAWING FILES OR DATA EXCHANGE FILES SHOULD NOT RELY ON ANY AUTOCAD GENERATED INFORMATION WHICH IS BEYOND THE LIMITS OF PRECISION OF THIS MAP. THIRD PARTIES USING DATA FROM THIS MAP IN AN AUTOCAD FORMAT SHOULD VERIFY ANY ELEMENTS REQUIRING PRECISE LOCATIONS PRIOR TO COMMENCEMENT OF ANY CRITICAL DESIGN OR CONSTRUCTION. CONTACT COMPASS ENGINEERING FOR FURTHER INFORMATION. FURTHERMORE, COMPASS ENGINEERING WILL NOT BE RESPONSIBLE NOR HELD LIABLE FOR ANY DESIGN OR CONSTRUCTION RELATED PROBLEMS THAT ARISE OUT OF THIRD PARTY USAGE OF THIS MAP (IN AUTOCAD OR OTHER FORMAT) FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED HEREIN. THIS STATEMENT IS AN OFFICIAL PART OF THIS MAP.



8/11/15
BY DATE
REVISION SUMMARY

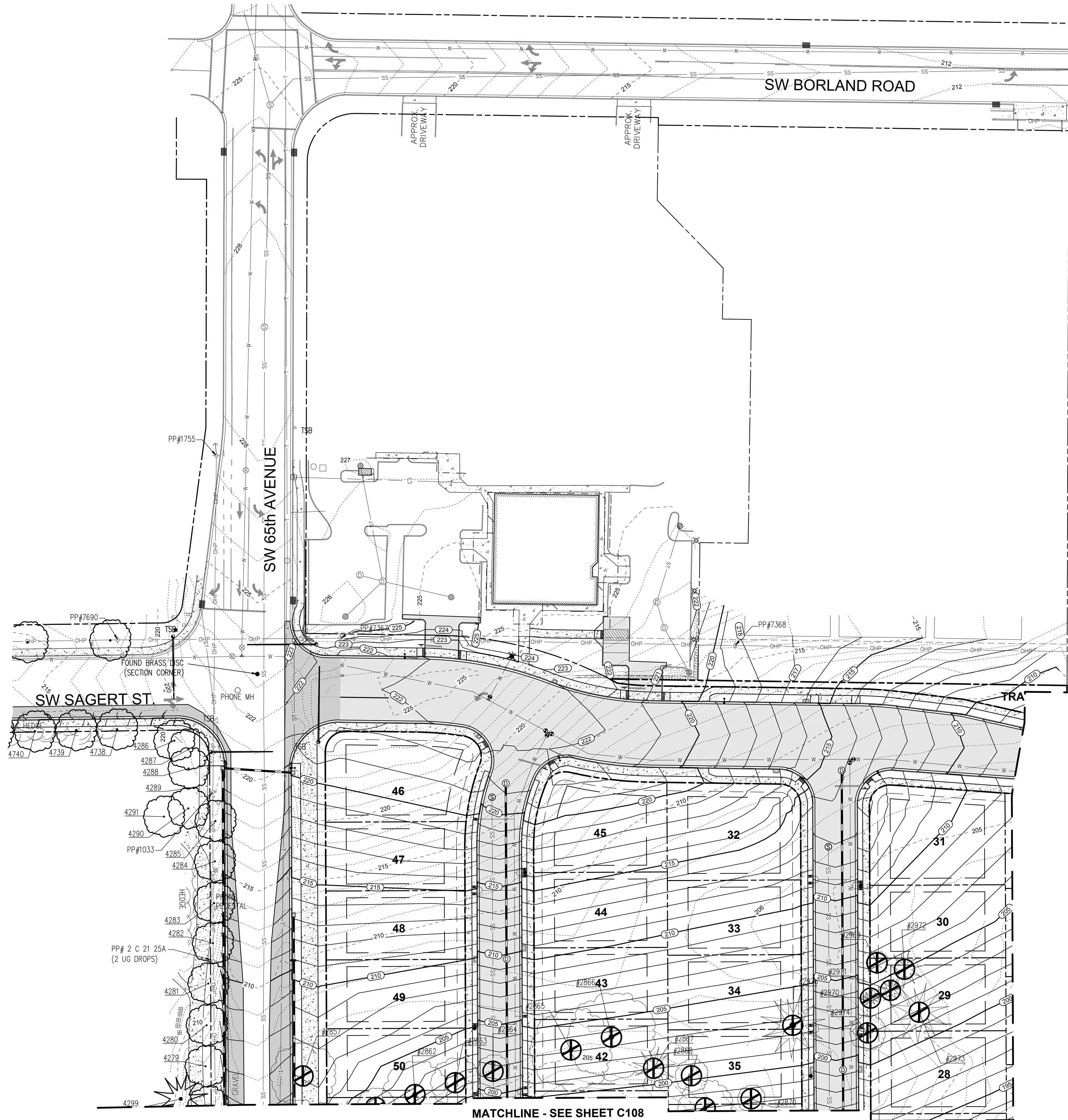
EXISTING CONDITIONS PLAN IV
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
EXIST. COND. IV

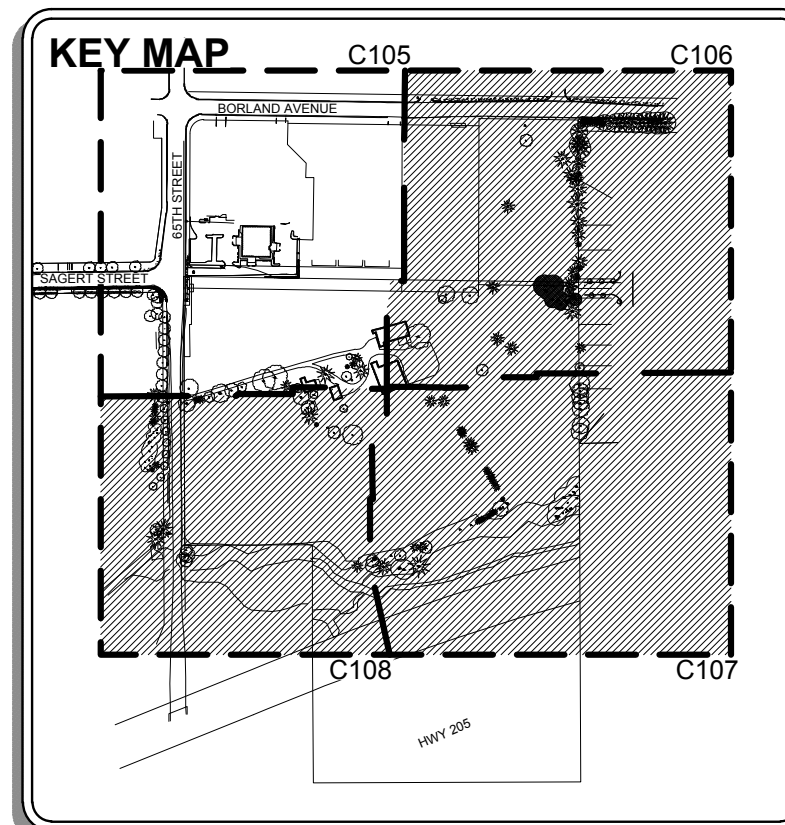
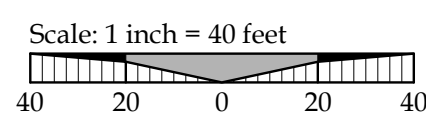
SHEET NUMBER
C104



MATCHLINE - SEE SHEET C106

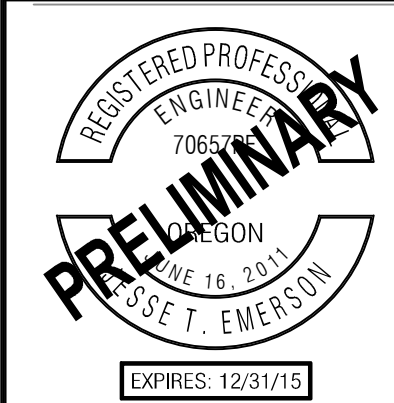
MATCHLINE - SEE SHEET C108

LEGEND	
	PROJECT BOUNDARY
	EXISTING RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LOT LINE
	PROPOSED RIGHT OF WAY LINE
	PROPOSED PROPERTY LOT LINE
	PROPOSED LOT SETBACK LINE
	EXISTING 5 FOOT CONTOUR
	EXISTING 1 FOOT CONTOUR
	PROPOSED 5 FOOT CONTOUR
	PROPOSED 1 FOOT CONTOUR
	PROPOSED CURB
	GRAVEL TRAIL
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING TREE CANOPY
	BUILDING
	TREES
	TREE TAG NUMBER (SEE C109 FOR DATA)
	TREE PROTECTION FENCING
	TREE TO BE REMOVED



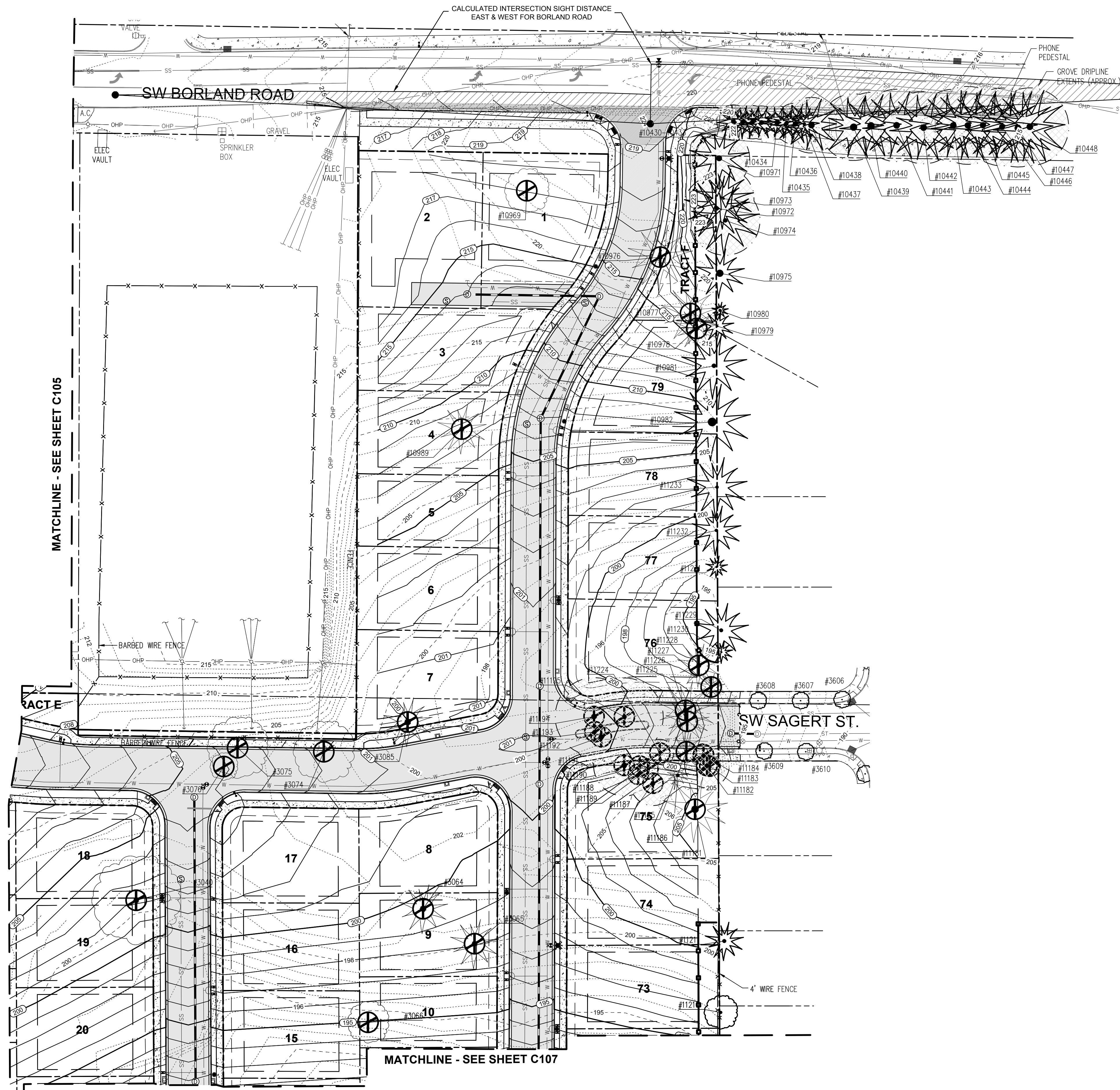
TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY
	DATE

TREE PROTECTION & REMOVAL I
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



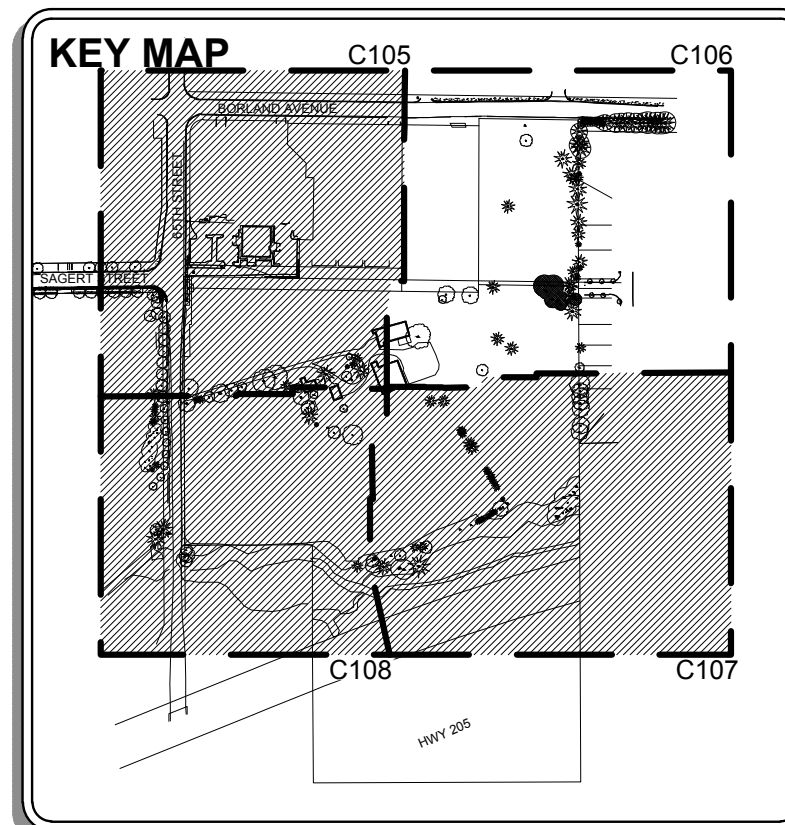
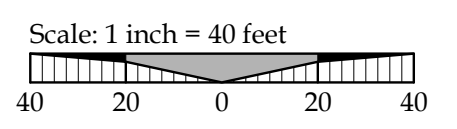
3J JOB ID #	I 13-159
LAND USE #	I SB15-0002
TAX LOT #	I 251E30B 300 & 600
DESIGNED BY	I JTE, JCP, CKW
CHECKED BY	I JTE, JDH

SHEET TITLE
TREE PROT./REM. I
 SHEET NUMBER
C105



LEGEND

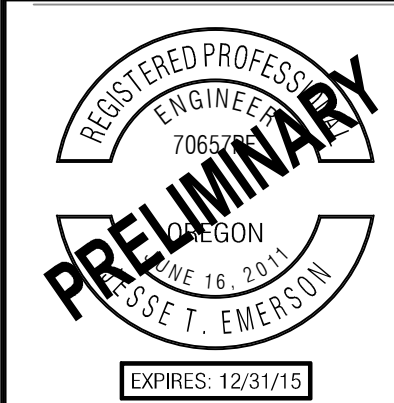
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	EXISTING RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LOT LINE
	PROPOSED RIGHT OF WAY LINE
	PROPOSED PROPERTY LOT LINE
	PROPOSED LOT SETBACK LINE
	EXISTING 5 FOOT CONTOUR
	EXISTING 1 FOOT CONTOUR
	PROPOSED 5 FOOT CONTOUR
	PROPOSED 1 FOOT CONTOUR
	PROPOSED CURB
	GRAVEL TRAIL
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING TREE CANOPY
	BUILDING
	TREES
	TREE TAG NUMBER (SEE C109 FOR DATA)
	TREE PROTECTION FENCING
	TREE TO BE REMOVED



TYPE II LAND USE

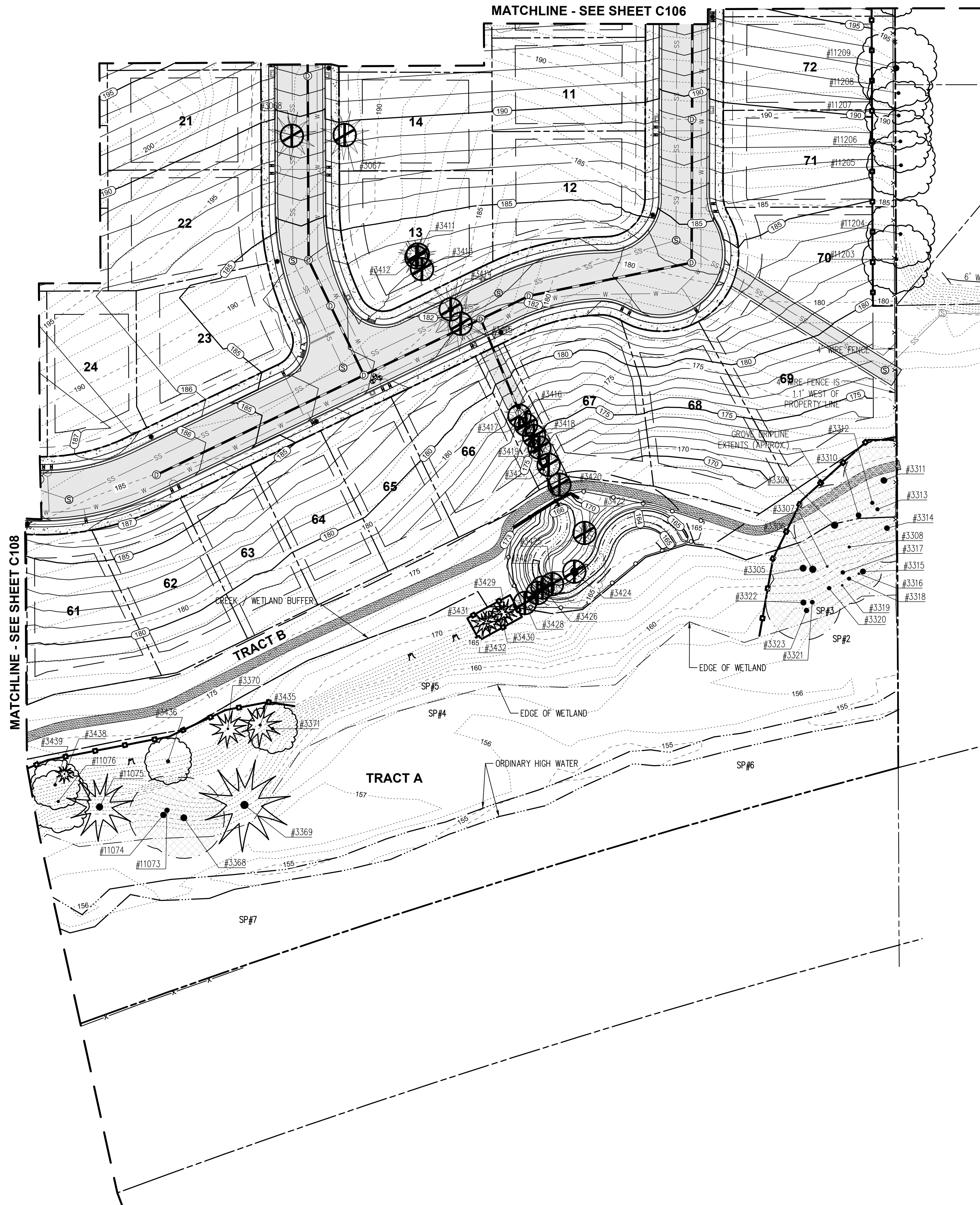
DATE	8/17/15
BY	
REVISION SUMMARY	

TREE PROTECTION & REMOVAL II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



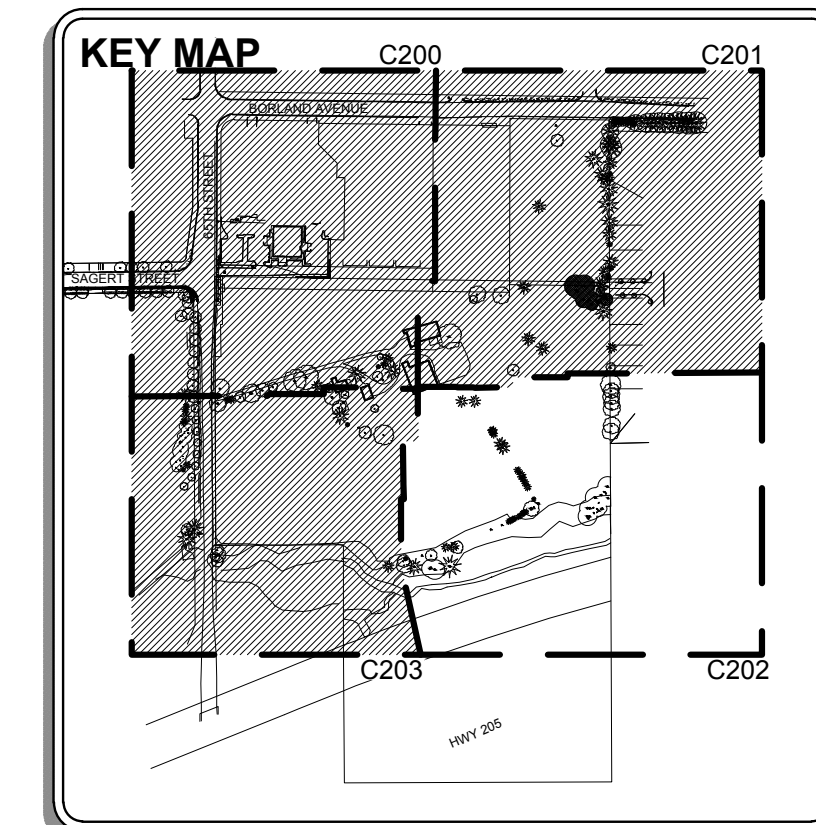
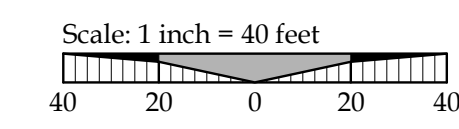
3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH
SHEET TITLE	TREE PROT./REM. II
SHEET NUMBER	

C106



LEGEND

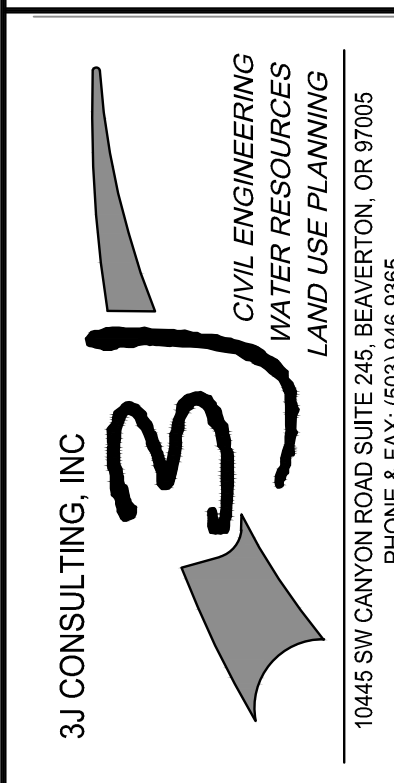
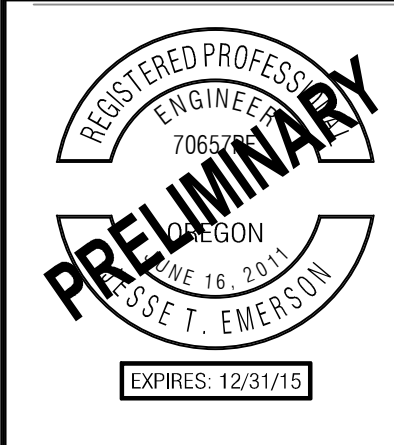
	PROJECT BOUNDARY
	EXISTING RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LOT LINE
	PROPOSED RIGHT OF WAY LINE
	PROPOSED PROPERTY LOT LINE
	PROPOSED LOT SETBACK LINE
	EXISTING 5 FOOT CONTOUR
	EXISTING 1 FOOT CONTOUR
	PROPOSED 5 FOOT CONTOUR
	PROPOSED 1 FOOT CONTOUR
	PROPOSED CURB
	GRAVEL TRAIL
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING TREE CANOPY
	BUILDING
	TREES
	TREE TAG NUMBER (SEE C109 FOR DATA)
	TREE PROTECTION FENCING
	TREE TO BE REMOVED



TYPE II LAND USE

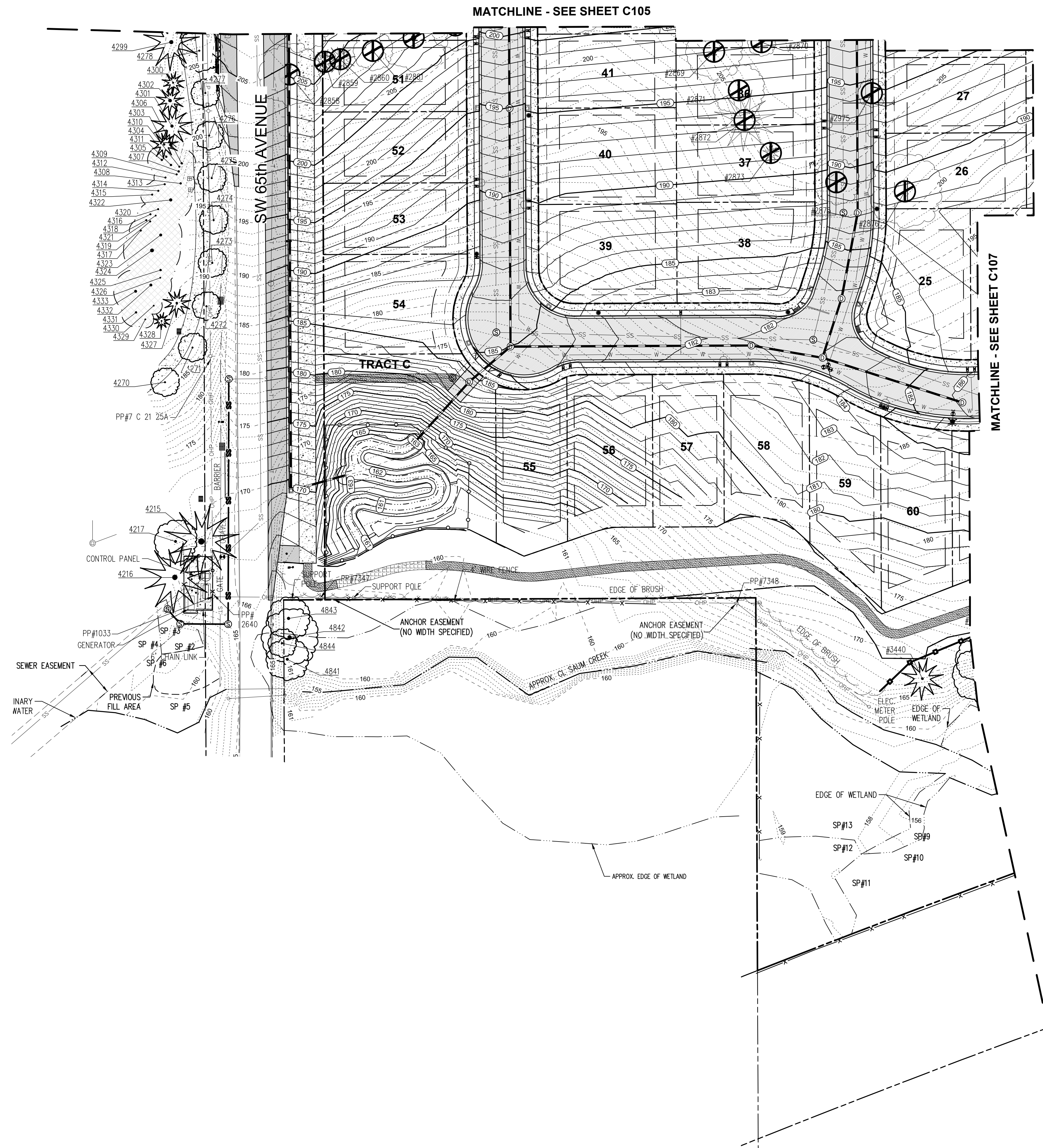
DATE	8/11/15
BY	
REVISION SUMMARY	

TREE PROTECTION & REMOVAL III
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



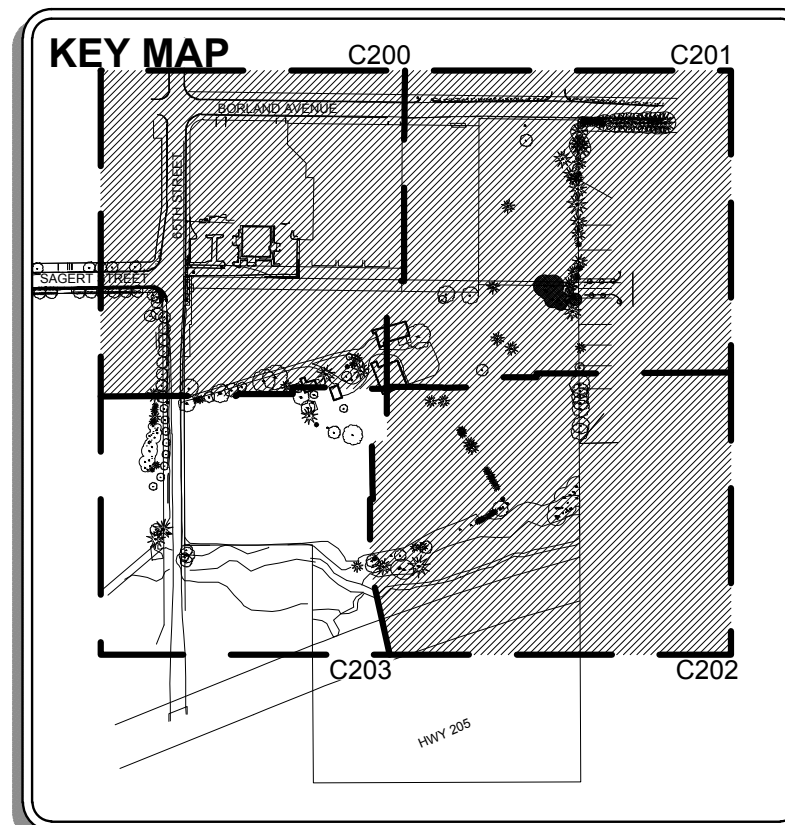
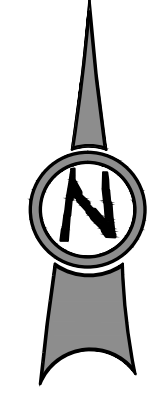
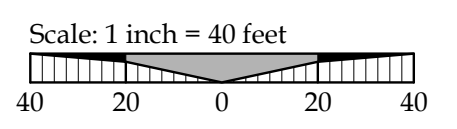
3J JOB ID #	I 13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
TREE PROT./REM. III
 SHEET NUMBER
C107



LEGEND

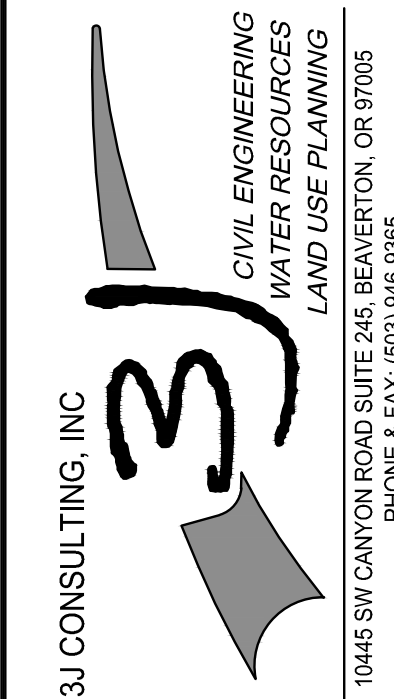
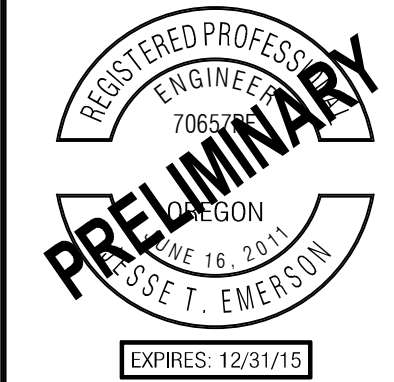
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	EXISTING RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LOT LINE
	PROPOSED RIGHT OF WAY LINE
	PROPOSED PROPERTY LOT LINE
	PROPOSED LOT SETBACK LINE
	EXISTING 5 FOOT CONTOUR
	EXISTING 1 FOOT CONTOUR
	PROPOSED 5 FOOT CONTOUR
	PROPOSED 1 FOOT CONTOUR
	PROPOSED CURB
	GRAVEL TRAIL
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING TREE CANOPY
	BUILDING
	TREES
	TREE TAG NUMBER (SEE C109 FOR DATA)
	TREE PROTECTION FENCING
	TREE TO BE REMOVED



TYPE II LAND USE

BY	8/11/15
REVISION SUMMARY	
DATE	

TREE PROTECTION AND REMOVAL IV
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
TREE PROT./REM. IV
 SHEET NUMBER
C108

TAX LOT 1500
MAP 2-1E-19C

SW BORLAND ROAD

#2855
(EX) SAN. MANHOLE
RIM 225.65
IE 4" IN NE. 221.75
IE IN SE. 212.60
IE IN S. 212.40
IE OUT N. 212.25

#2683
(EX) SAN. MH
(END FORCE MAIN)
RIM 228.81
IE 8" OUT N. 218.15
TOP OF FLANGE 226.31

TAX LOT 90000
MAP 2-1E-30B

TAX LOT 500
MAP 2-1E-30B

*TUALATIN PROFESSIONAL CENTER
CONDOMINIUM STAGE 1*

TAX LOT 500
MAP 2-1E-30B

TAX LOT 1000
MAP 2S-124-DD

PP#1755

TRAFFIC SIGNAL
SUPPORT POLE
PP#7690

FOUND BRASS DISC
(SECTION CORNER)

SW SAGERT ST.

#2213
(EX) CURB INLET
RIM 220.62
IE IN N. 217.02
IE IN E. 216.92
IE OUT S. 216.82

TAX LOT 5100
MAP 2S-125-AA

PP# 2 C 21 25A
(2 UG DROPS)

DITCH INLET
UPPER RIM 208.91
LOWER RIM 207.51
IE IN 204.91
IE OUT 204.46

#2290
(EX) CURB INLET
RIM 220.69
IE IN N. 218.39
IE OUT W. 218.29
SUMP 216.74

#2348
(EX) CATCH BASIN
RIM 222.67
IE 3" E. 221.37
SUMP 213.57

TAX LOT 600
MAP 2-1E-30B

TAX LOT 600
MAP 2-1E-30B

TAX LOT 600
MAP 2-1E-30B

MATCHLINE - SEE SHEET C114

LEGEND

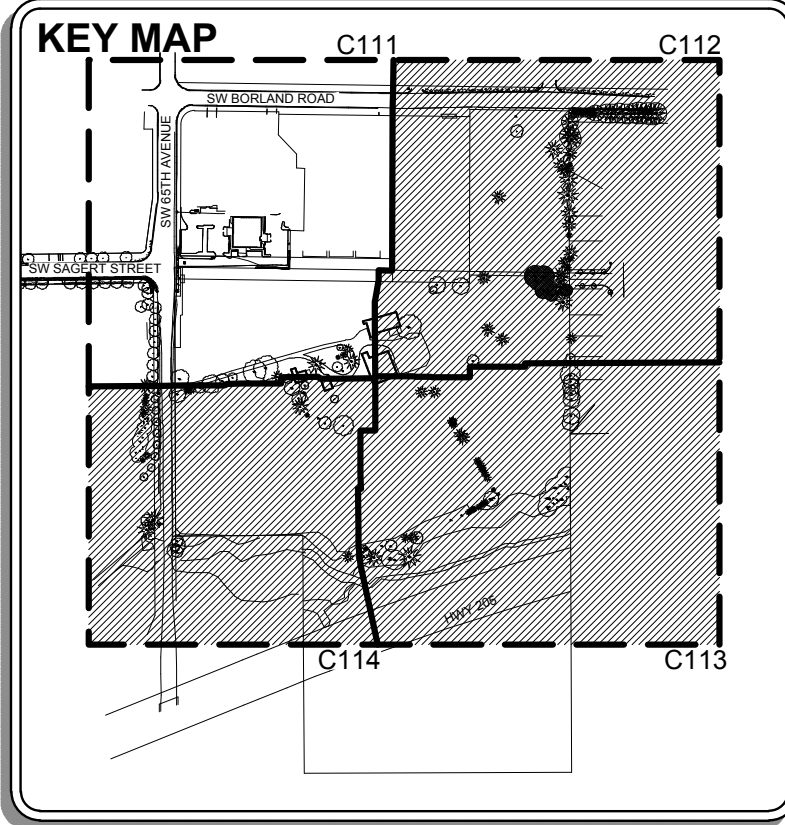
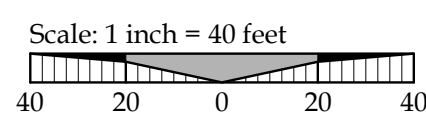
BOUNDARY LINE	CURB
RIGHT-OF-WAY	ASPHALT
LOT LINE	CONCRETE
CENTERLINE	GRAVEL
EASEMENT	EXISTING TREES
BUILDING	EXISTING STUMP
1 FT CONTOUR	LIGHT POLE
5 FT CONTOUR	WATER VALVE
SS SANITARY SEWER	WATER METER
SS SANITARY SEWER FORCEMAIN	FIRE HYDRANT
ST STORM SEWER	SEWER MANHOLE
W WATER LINE	CURB INLET
G GAS LINE	GAS VALVE
UGP UNDERGROUND POWER	PHONE PEDESTAL
T UNDERGROUND PHONE LINE	SIGN
OP OVERHEAD POWER	TEST PIT
X BARBED WIRE FENCE	UTILITY POLE
O CHAIN LINK FENCE	TRAFFIC SIGNAL BOX
WETLAND	
STREAM OR WETLAND BUFFER	
EDGE OF BRUSH	
REMOVAL LIMITS	
PAVEMENT SAW-CUT LINE	
PAVEMENT REMOVAL LIMITS	

DEMOLITION & SITE PREPARATION KEY NOTES

1	SAW-CUT ASPHALT TO FULL DEPTH, REMOVE EXISTING PAVEMENT AND CURB AND DISPOSE OFF-SITE. ALL WORK WITHIN RIGHT OF WAY TO FOLLOW APPROVED TRAFFIC MANAGEMENT PLAN. CITY OF TUALATIN TO APPROVE ALL SAW-CUT LIMITS PRIOR TO CUTTING WITHIN RIGHT OF WAY.
2	REMOVE AND RELOCATE EXISTING FIRE HYDRANT ASSEMBLY. SEE WATER PLANS FOR NEW LOCATION.
3	CONTRACTOR TO REMOVE SIGN(S) AND POST(S) AND DISPOSE OF OFF-SITE.
4	REMOVE EXISTING FENCE AND DISPOSE OFF-SITE.
5	EXISTING GRAVEL TO BE USED AS CONSTRUCTION STAGING AREA. SEE SHEET C116.
6	EXISTING BUILDING AND FOUNDATION TO BE DEMOLISHED. DEBRIS AND REFUSE TO BE DISPOSED OF OFF-SITE AT AN APPROVED LOCATION.
7	EXISTING ELECTRICAL VAULT TO BE DISCONNECTED AND RETURNED TO PGE.
8	REMOVE EXISTING STORM STRUCTURE AND DISPOSE OF OFF-SITE.
9	EXISTING CATCH BASIN AND PIPE TO BE REMOVED UP TO PROPERTY LIMITS. DEBRIS AND REFUSE TO BE DISPOSED OF OFF-SITE.
10	DECOMMISSION EXISTING FUEL TANK AND DISPOSE OF OFF-SITE.
11	EXISTING ELECTRICAL LINE TO BE DISCONNECTED AND REMOVED. ABANDON LINE IN PLACE WITHIN SW 65th AVENUE. COORDINATE WITH PGE.
12	TELEPHONE LINE TO BE DISCONNECTED. DISPOSE OF OFF-SITE.
13	REMOVE EXISTING WALL AND DISPOSE OF OFF-SITE.
14	EXISTING POWER METER TO BE DISCONNECTED AND RETURNED TO PGE. CAP SERVICE LINES AND REMOVE ALL CONDUITS AND WIRING WITHIN PROPERTY.

** TREE REMOVAL NOTICE **

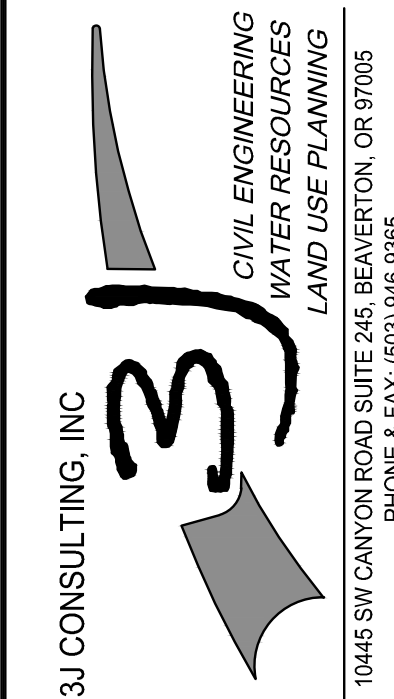
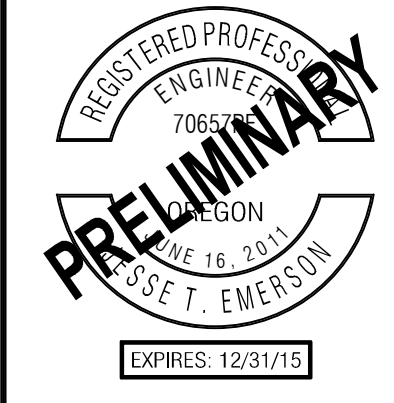
ALL TREE INVENTORY, PROTECTION AND REMOVAL IS SUBJECT TO THE REQUIREMENTS AND RECOMMENDATIONS OF THE PROJECT ARBORIST AND THE CITY OF TUALATIN. SEE TREE PROTECTION AND REMOVAL PLANS C105-C109.



MATCHLINE - SEE SHEET C112

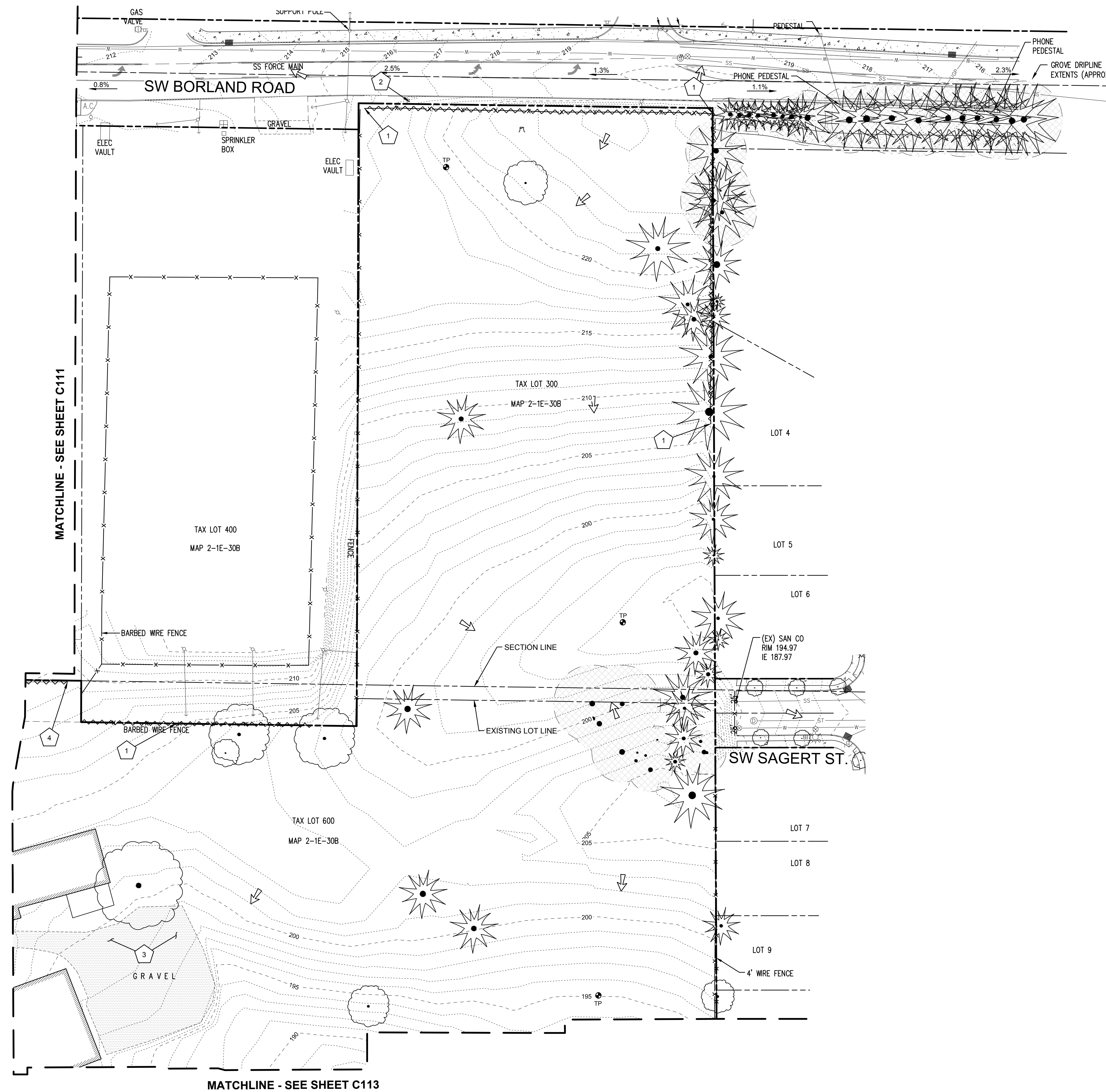
TYPE II LAND USE	8/17/15
REVISION SUMMARY	BY
	DATE

DEMOLITION PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	I 13-159
LAND USE #	I SB15-0002
TAX LOT #	I 251E30B 300 & 600
DESIGNED BY	I JTE, JCP, CKW
CHECKED BY	I JTE, JDH

SHEET TITLE
 DEMO. PLAN I
 SHEET NUMBER
C111



LEGEND

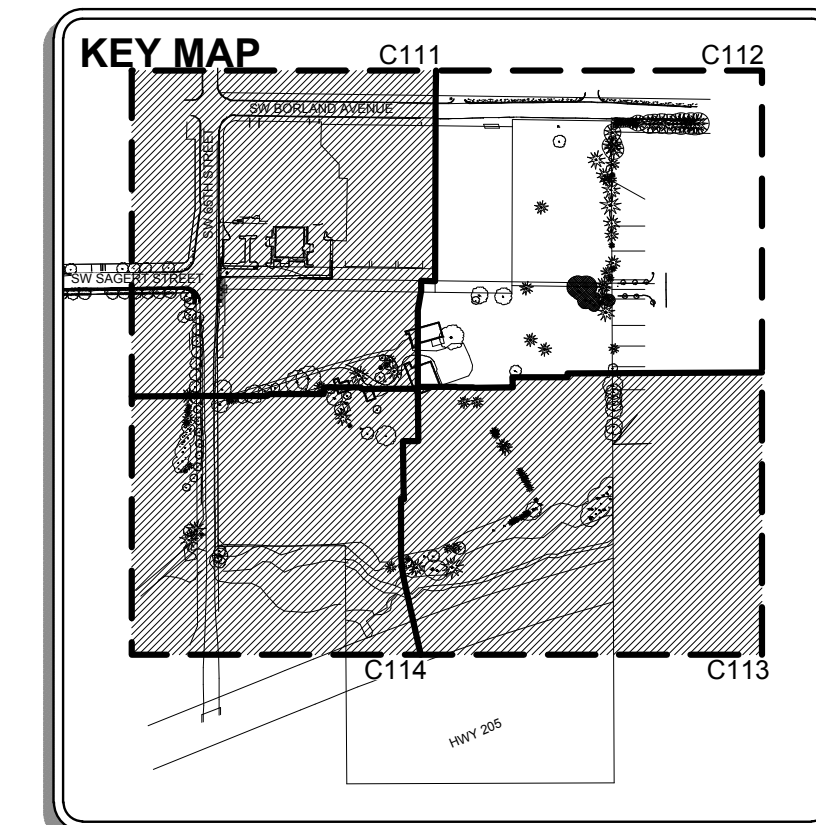
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	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCEMAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	REMOVAL LIMITS		
	TREE CANOPY		

DEMOLITION & SITE PREPARATION KEY NOTES

	REMOVE EXISTING FENCE. DISPOSE OF OFF-SITE.
	CONTRACTOR TO REMOVE SIGN(S) AND POST(S) AND DISPOSE OF OFF-SITE.
	EXISTING GRAVEL TO BE USED AS CONSTRUCTION STAGING AREA. SEE SHEET C117.
	EXISTING ELECTRICAL LINE TO BE DISCONNECTED AND REMOVED. DISPOSE OF OFF-SITE.

Scale: 1 inch = 40 feet

811
Know what's below.
Call before you dig.



TYPE II LAND USE

REVISION SUMMARY	DATE
	8/11/15

DEMOLITION PLAN II
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY
 EXPIRES: 12/31/15

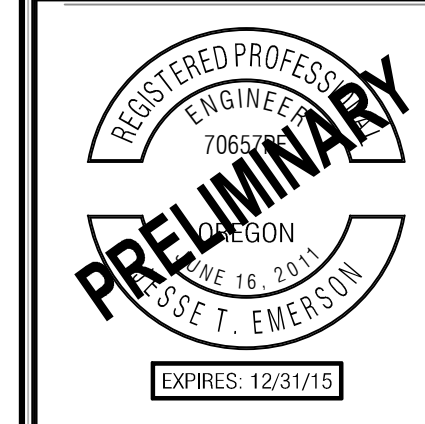
3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD, SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
DEMO. PLAN II
 SHEET NUMBER
C112

TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

DEMOLITION PLAN III
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



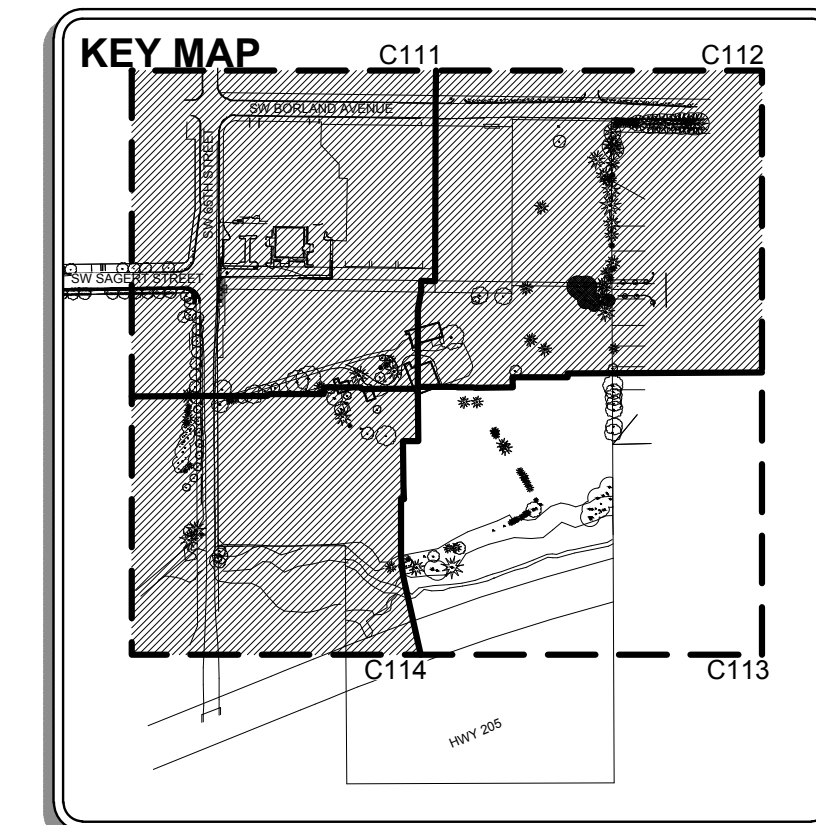
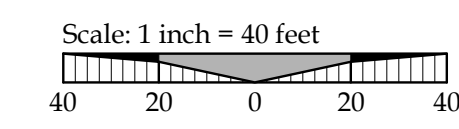
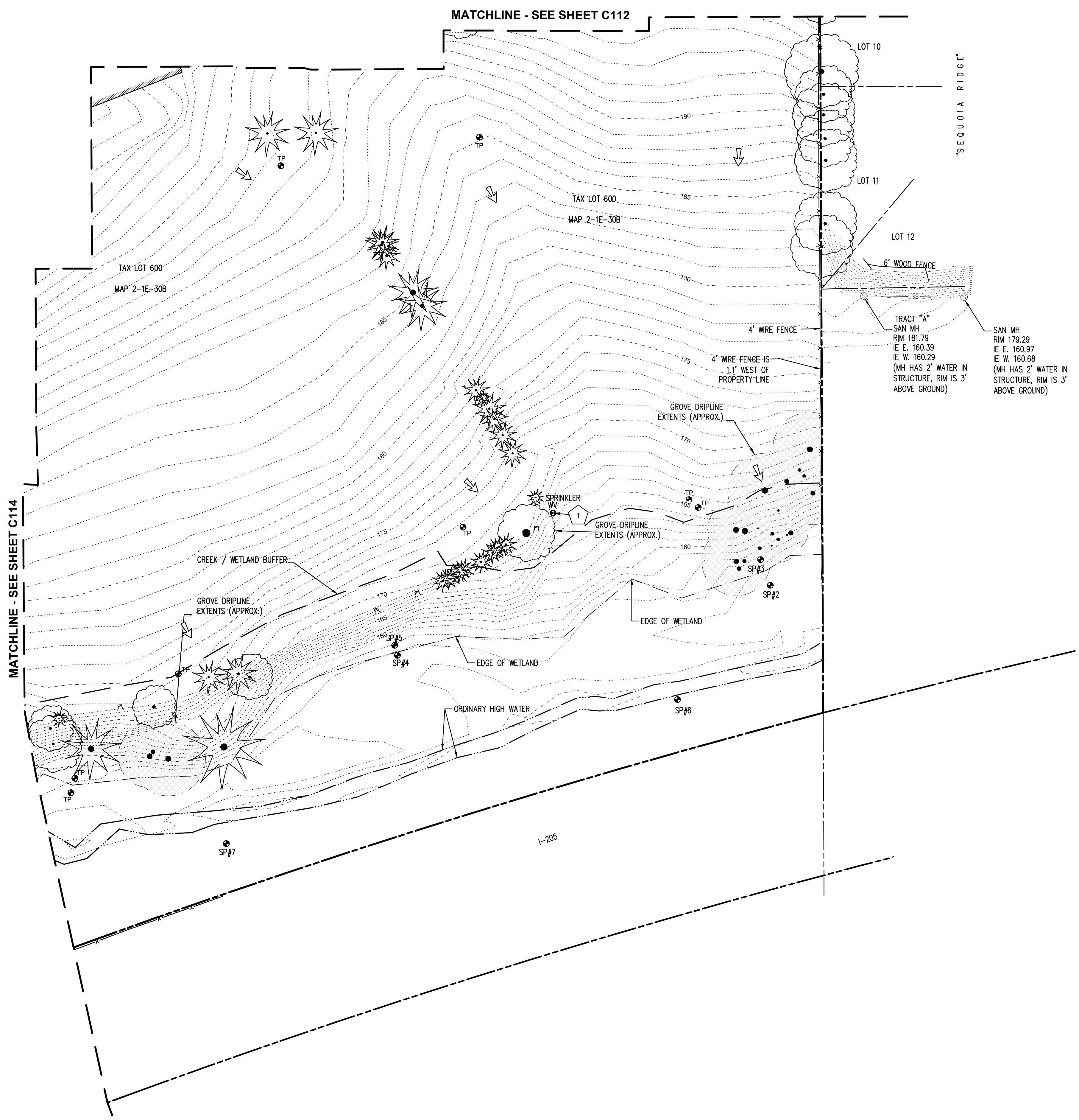
3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD, SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
DEMO. PLAN III
 SHEET NUMBER
C113

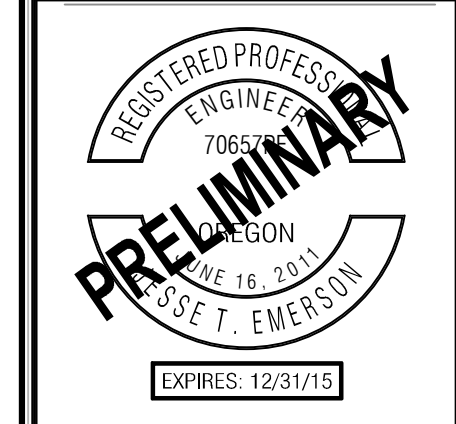
LEGEND			
	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCE MAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	TREE CANOPY		

DEMOLITION & SITE PREPARATION KEY NOTES	
	EXISTING IRRIGATION LINE AND VALVE TO BE REMOVED AND DISPOSED OFF-SITE.



8/11/15
BY DATE
REVISION SUMMARY

DEMOLITION PLAN IV
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
3J
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD, SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
DEMO. PLAN IV
 SHEET NUMBER
C114

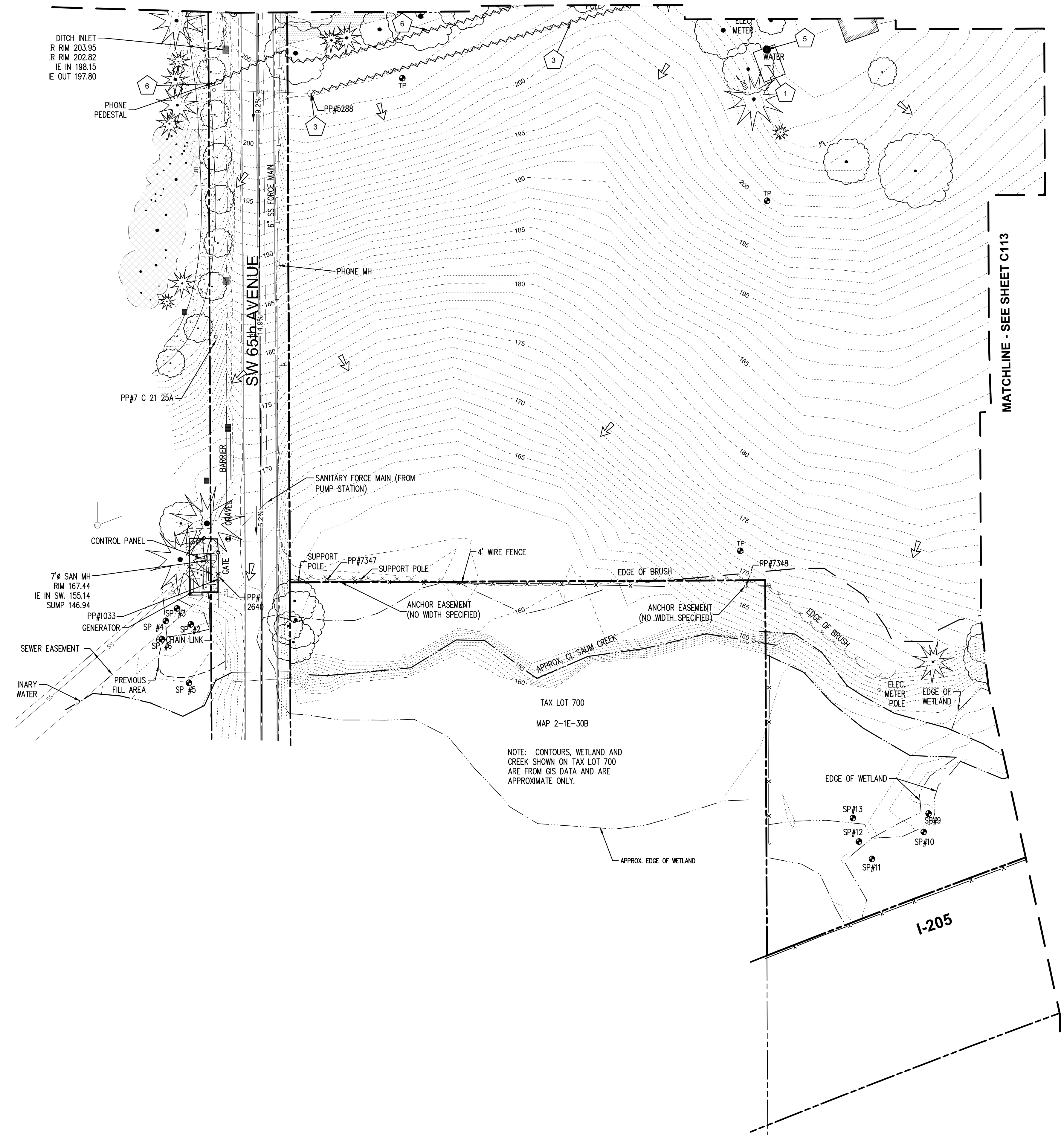
MATCHLINE - SEE SHEET C111

LEGEND

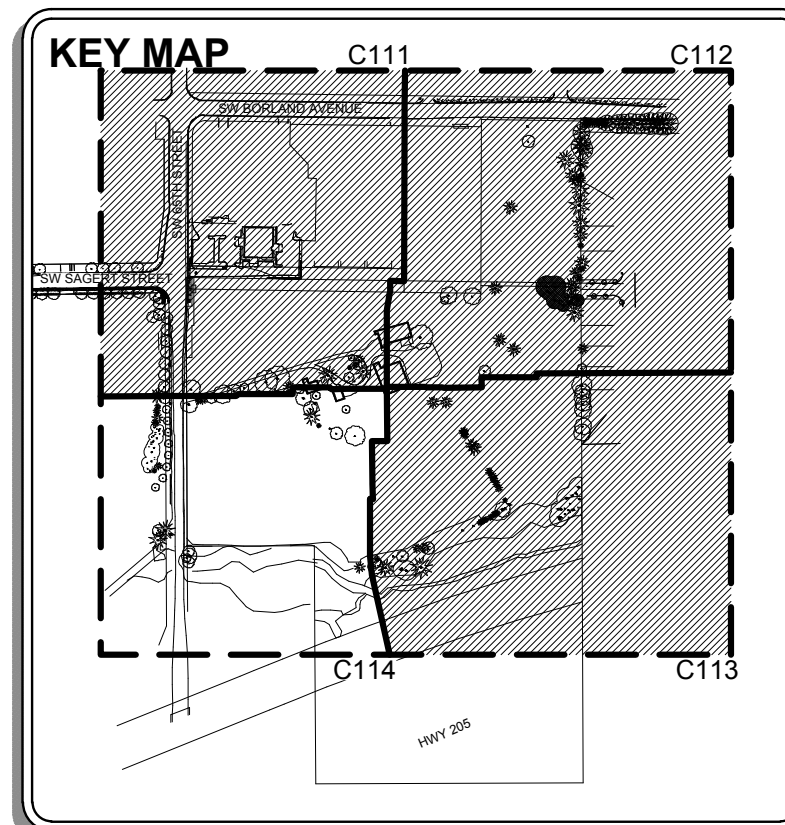
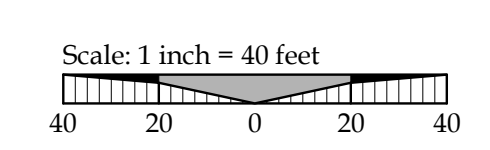
- BOUNDARY LINE
- - - RIGHT-OF-WAY
- LOT LINE
- CENTERLINE
- - - EASEMENT
- ▭ BUILDING
- 1 FT CONTOUR
- 5 FT CONTOUR
- SS SANITARY SEWER
- SS SANITARY SEWER FORCEMAIN
- ST STORM SEWER
- W WATER LINE
- G GAS LINE
- UGP UNDERGROUND POWER
- T UNDERGROUND PHONE LINE
- OP OVERHEAD POWER
- X X BARBED WIRE FENCE
- CHAIN LINK FENCE
- WETLAND
- STREAM OR WETLAND BUFFER
- EDGE OF BRUSH
- REMOVAL LIMITS
- TREE CANOPY
- ▭ CURB
- ▭ ASPHALT
- ▭ CONCRETE
- ▭ GRAVEL
- ☼ EXISTING TREES
- ☼ EXISTING STUMP
- ☼ LIGHT POLE
- ☼ WATER VALVE
- ☼ WATER METER
- ☼ FIRE HYDRANT
- ☼ SEWER MANHOLE
- ☼ CURB INLET
- ☼ GAS VALVE
- ☼ PHONE PEDESTAL
- ☼ SIGN
- ☼ TEST PIT
- ☼ UTILITY POLE
- ☼ TRAFFIC SIGNAL BOX

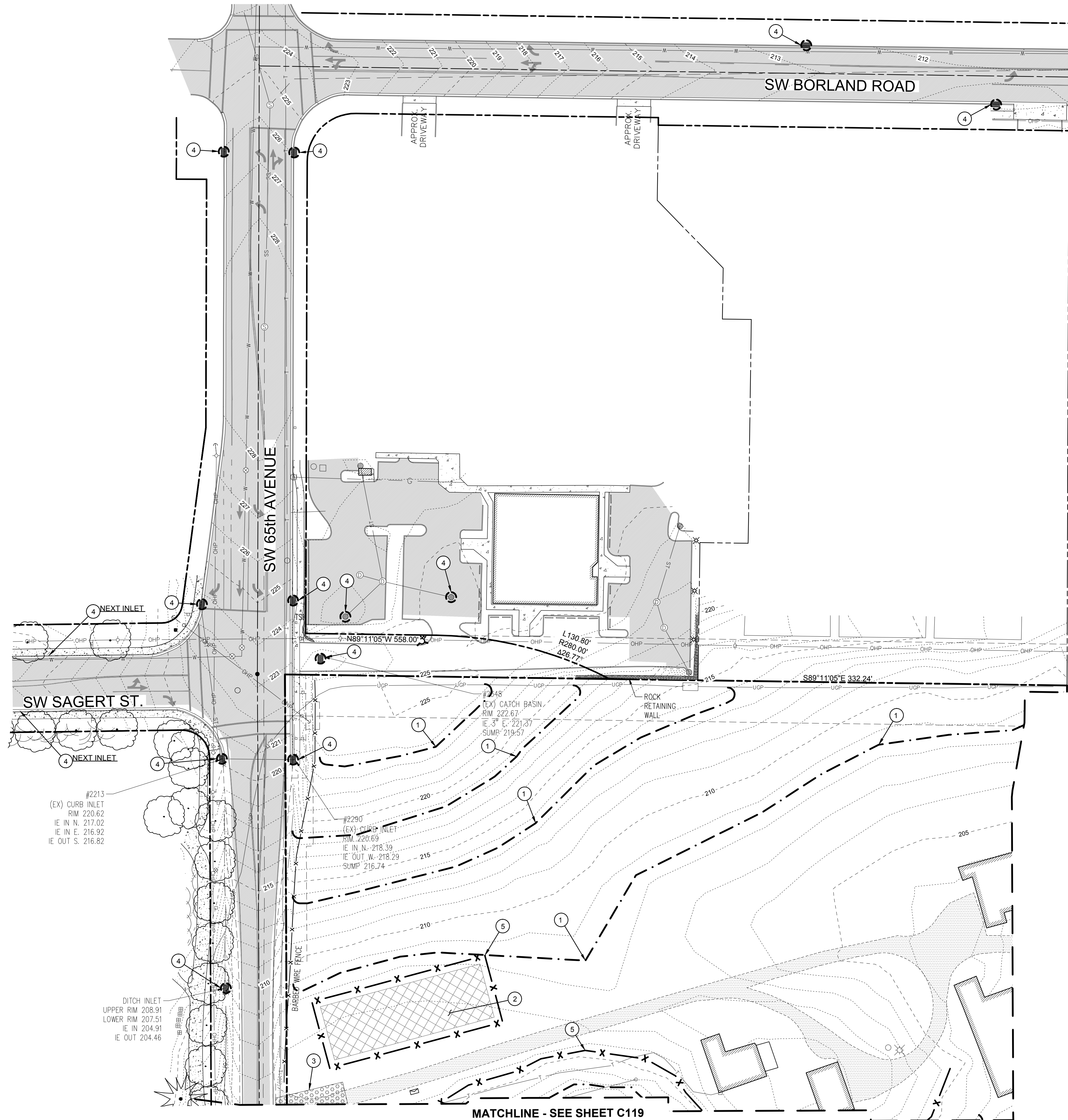
DEMOLITION & SITE PREPARATION KEY NOTES

1	EXISTING BUILDING AND FOUNDATION TO BE DEMOLISHED. DEBRIS AND REFUSE TO BE DISPOSED OFF-SITE AT AN APPROVED LOCATION.
2	NOT USED.
3	CONTRACTOR TO COORDINATE WITH PGE TO REMOVE EXISTING UTILITY POLE.
4	NOT USED
5	EXISTING WATER WELL AND PUMP HOUSE TO BE DECOMMISSIONED PER OAR 690-220-0030.
6	TELEPHONE LINE TO BE DISCONNECTED AND REMOVED. DISPOSE OF OFF-SITE.
7	UNDERGROUND POWER TO BE DISCONNECTED AND REMOVED. DISPOSE OF OFF-SITE. COORDINATE WITH PGE.



NOTE: CONTOURS, WETLAND AND CREEK SHOWN ON TAX LOT 700 ARE FROM GIS DATA AND ARE APPROXIMATE ONLY.





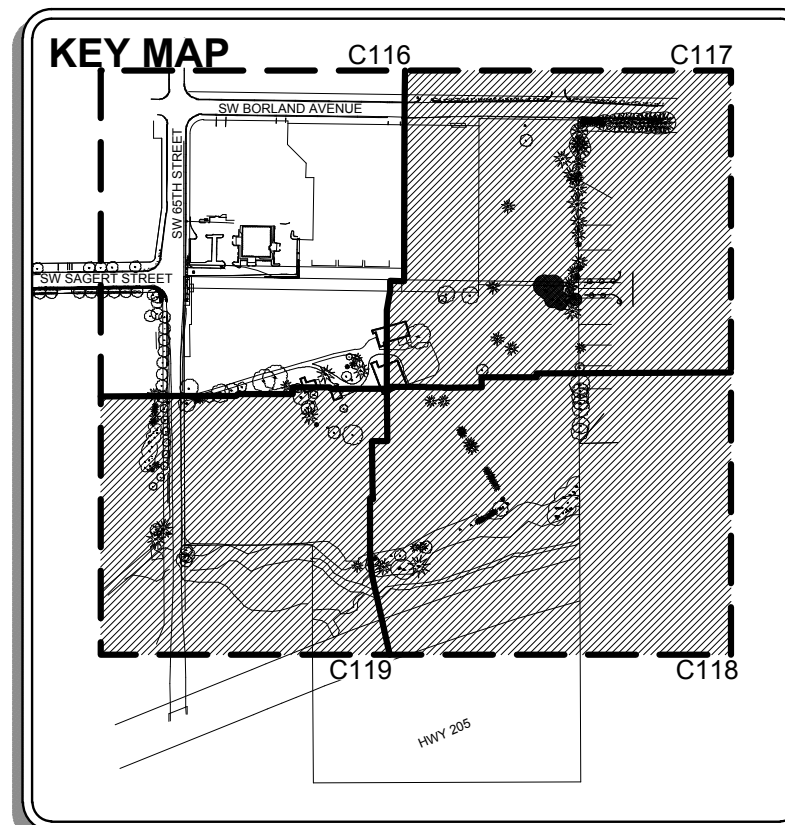
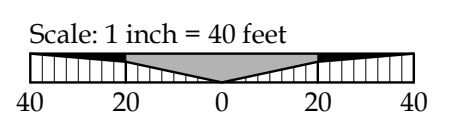
MATCHLINE - SEE SHEET C117

LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCE MAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	PROPOSED STRAW WATTLE		
	PROPOSED SILT FENCING		
	PROPOSED TREE PROTECTING FENCING		
	PROPOSED CONSTRUCTION ENTRANCE		
	PROPOSED INLET PROTECTION		
	PROPOSED BIO BAG CHECK DAM		

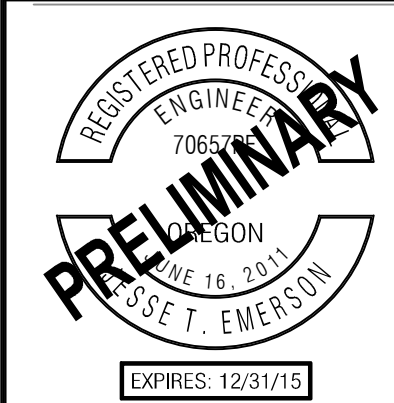
EROSION CONTROL KEY NOTES

- 1 INSTALL STRAW WATTLE AS NEEDED FOR CONSTRUCTION PHASING. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
- 2 TEMPORARY SOIL / WASTE STOCKPILE LOCATION. COVER WITH PLASTIC SHEETING AT THE END OF WORK DAY AS REQUIRED.
- 3 CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.
- 4 INSTALL INLET PROTECTION.
- 5 PLACE SILT FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN.



TYPE II LAND USE
REVISION SUMMARY
BY DATE

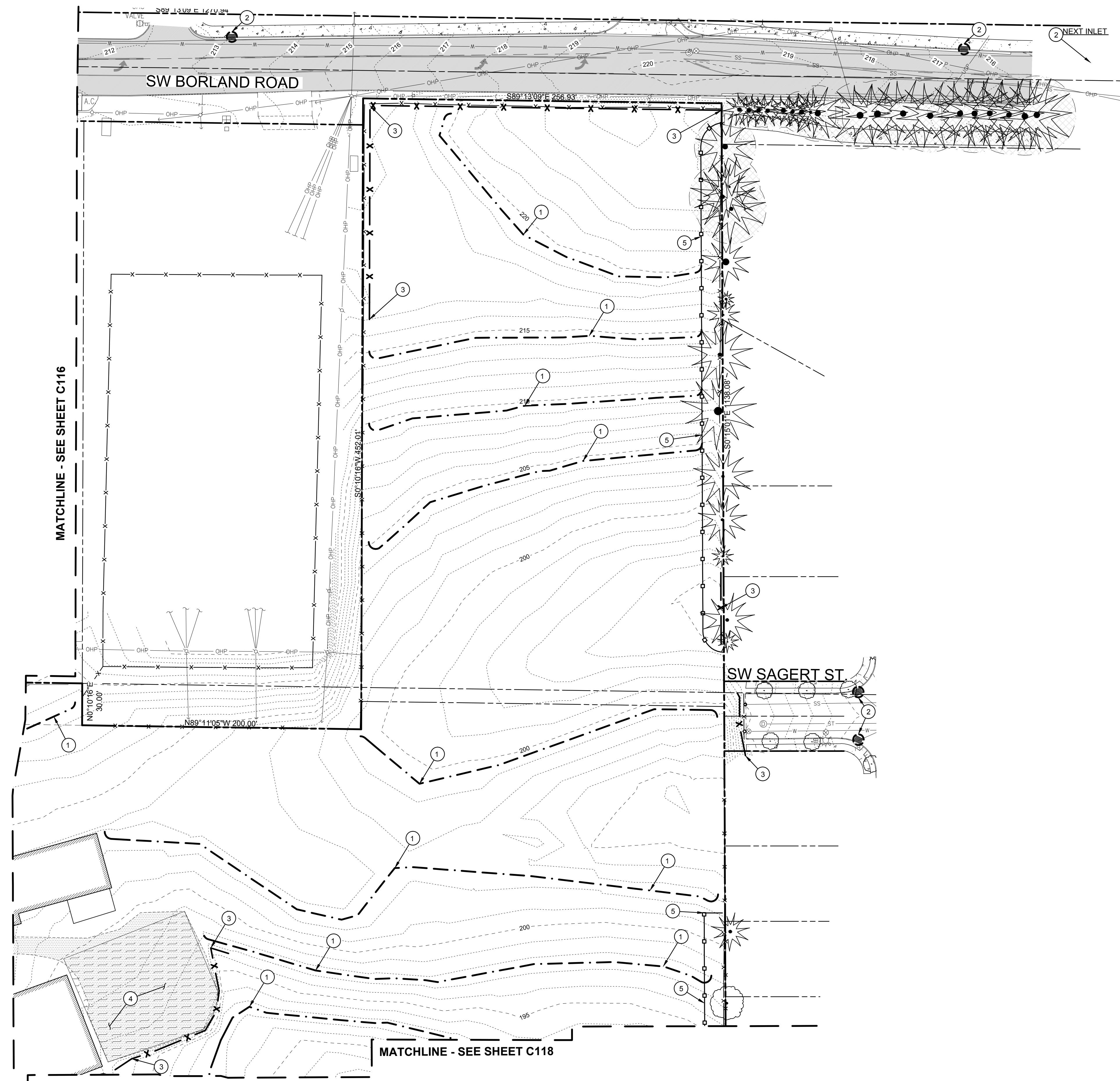
PHASE 1 EROSION CONTROL PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
ESCP I

SHEET NUMBER
C116

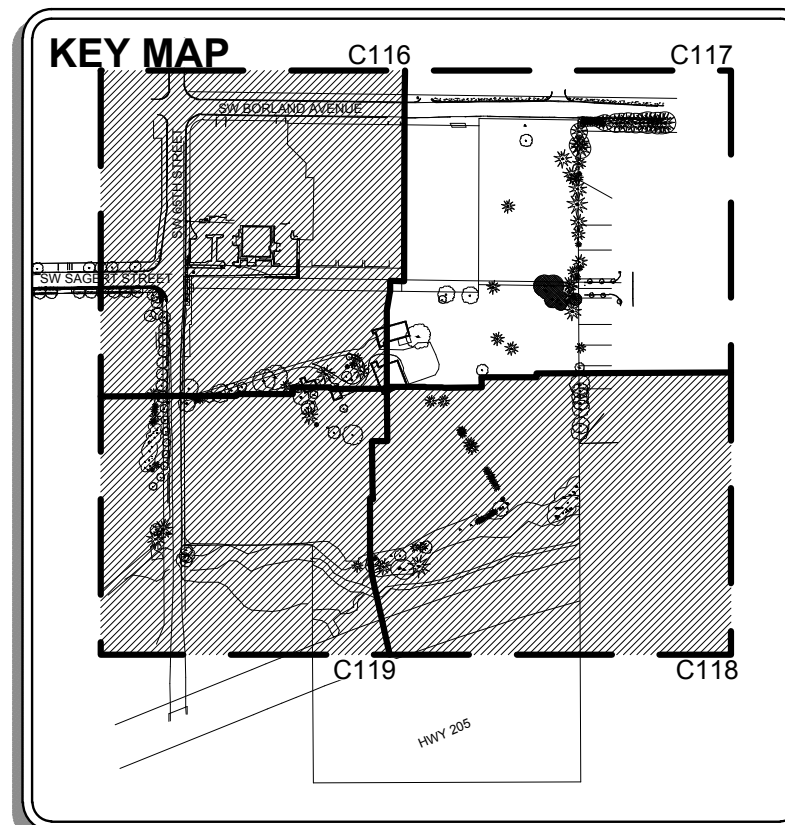
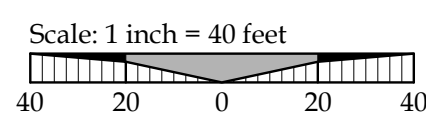


LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	BUILDING		EXISTING TREES
	1 FT CONTOUR		EXISTING STUMP
	5 FT CONTOUR		LIGHT POLE
	SANITARY SEWER		WATER VALVE
	STORM SEWER		WATER METER
	WATER LINE		FIRE HYDRANT
	UNDERGROUND POWER		SEWER MANHOLE
	OVERHEAD POWER		CURB INLET
	BARBED WIRE FENCE		GAS VALVE
	PROPOSED STRAW WATTLE		PHONE PEDESTAL
	PROPOSED SILT FENCING		SIGN
	PROPOSED TREE PROTECTING FENCING		TEST PIT
	PROPOSED INLET PROTECTION		UTILITY POLE
	PROPOSED BIO BAG CHECK DAM		

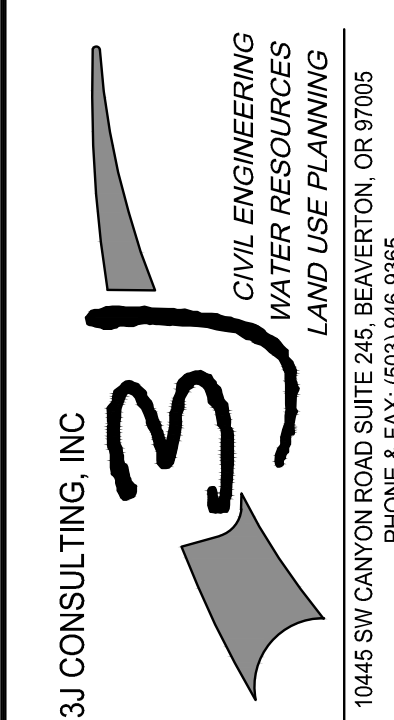
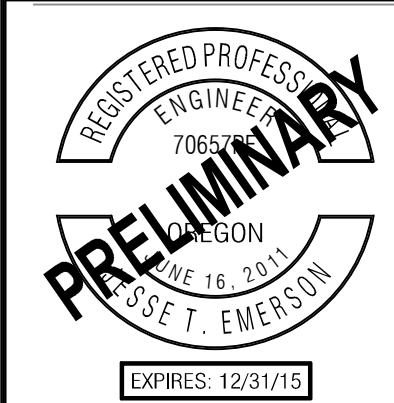
EROSION CONTROL KEY NOTES

1	INSTALL STRAW WATTLE. AS NEEDED FOR CONSTRUCTION PHASING. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
2	INSTALL INLET PROTECTION.
3	PLACE SILT FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN.
4	CONSTRUCT CONSTRUCTION STAGING AREA.
5	INSTALL TREE PROTECTION FENCING AT LIMITS SHOWN.



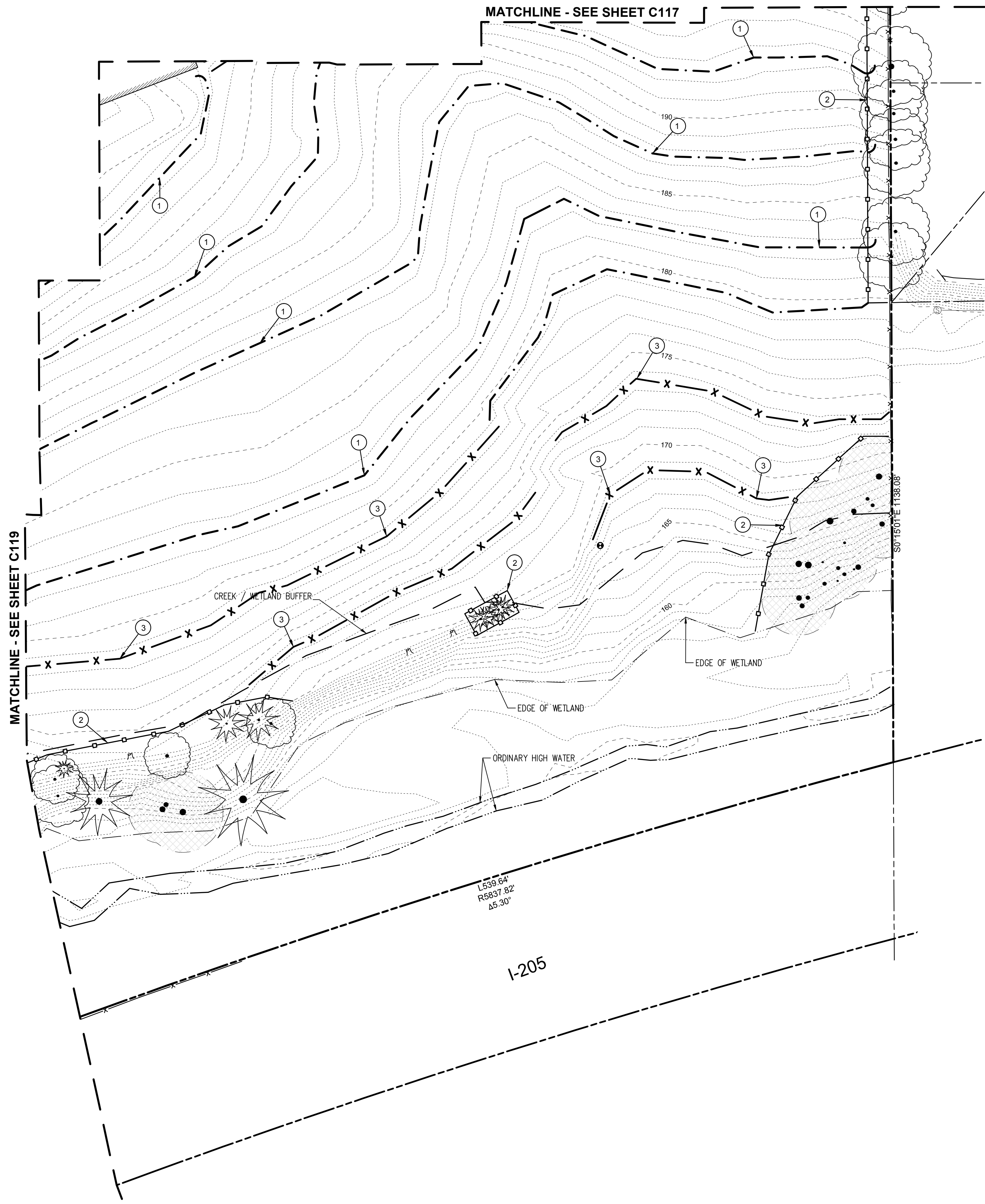
8/11/15
BY
REVISION SUMMARY

PHASE 1 EROSION CONTROL PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
ESCP II
SHEET NUMBER
C117

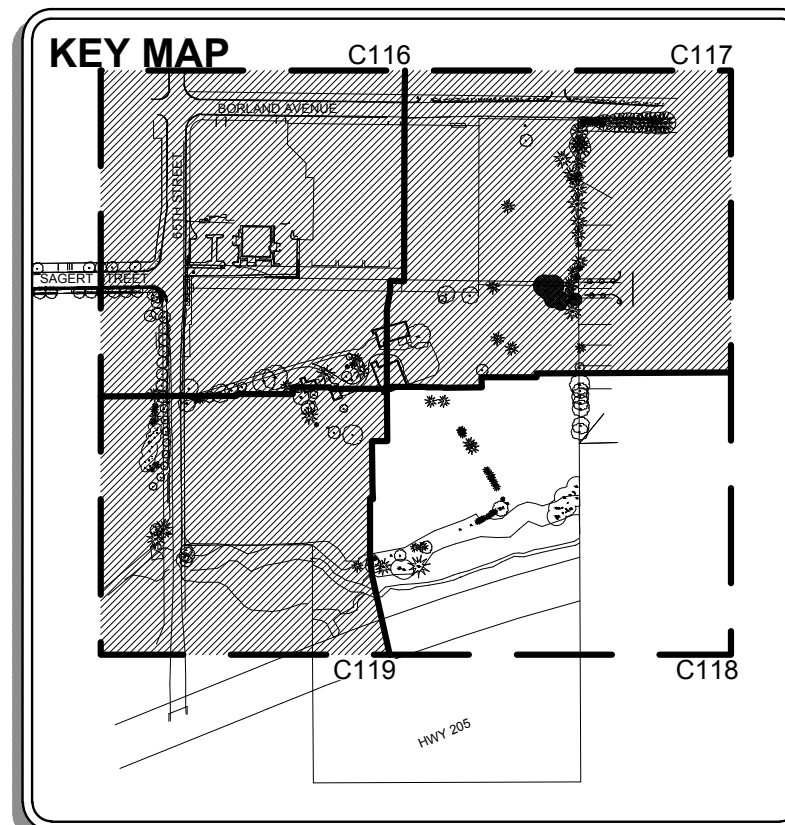
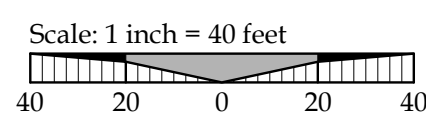


LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCEMAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	PROPOSED STRAW WATTLE		
	PROPOSED SILT FENCING		
	PROPOSED TREE PROTECTING FENCING		
	PROPOSED INLET PROTECTION		
	PROPOSED BIO BAG CHECK DAM		

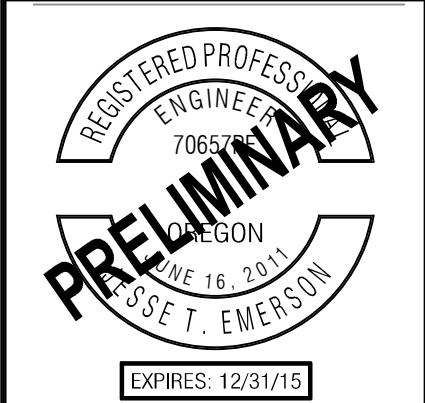
EROSION CONTROL KEY NOTES

①	INSTALL STRAW WATTLE AS NEEDED FOR CONSTRUCTION PHASING. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
②	INSTALL TREE PROTECTION FENCING AS SHOWN.
③	PLACE SILT FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN.



8/17/15	DATE
BY	
REVISION SUMMARY	
TYPE II LAND USE	

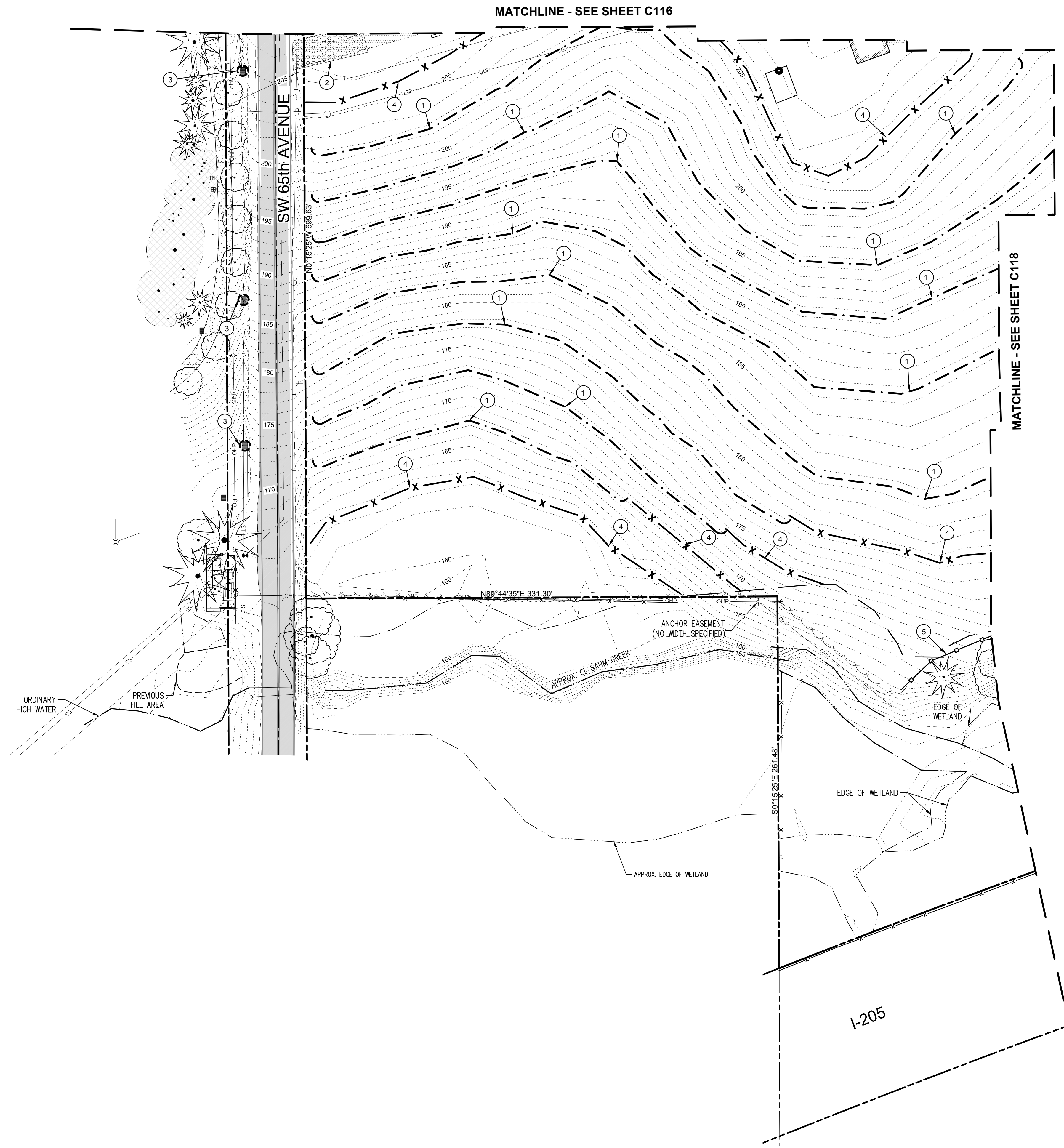
PHASE 1 EROSION CONTROL PLAN III
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD, SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	I 13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
ESCP III
 SHEET NUMBER
C118

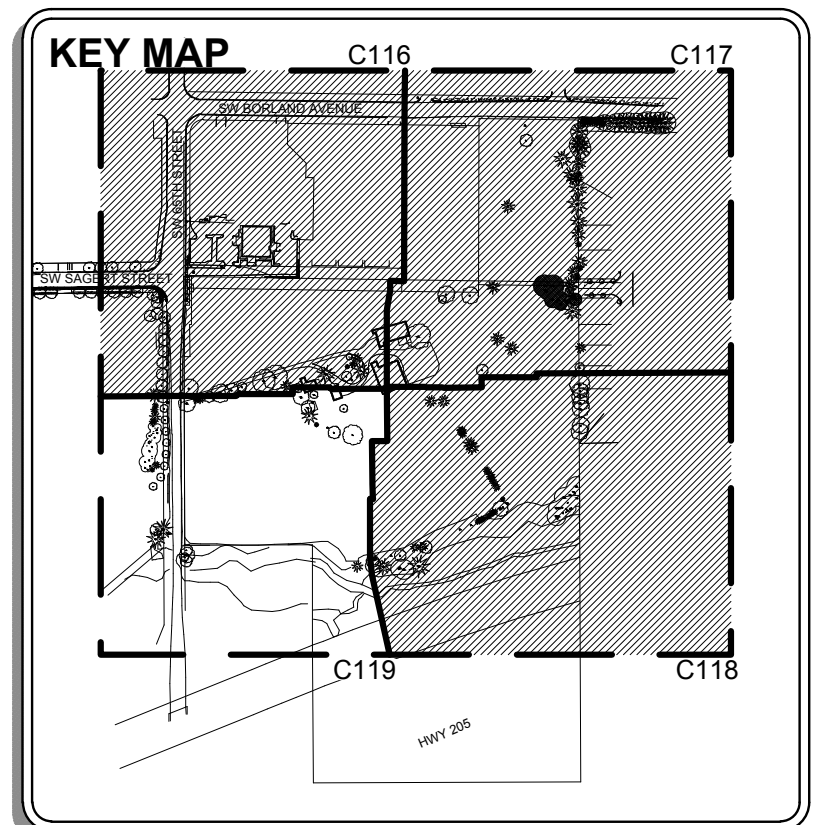
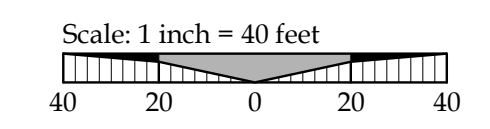


LEGEND

	BOUNDARY LINE		CURB
	RIGHT-OF-WAY		ASPHALT
	LOT LINE		CONCRETE
	CENTERLINE		GRAVEL
	EASEMENT		EXISTING TREES
	BUILDING		EXISTING STUMP
	1 FT CONTOUR		LIGHT POLE
	5 FT CONTOUR		WATER VALVE
	SANITARY SEWER		WATER METER
	SANITARY SEWER FORCEMAIN		FIRE HYDRANT
	STORM SEWER		SEWER MANHOLE
	WATER LINE		CURB INLET
	GAS LINE		GAS VALVE
	UNDERGROUND POWER		PHONE PEDESTAL
	UNDERGROUND PHONE LINE		SIGN
	OVERHEAD POWER		TEST PIT
	BARBED WIRE FENCE		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		
	STREAM OR WETLAND BUFFER		
	EDGE OF BRUSH		
	PROPOSED STRAW WATTLE		
	PROPOSED SILT FENCING		
	REMOVAL LIMITS		
	PROPOSED TREE PROTECTING FENCING		
	PROPOSED INLET PROTECTION		
	PROPOSED BIO BAG CHECK DAM		

EROSION CONTROL KEY NOTES

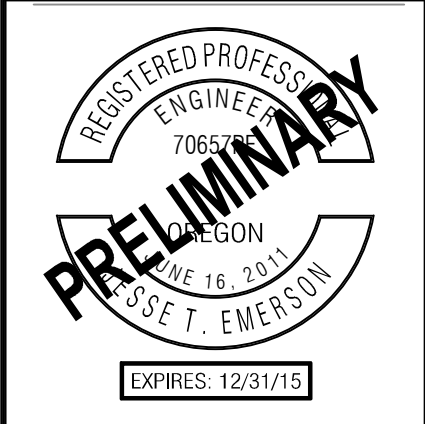
1	INSTALL STRAW WATTLE AS NEEDED FOR CONSTRUCTION PHASING. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
2	INSTALL STABILIZED CONSTRUCTION ENTRANCE.
3	INSTALL INLET PROTECTION.
4	PLACE SILT FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN.
5	INSTALL TREE PROTECTION FENCING AS SHOWN.



TYPE II LAND USE

REVISION SUMMARY	BY	DATE
		8/11/15

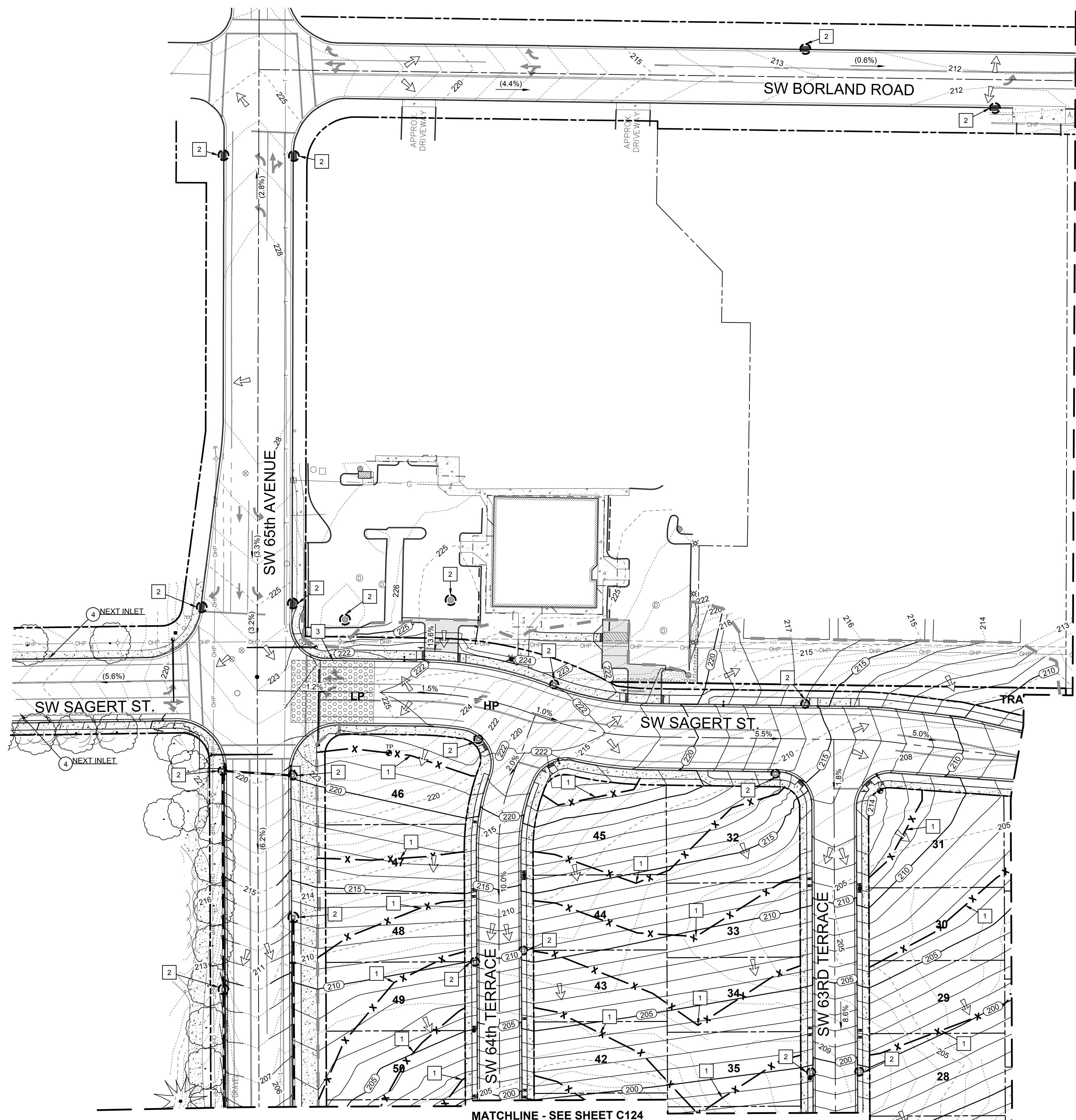
PHASE 1 EROSION CONTROL PLAN IV
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
ESCP IV
 SHEET NUMBER
C119



LEGEND

- PROJECT BOUNDARY LINE
- RIGHT OF WAY LINE
- PROPOSED PROPERTY LINE
- ROADWAY CENTER LINE
- ADJACENT PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EASEMENT LINE
- PROPOSED RETAINING WALL
- STRAW WATTLE
- SILTY FENCE
- TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- EROSION CONTROL: BIO BAG
- SURFACE RUNOFF FLOW ARROW
- SPOT GRADE, XX TYPE AS NOTED
- SURFACE GRADE, EXISTING
- SURFACE GRADE, PROPOSED

GRADING KEY NOTES

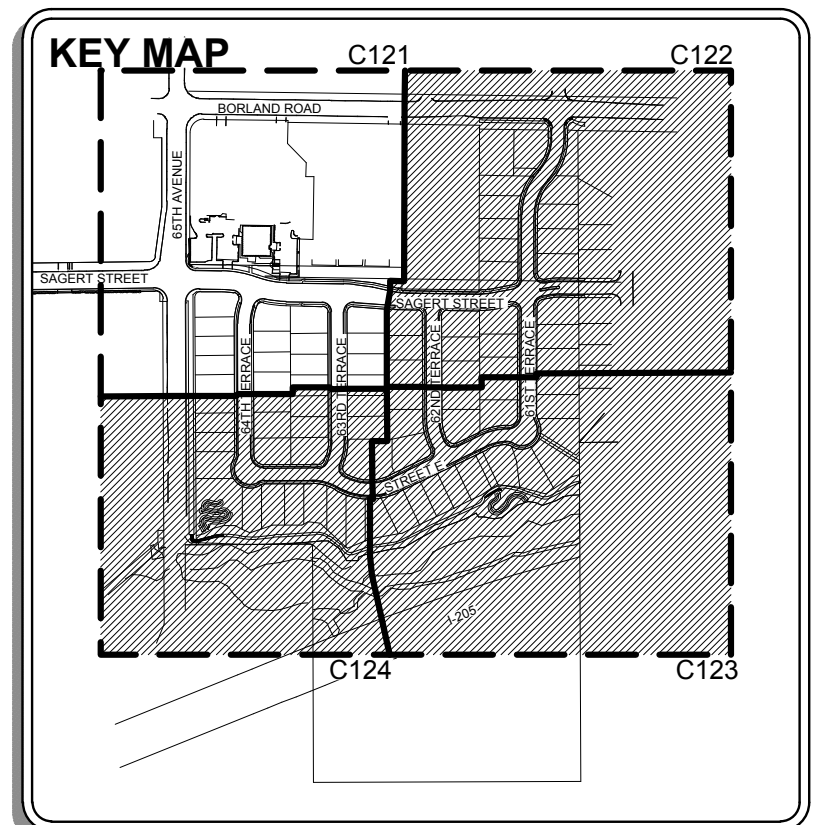
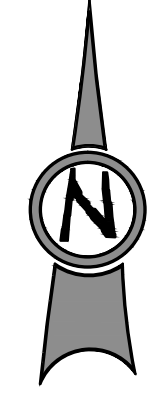
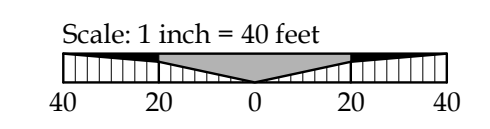
- 1 INSTALL SILTY FENCE FOR EROSION AND SEDIMENT CONTROL PER CITY STD. PLACE FENCE SECTIONS AT LEVEL ELEVATIONS (AS SHOWN), OVER-LAP ADJACENT SECTIONS. EXTEND FENCING BEYOND ANTICIPATED GRADING LIMITS. MODIFY LOCATIONS AS NEEDED TO COMPLETE WORK.
- 2 PROVIDE INLET PROTECTION FOR SEDIMENT TRANSPORT CONTROL PER CITY STD DRAWINGS. MAINTAIN / REPLACE PROTECTION MEASURES AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
- 3 CONSTRUCT / MAINTAIN STABILIZED CONSTRUCTION ENTRANCE PER CITY STD. DRAWINGS.

SITE GRADING INFORMATION

CUT (TO FINISH GRADE)	42,520 CUBIC YARDS
FILL (TO FINISH GRADE)	35,217 CUBIC YARDS
NET BALANCE	7,303 CUBIC YARDS
MAXIMUM CUT DEPTH	14 FEET
MAXIMUM FILL DEPTH	14 FEET
MAXIMUM PROPOSED SLOPE	2:1
TOTAL AREA OF DISTURBANCE	701,100 SQUARE FEET

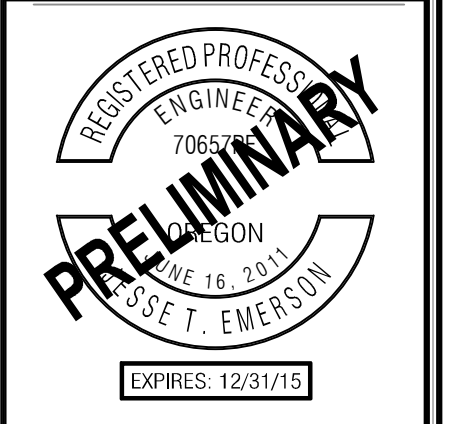
MATCHLINE - SEE SHEET C122

MATCHLINE - SEE SHEET C124



TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

PH.2 GRADING & ESC PLAN
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

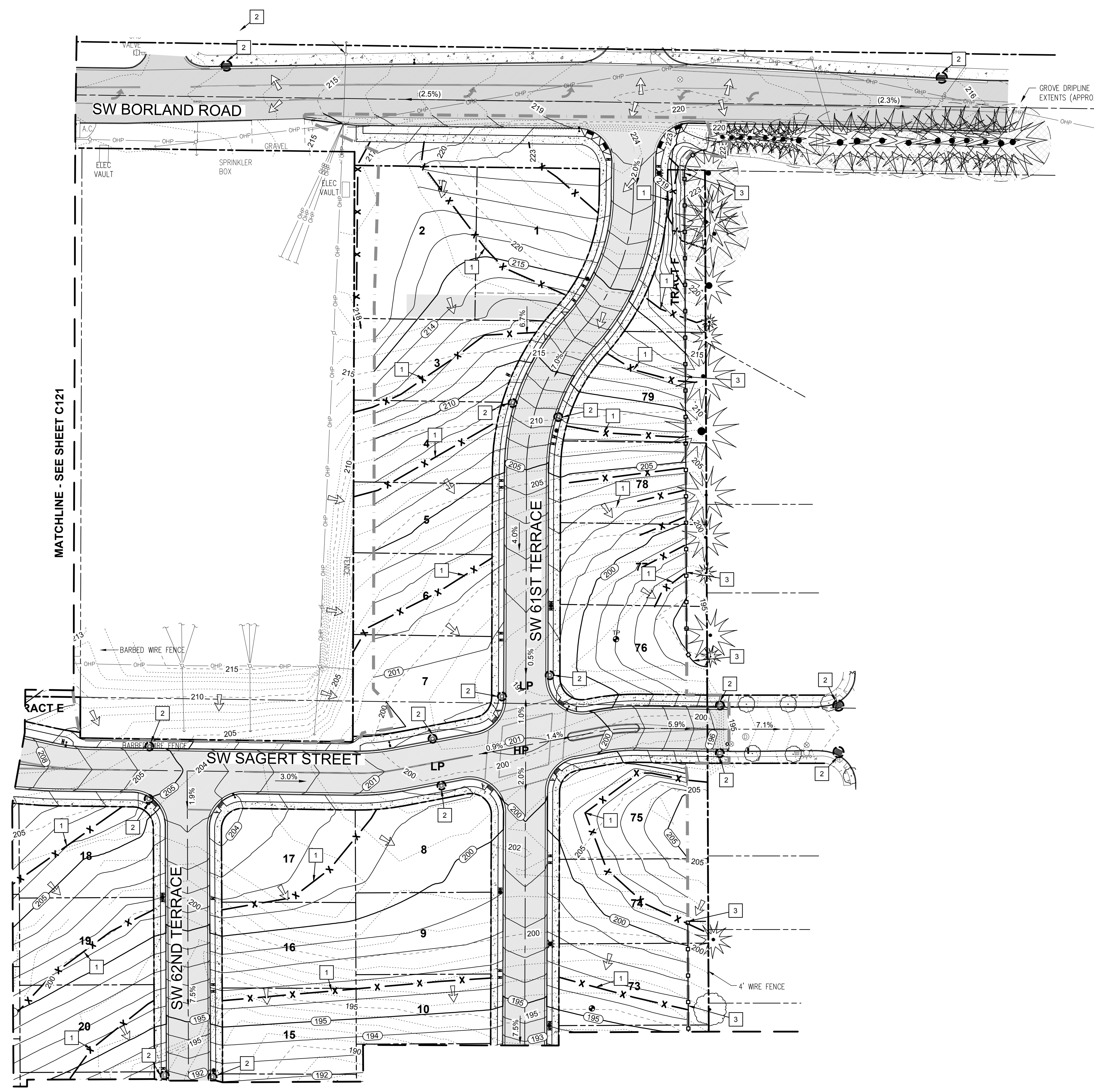


3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	I 13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
PH2 GRADE & ESCP
 SHEET NUMBER

C121

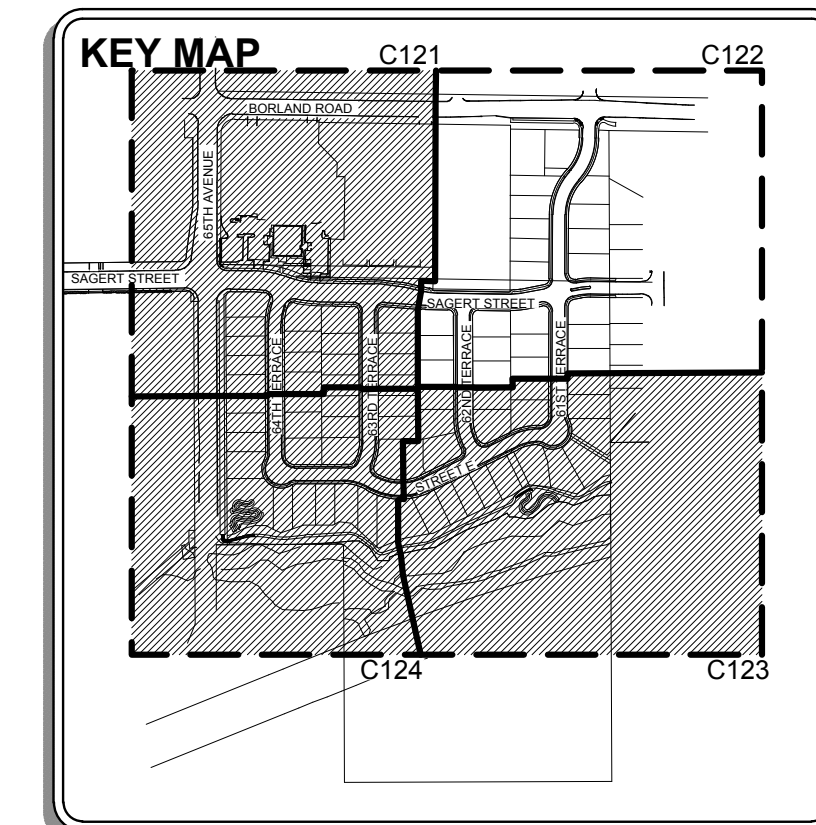
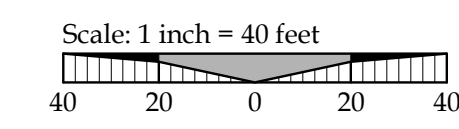


LEGEND

	PROJECT BOUNDARY LINE
	RIGHT OF WAY LINE
	PROPOSED PROPERTY LINE
	ROADWAY CENTER LINE
	ADJACENT PROPERTY BOUNDARY
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EASEMENT LINE
	PROPOSED RETAINING WALL
	STRAW WATTLE
	SILT FENCE
	TREE PROTECTION FENCING
	LIMITS OF DISTURBANCE
	CONSTRUCTION ENTRANCE
	INLET PROTECTION
	EROSION CONTROL: BIO BAG
	SURFACE RUNOFF FLOW ARROW
	SPOT GRADE, XX TYPE AS NOTED
	SURFACE GRADE, EXISTING
	SURFACE GRADE, PROPOSED
	TREE CANOPY

GRADING KEY NOTES

- 1 INSTALL SILT FENCE FOR EROSION AND SEDIMENT CONTROL PER CITY STD. PLACE FENCE SECTIONS AT LEVEL ELEVATIONS (AS SHOWN), OVER-LAP ADJACENT SECTIONS. EXTEND FENCING BEYOND ANTICIPATED GRADING LIMITS.
- 2 PROVIDE INLET PROTECTION FOR SEDIMENT TRANSPORT CONTROL PER CITY STD DRAWINGS. MAINTAIN / REPLACE PROTECTION MEASURES AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
- 3 MAINTAIN TREE PROTECTION FENCING THROUGHOUT CONSTRUCTION ACTIVITIES. SEE TREE PRESERVATION PLANS FOR ADDITIONAL INFORMATION.

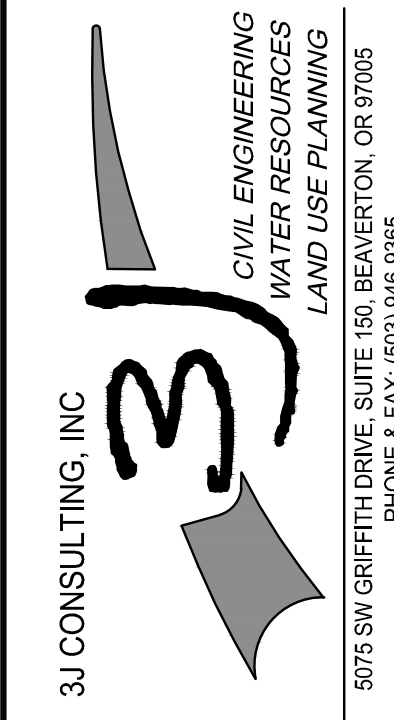
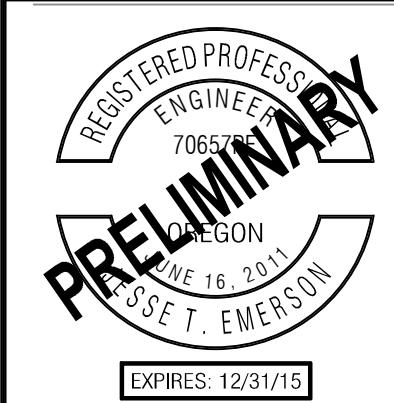


MATCHLINE - SEE SHEET C121

MATCHLINE - SEE SHEET C123

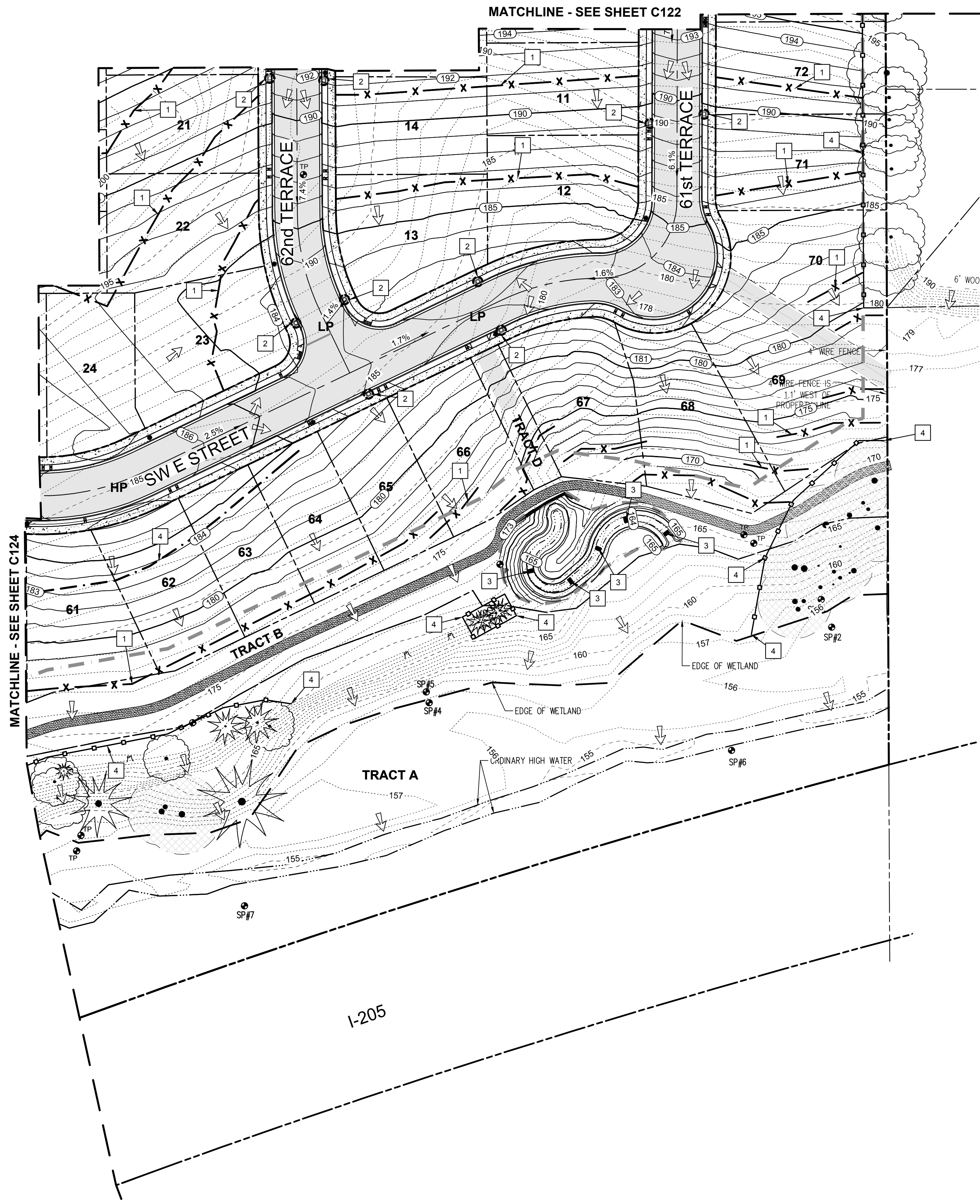
TYPE II LAND USE
REVISION SUMMARY
BY DATE
8/11/15

PH2 GRADING & ESC PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
PH2 GRADE & ESC
SHEET NUMBER
C122

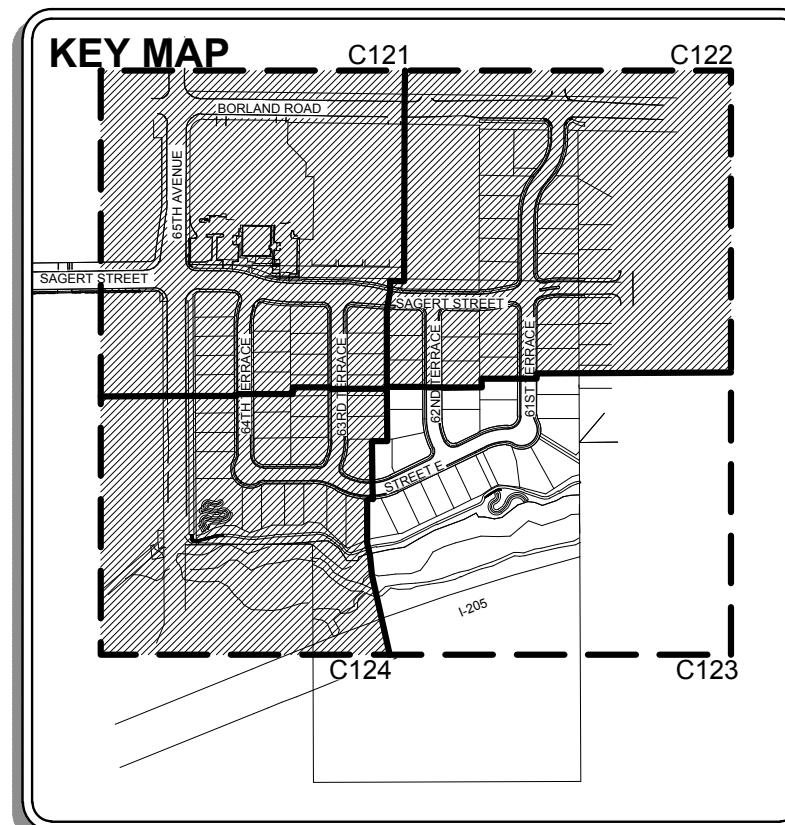
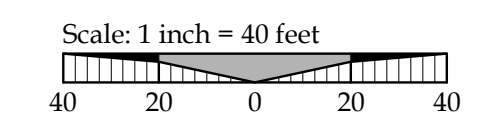


LEGEND

- PROJECT BOUNDARY LINE
- RIGHT OF WAY LINE
- PROPOSED PROPERTY LINE
- ROADWAY CENTER LINE
- ADJACENT PROPERTY BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EASEMENT LINE
- PROPOSED RETAINING WALL
- STRAW WATTLE
- SILT FENCE
- TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- EROSION CONTROL: BIO BAG
- SURFACE RUNOFF FLOW ARROW
- SPOT GRADE, XX TYPE AS NOTED
- SURFACE GRADE, EXISTING
- SURFACE GRADE, PROPOSED
- TREE CANOPY

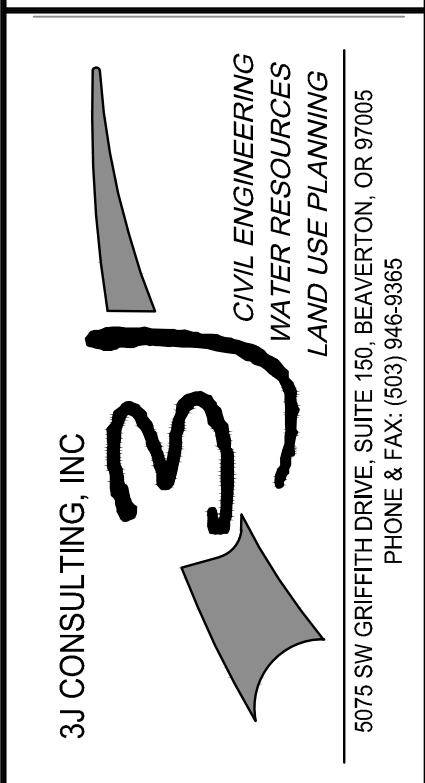
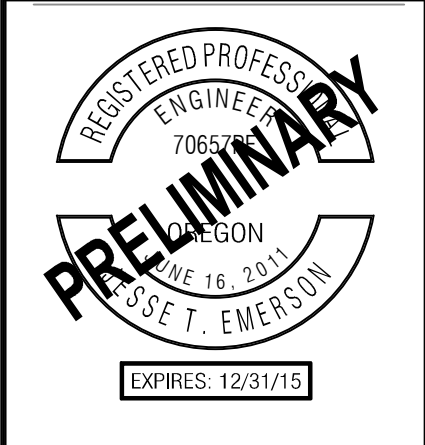
GRADING KEY NOTES

- 1 INSTALL SILT FENCE FOR EROSION AND SEDIMENT CONTROL PER CITY STD. PLACE FENCE SECTIONS AT LEVEL ELEVATIONS (AS SHOWN), OVER-LAP ADJACENT SECTIONS. EXTEND FENCING BEYOND ANTICIPATED GRADING LIMITS.
- 2 PROVIDE INLET PROTECTION FOR SEDIMENT TRANSPORT CONTROL PER CITY STD DRAWINGS. MAINTAIN / REPLACE PROTECTION MEASURES AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
- 3 MAINTAIN / INSTALL BIO-BAG CHECK DAMS ADJACENT TO AND DOWNSTREAM OF PROJECT CONSTRUCTION ACTIVITIES PER CITY STD. DRAWINGS. REPLACE AND REBUILD AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
- 4 MAINTAIN TREE PROTECTION FENCING THROUGHOUT CONSTRUCTION ACTIVITIES. SEE TREE PRESERVATION PLANS FOR ADDITIONAL INFORMATION.



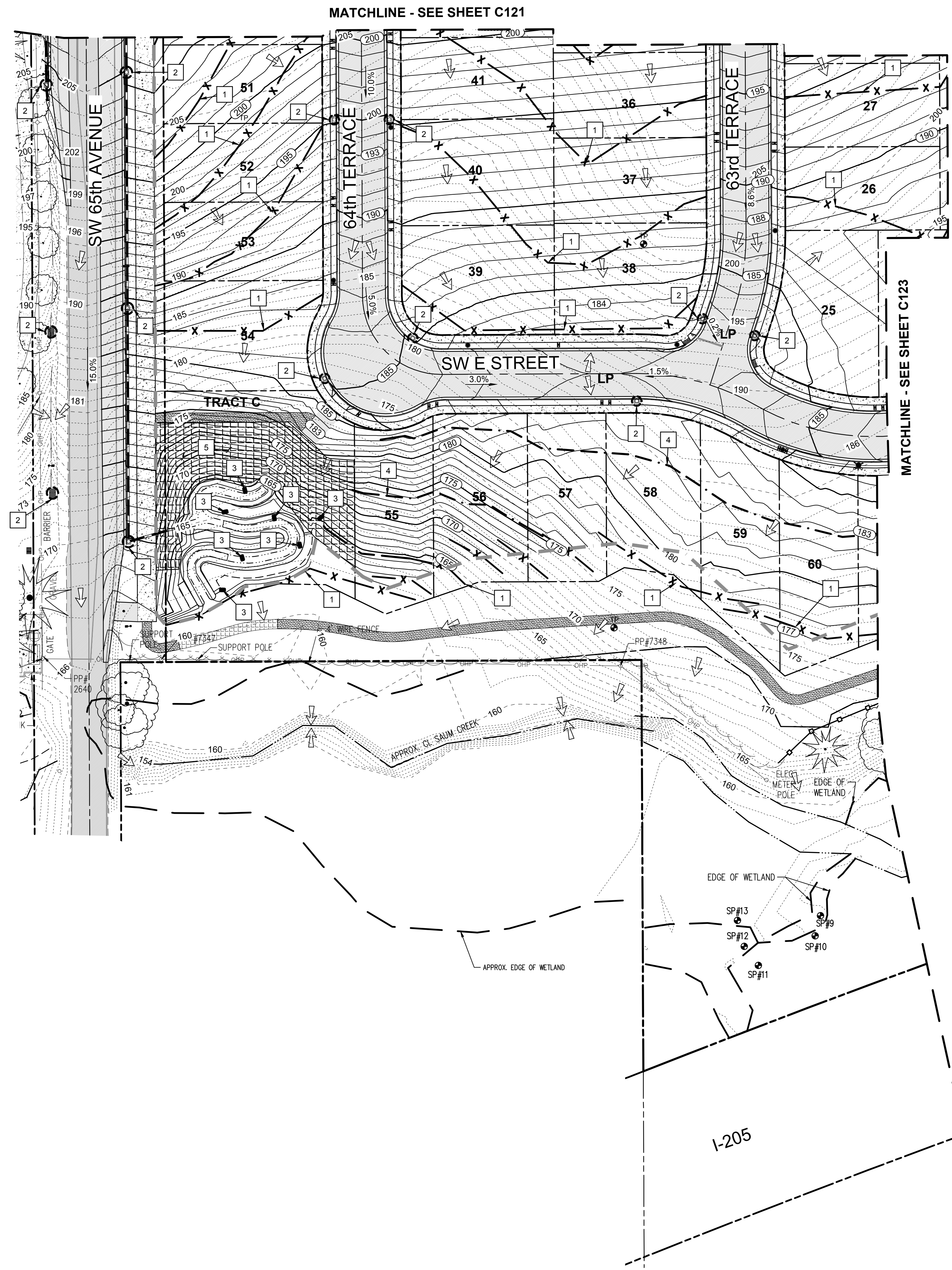
TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

PH2 GRADING & ESC PLAN III
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
PH2 GRADE & ESC
 SHEET NUMBER
C123

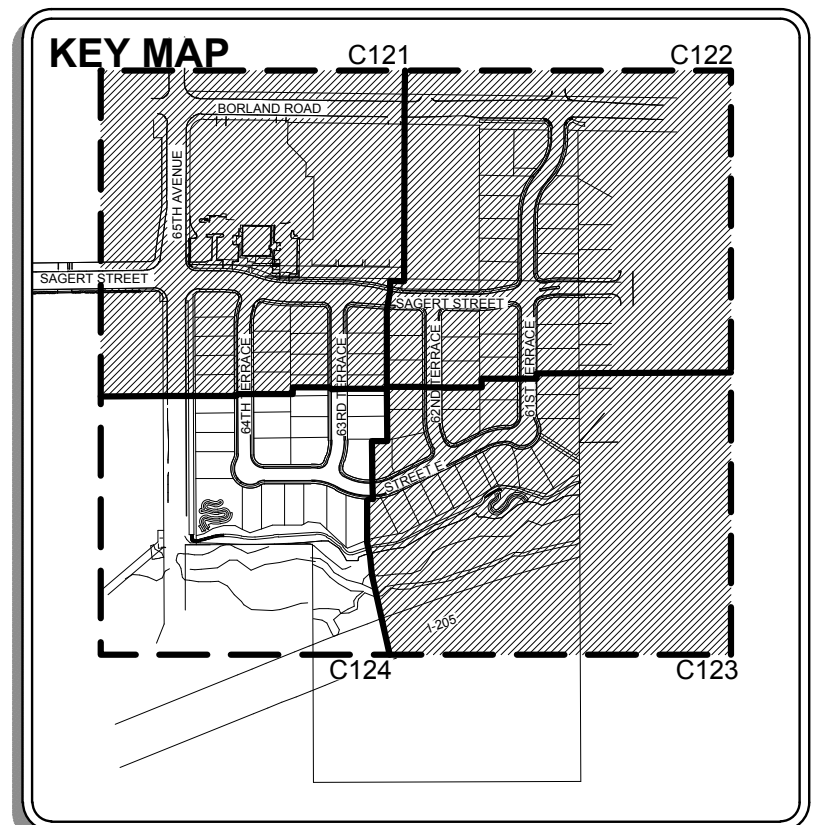
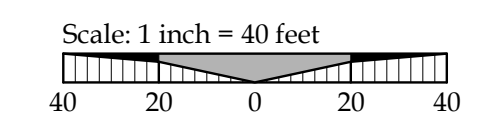


LEGEND

	PROJECT BOUNDARY LINE
	RIGHT OF WAY LINE
	PROPOSED PROPERTY LINE
	ROADWAY CENTER LINE
	ADJACENT PROPERTY BOUNDARY
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EASEMENT LINE
	PROPOSED RETAINING WALL
	STRAW WATTLE
	SILT FENCE
	TREE PROTECTION FENCING
	LIMITS OF DISTURBANCE
	CONSTRUCTION ENTRANCE
	INLET PROTECTION
	EROSION CONTROL: BIO BAG
	SURFACE RUNOFF FLOW ARROW
	SLOPE MATTING
	SURFACE GRADE, EXISTING
	SURFACE GRADE, PROPOSED

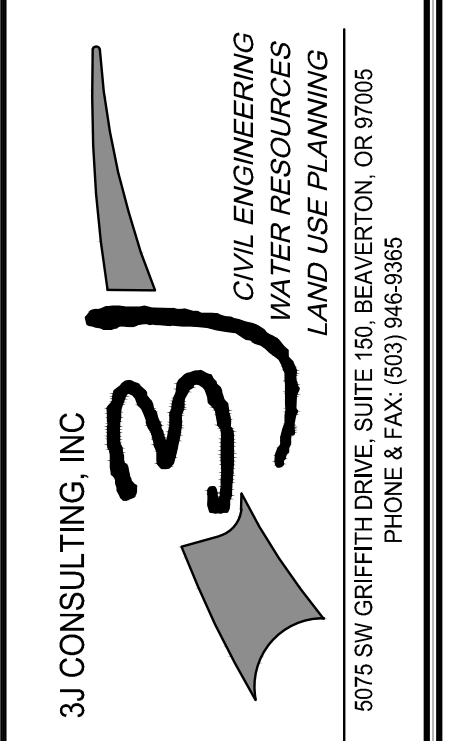
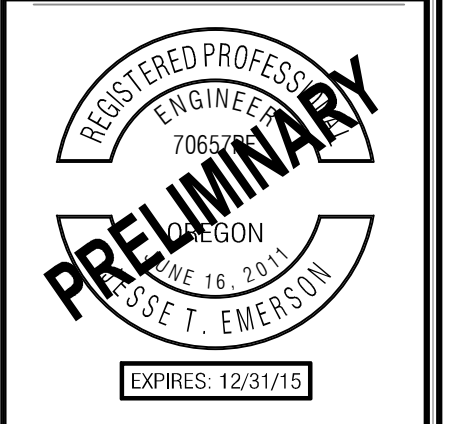
GRADING KEY NOTES

1. INSTALL SILT FENCE FOR EROSION AND SEDIMENT CONTROL PER CITY STD. PLACE FENCE SECTIONS AT LEVEL ELEVATIONS (AS SHOWN), OVER-LAP ADJACENT SECTIONS. EXTEND FENCING BEYOND ANTICIPATED GRADING LIMITS.
2. PROVIDE INLET PROTECTION FOR SEDIMENT TRANSPORT CONTROL PER CITY STD DRAWINGS. MAINTAIN / REPLACE PROTECTION MEASURES AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
3. MAINTAIN / INSTALL BIO-BAG CHECK DAMS ADJACENT TO AND DOWNSTREAM OF PROJECT CONSTRUCTION ACTIVITIES PER CITY STD. DRAWINGS. REPLACE AND REBUILD AS NEEDED, OR AS DIRECTED BY EROSION CONTROL INSPECTOR.
4. MAINTAIN / INSTALL EROSION CONTROL STRAW WATTLES.
5. MAINTAIN / INSTALL EROSION CONTROL SLOPE MATTING.



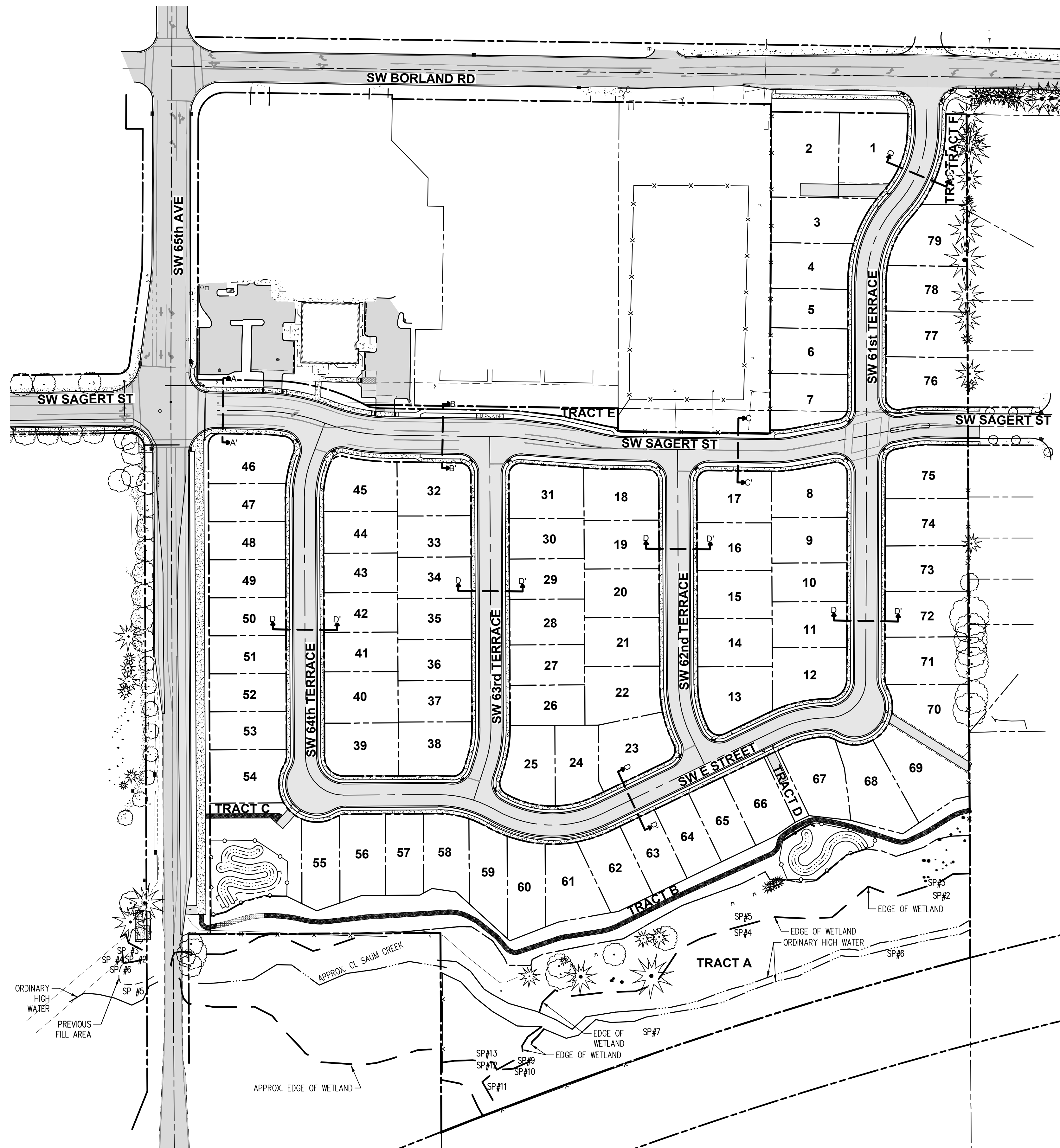
TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

PH 2 GRADING & ESC PLAN IV
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



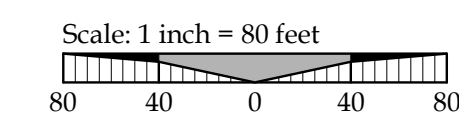
3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, KW
CHECKED BY	JTE, JDH

SHEET TITLE
PH2 GRADE & EC
 SHEET NUMBER
C124



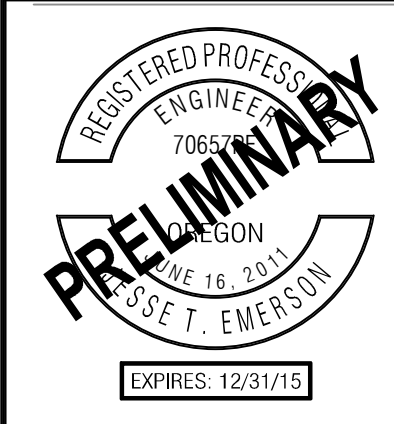
LEGEND

	BOUNDARY LINE
	RIGHT-OF-WAY
	PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	ROAD CENTERLINE
	EDGE OF WETLAND
	BOTTOM OF SWALE
	PROPERTY BUFFER
	EXISTING FENCE
	EXISTING ASPHALT
	PROPOSED ASPHALT
	EXISTING CONCRETE
	PROPOSED CONCRETE
	TYPICAL ROADWAY SECTION, SEE SHEET C230
	TYPICAL ROADWAY SECTION, SEE SHEET C230
	TYPICAL ROADWAY SECTION, SEE SHEET C231
	TYPICAL ROADWAY SECTION, SEE SHEET C231



TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

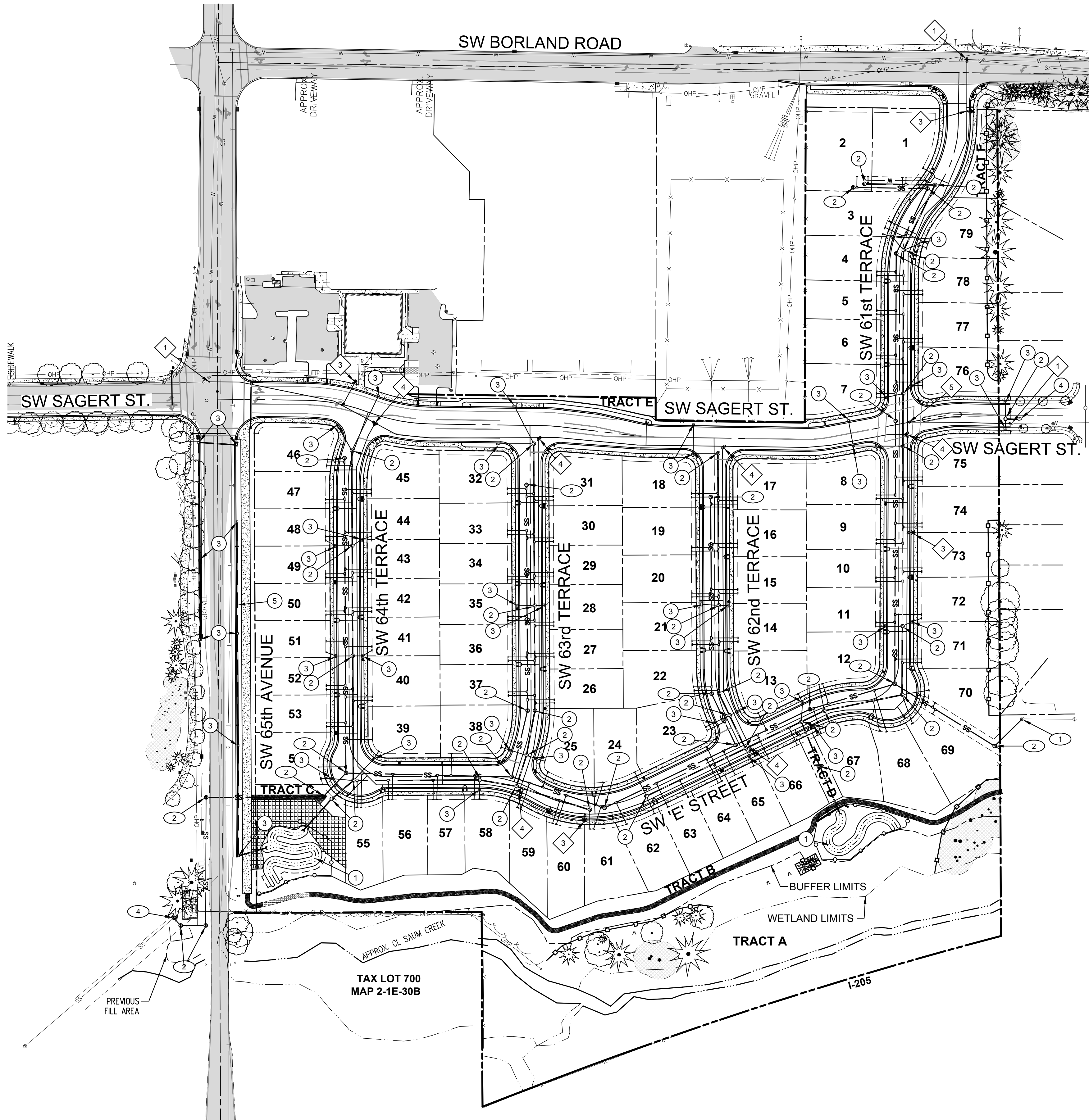
OVERALL SITE PLAN
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5365

3J JOB ID #	I 13-159
LAND USE #	I SB15-0002
TAX LOT #	I 251E30B 300 & 600
DESIGNED BY	I JTE, JCP, CKW
CHECKED BY	I JTE, JDH

SHEET TITLE
SITE PLAN
 SHEET NUMBER
C200



LEGEND

	BOUNDARY LINE		EXISTING CURB
	RIGHT-OF-WAY		EXISTING ASPHALT
	CENTERLINE		EXISTING CONCRETE
	PROPOSED LOT LINE		EXISTING TREES
	PROPOSED EASEMENT		EXISTING LIGHT POLE
	EXISTING SANITARY SEWER		EXISTING WATER VALVE
	EXISTING STORM SEWER		EXISTING WATER METER
	EXISTING WATER LINE		EXISTING FIRE HYDRANT
	EXISTING GAS LINE		EXISTING SEWER MANHOLE
	EXISTING UNDERGROUND POWER		EXISTING CURB INLET
	EXISTING OVERHEAD POWER		EXISTING GAS VALVE
	EXISTING BARBED WIRE FENCE		EXISTING PHONE PEDESTAL
	EXISTING CHAIN LINK FENCE		EXISTING SIGN
	WETLAND		EXISTING UTILITY POLE
	STREAM OR WETLAND BUFFER		EXISTING TRAFFIC SIGNAL BOX
	EDGE OF BRUSH		PROPOSED FIRE HYDRANT
	PROPOSED SANITARY SEWER		PROPOSED SEWER MANHOLE
	PROPOSED WATER		PROPOSED STORM MANHOLE
	PROPOSED STORMWATER SEWER		
	PROPOSED TREE PROTECTION FENCING		

STORM SEWER CONSTRUCTION NOTES

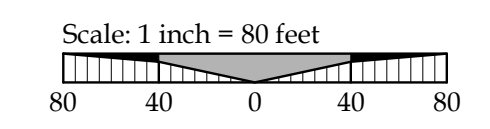
- 1 CONSTRUCT VEGETATED SWALES FOR STORM CONVEYANCE.
- 2 CONSTRUCT STANDARD 48" STORM SEWER MANHOLE.
- 3 CONSTRUCT CURB INLET WITH 10" STORM LATERAL.
- 4 CONNECT TO EXISTING STORM MANHOLE.
- 5 NOT USED

SANITARY SEWER CONSTRUCTION NOTES

- 1 CONNECT TO EXISTING SANITARY SEWER MANHOLE.
- 2 CONSTRUCT STANDARD 48" SANITARY SEWER MANHOLE.
- 3 NOT USED
- 4 CONSTRUCT 48" SANITARY SEWER MANHOLE OVER EXISTING SANITARY MAIN.

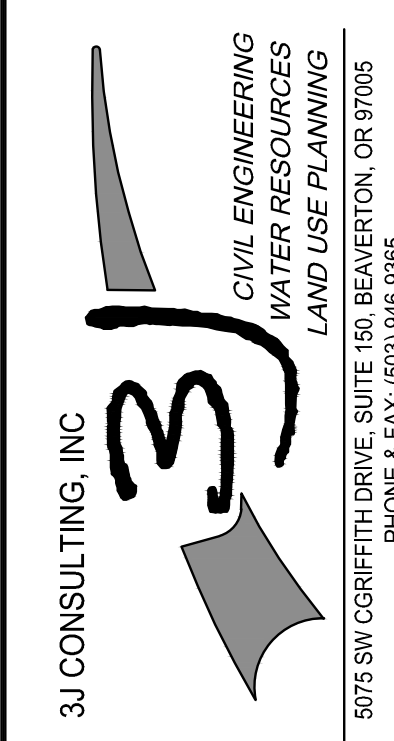
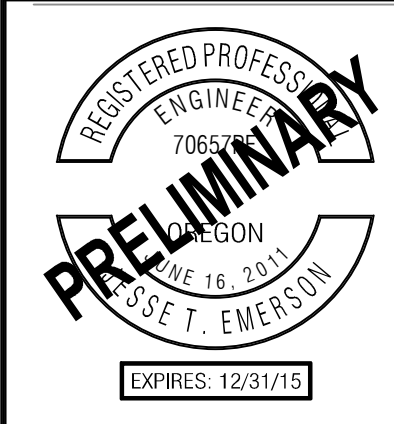
WATER CONSTRUCTION NOTES

- 1 CONNECT TO EXISTING WATER MAIN.
- 2 NOT USED
- 3 INSTALL FIRE HYDRANT ASSEMBLY, STUB, TEE, AND GATE VALVE PER CITY OF TUALATIN STANDARDS.
- 4 INSTALL WATER MAIN TEE AND THREE (3) GATE VALVES PER CITY OF TUALATIN STANDARDS.
- 5 INSTALL WATER MAIN TEE AND ONE (1) GATE VALVE PER CITY OF TUALATIN STANDARDS.



TYPE II LAND USE
 REVISION SUMMARY
 8/11/15
 BY DATE

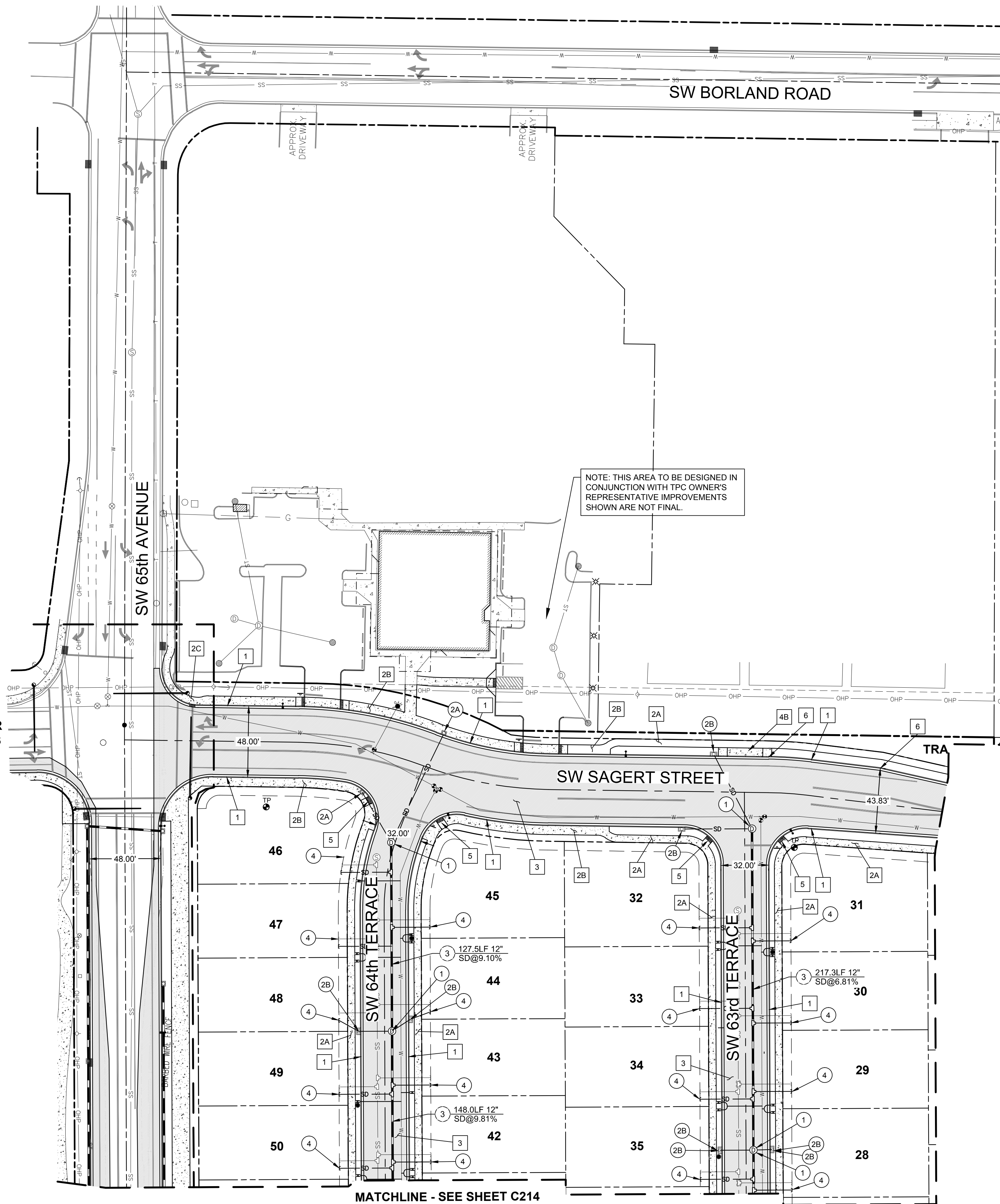
OVERALL COMPOSITE UTILITY PLAN
 SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
 UTILITY PLAN
 SHEET NUMBER

C201



LEGEND

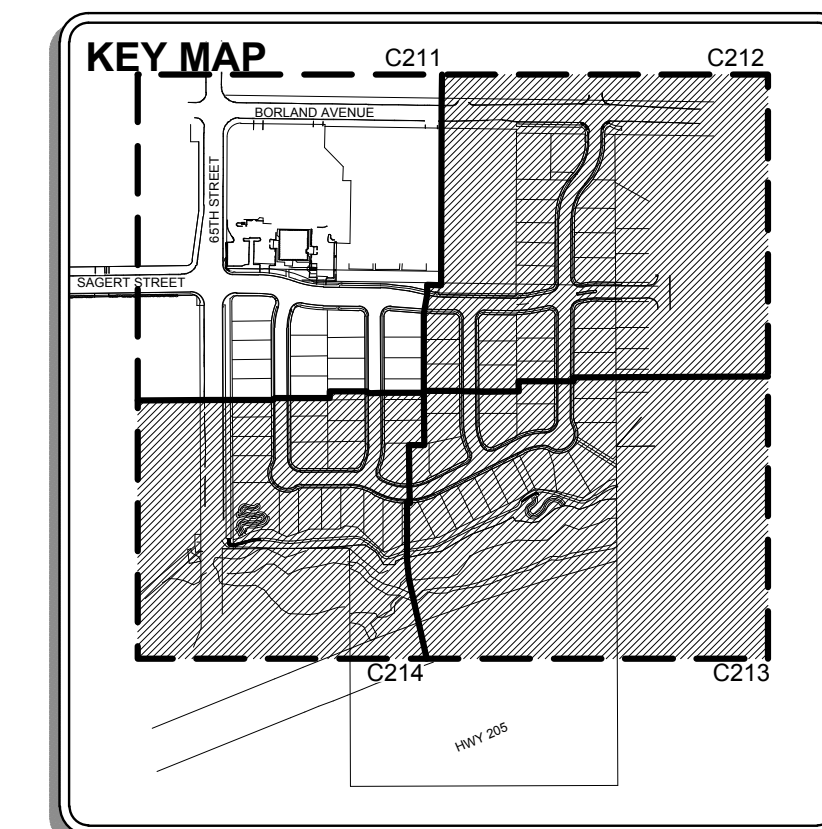
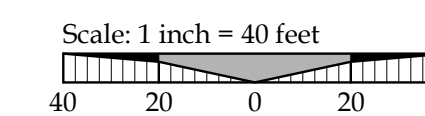
	BOUNDARY LINE		EXISTING TREES
	RIGHT-OF-WAY		EXISTING STUMP
	CENTERLINE		LIGHT POLE
	LOT LINE		WATER VALVE
	EASEMENT		WATER METER
	BUILDING SETBACK		FIRE HYDRANT
	SANITARY SEWER MAIN		SANITARY MANHOLE
	SANITARY SEWER FORCEMAIN		STORM MANHOLE
	SANITARY SEWER LATERAL & STUB		30" CURB INLET
	STORM SEWER MAIN		48" CURB INLET
	STORM SEWER LATERAL		GAS VALVE
	WATER LINE		PHONE PEDESTAL
	GAS LINE		SIGN
	UNDERGROUND TELEPHONE LINE		TEST PIT
	OVERHEAD POWER		UTILITY POLE
	BARBED WIRE FENCE		TRAFFIC SIGNAL BOX
	CHAIN LINK FENCE		STREET LIGHT
	WETLAND		
	STREAM OR WETLAND BUFFER		
	CURB		
	EXISTING ASPHALT		
	PROPOSED ASPHALT		
	EXISTING CONCRETE		
	PROPOSED CONCRETE		
	GRAVEL		

STREET CONSTRUCTION NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER.
- 2A CONSTRUCT FIVE FOOT WIDE DETACHED SIDEWALK.
- 2B CONSTRUCT SIX FOOT WIDE CURB TIGHT SIDEWALK.
- 2C CONSTRUCT FIVE FOOT WIDE CURB TIGHT SIDEWALK.
- 3 CONSTRUCT ASPHALT PAVING.
- 4A CONSTRUCT COMMERCIAL DRIVEWAY APPROACH W/CURBSIDE WALK RAMPS.
- 4B CONSTRUCT COMMERCIAL DRIVEWAY
- 5 CONSTRUCT CURB RAMP.
- 6 WIDENING TRANSITION POINT. SEE SHEET C200 FOR DETAILS.

STORM CONSTRUCTION NOTES

- 1 CONSTRUCT 48" STORM MANHOLE.
- 2A CONSTRUCT 30" CURB INLET WITH 10" STORM LINE.
- 2B CONSTRUCT 48" CURB INLET WITH 10" STORM LINE.
- 3 CONSTRUCT STORM MAIN LINE.
- 4 CONSTRUCT PRIVATE STORM DRAIN LATERAL CONNECTION FOR INDIVIDUAL LOT SERVICE.



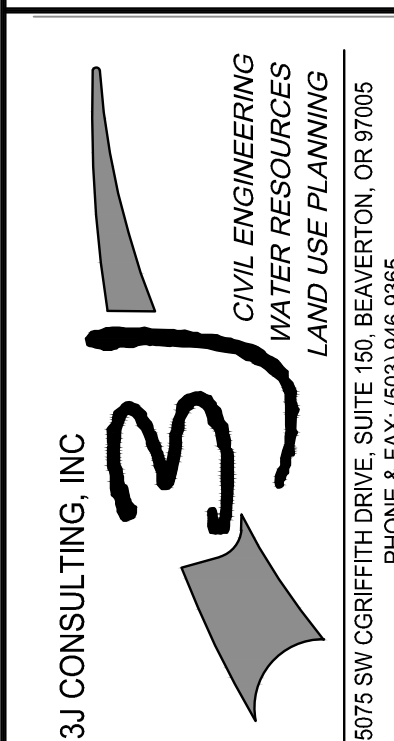
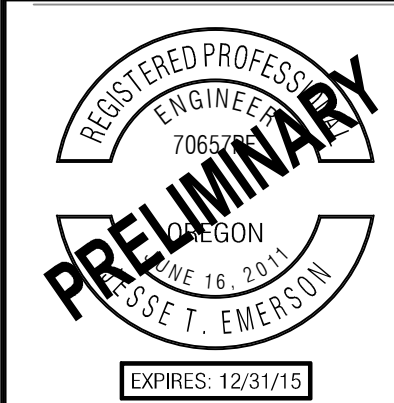
MATCHLINE - SEE SHEET C212

SEE OFFSITE PLANS FOR STREET IMPROVEMENTS

MATCHLINE - SEE SHEET C214

TYPE II LAND USE
REVISION SUMMARY
BY DATE

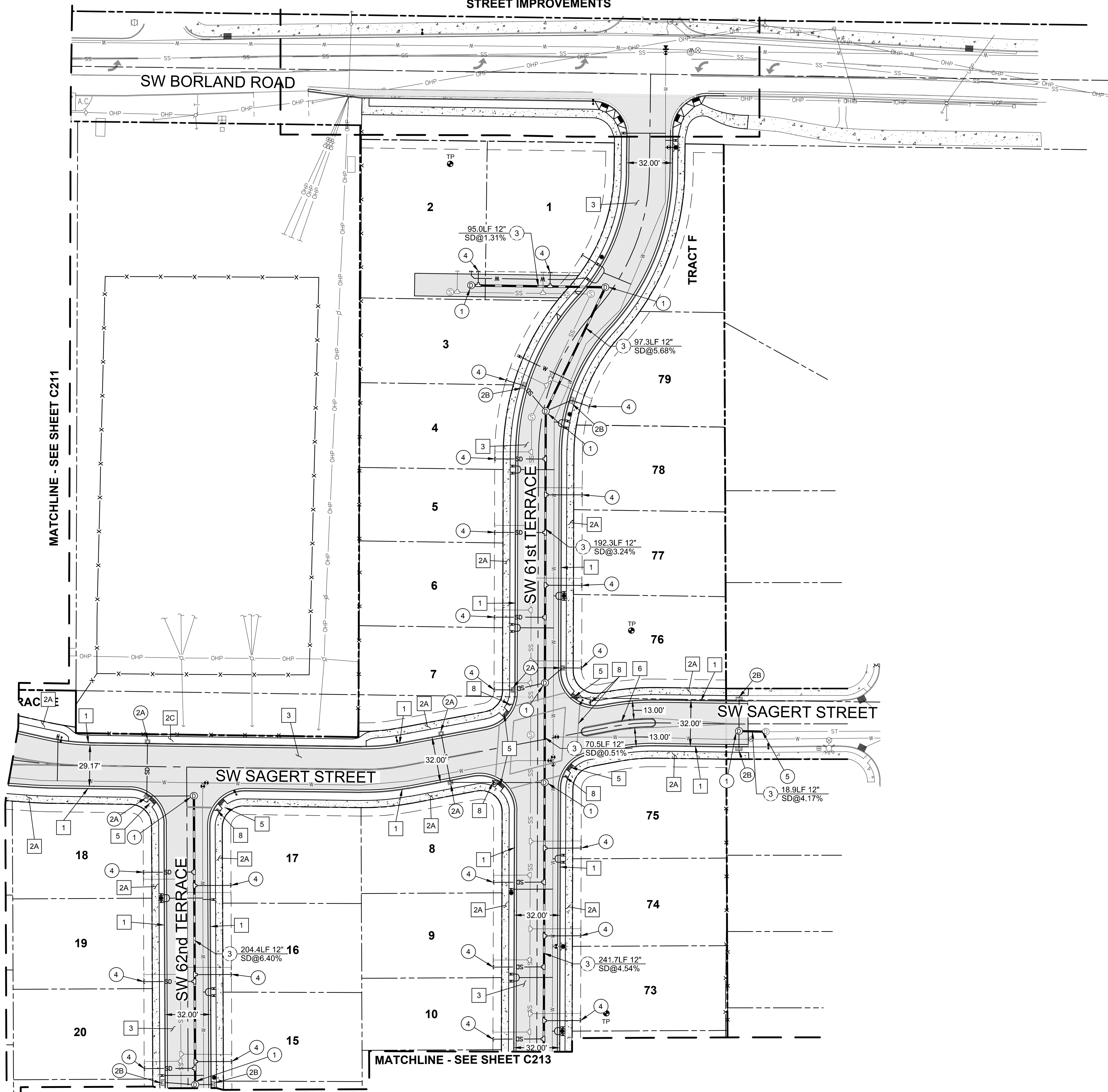
STREET & STORM PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID # | 13-159
LAND USE # | SB15-0002
TAX LOT # | 251E30B 300 & 600
DESIGNED BY | JTE, JCP, CKW
CHECKED BY | JTE, JDH

SHEET TITLE
STREET & STORM I
SHEET NUMBER
C211

SEE OFFSITE PLANS FOR STREET IMPROVEMENTS



LEGEND

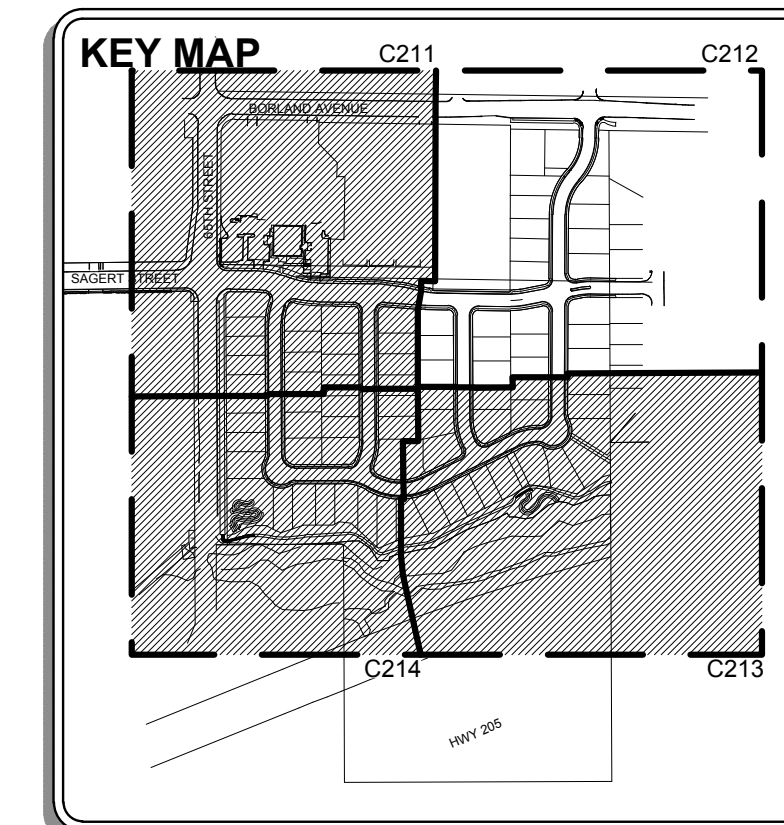
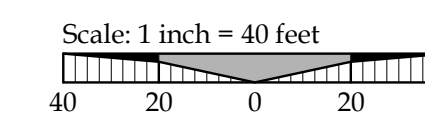
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	RIGHT-OF-WAY		EXISTING STUMP
	CENTERLINE		LIGHT POLE
	LOT LINE		WATER VALVE
	EASEMENT		WATER METER
	BUILDING SETBACK		FIRE HYDRANT
	SANITARY SEWER MAIN		SANITARY MANHOLE
	SANITARY SEWER FORCE MAIN		STORM MANHOLE
	SANITARY SEWER LATERAL & STUB		30" CURB INLET
	STORM SEWER MAIN		48" CURB INLET
	STORM SEWER LATERAL		GAS VALVE
	WATER LINE		PHONE PEDESTAL
	GAS LINE		SIGN
	UNDERGROUND TELEPHONE LINE		TEST PIT
	OVERHEAD POWER		UTILITY POLE
	CHAIN LINK FENCE		TRAFFIC SIGNAL BOX
	WETLAND		STREET LIGHT
	STREAM OR WETLAND BUFFER		
	CURB		
	EXISTING ASPHALT		
	PROPOSED ASPHALT		
	EXISTING CONCRETE		
	PROPOSED CONCRETE		
	GRAVEL		

STREET CONSTRUCTION NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER.
- 2A CONSTRUCT FIVE FOOT WIDE DETACHED SIDEWALK.
- 2B CONSTRUCT SIX FOOT WIDE CURB TIGHT SIDEWALK.
- 2C CONSTRUCT FIVE FOOT WIDE CURB TIGHT SIDEWALK.
- 3 CONSTRUCT ASPHALT SECTION.
- 4A CONSTRUCT STANDARD DRIVEWAY.
- 4B CONSTRUCT COMMERCIAL DRIVEWAY.
- 5 CONSTRUCT CURB RAMP.
- 6 CONSTRUCT 6FT WIDE PLANTED MEDIAN.
- 7 INSTALL STOP SIGN AND STOP BAR.
- 8 INSTALL STOP SIGN AND CROSSWALK.

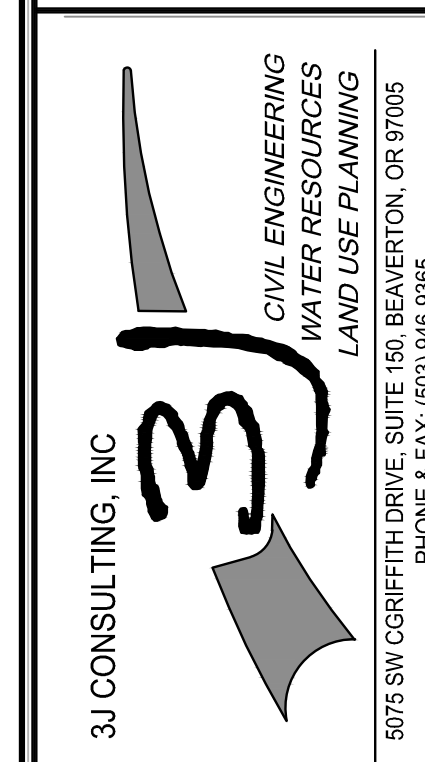
STORM CONSTRUCTION NOTES

- 1 CONSTRUCT 48" STORM MANHOLE.
- 2A CONSTRUCT 30" CURB INLET WITH 10" STORM LINE.
- 2B CONSTRUCT 48" CURB INLET WITH 10" STORM LINE.
- 3 CONSTRUCT STORM MAIN LINE.
- 4 CONSTRUCT PRIVATE STORM DRAIN LATERAL CONNECTION FOR INDIVIDUAL LOT SERVICE.
- 5 CONNECT STORM MAIN LINE TO EXISTING MANHOLE.

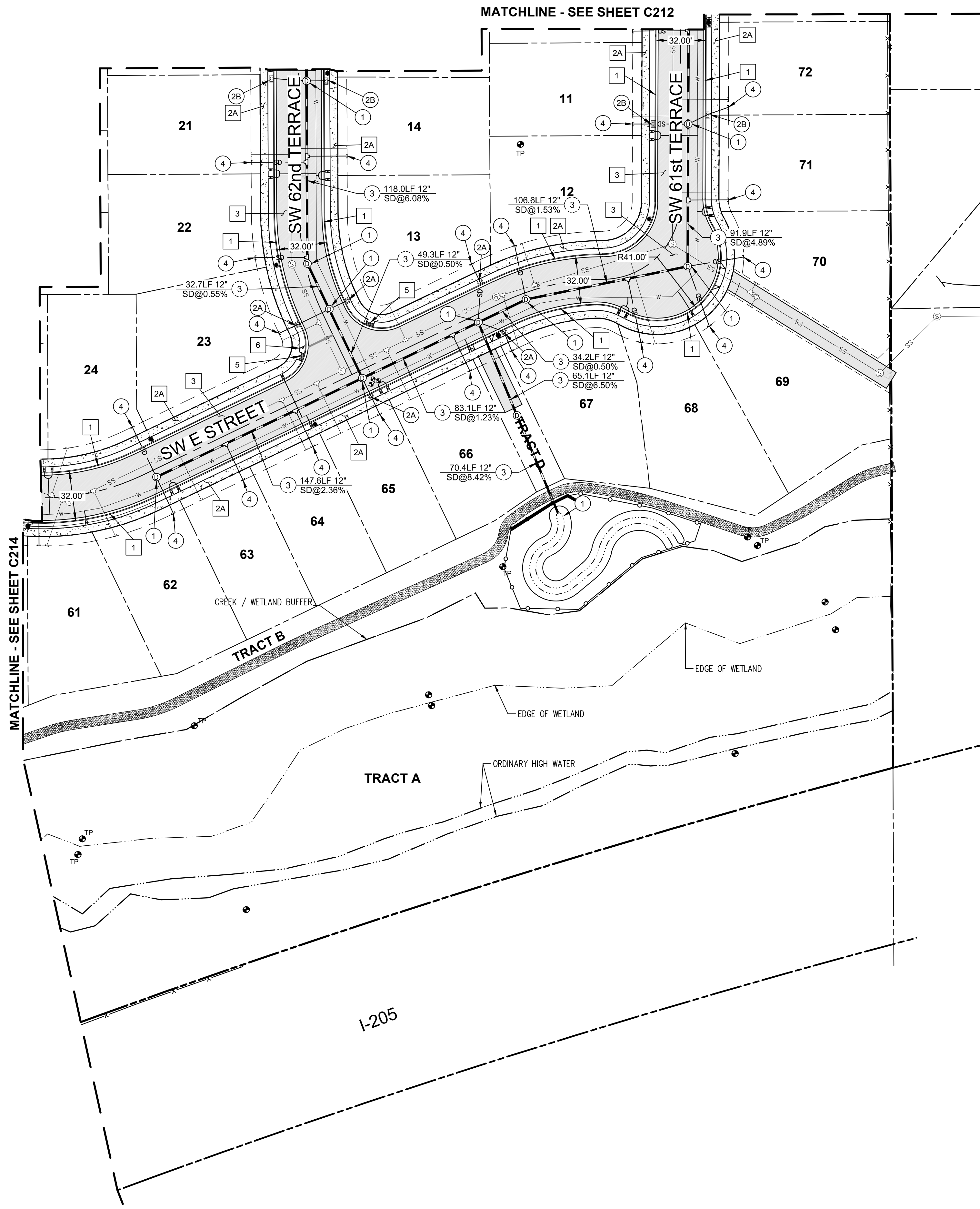


TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

STREET & STORM PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH
SHEET TITLE	STREET & STORM II
SHEET NUMBER	C212



LEGEND

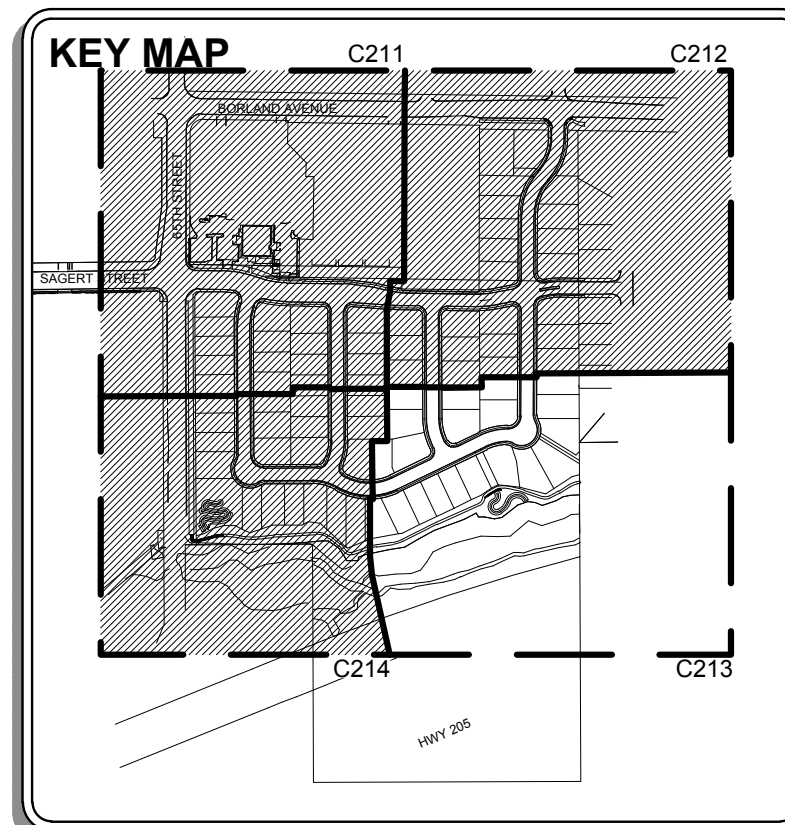
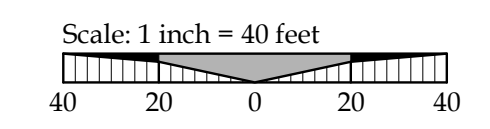
	BOUNDARY LINE		EXISTING TREES
	RIGHT-OF-WAY		EXISTING STUMP
	CENTERLINE		LIGHT POLE
	LOT LINE		WATER VALVE
	EASEMENT		WATER METER
	BUILDING SETBACK		FIRE HYDRANT
	SANITARY SEWER MAIN		SANITARY MANHOLE
	SANITARY SEWER FORCEMAIN		STORM MANHOLE
	SANITARY SEWER LATERAL & STUB		30" CURB INLET
	STORM SEWER MAIN		48" CURB INLET
	STORM SEWER LATERAL		GAS VALVE
	WATER LINE		PHONE PEDESTAL
	GAS LINE		SIGN
	UNDERGROUND TELEPHONE LINE		TEST PIT
	OVERHEAD POWER		UTILITY POLE
	BARBED WIRE FENCE		TRAFFIC SIGNAL BOX
	CHAIN LINK FENCE		STREET LIGHT
	WETLAND		
	STREAM OR WETLAND BUFFER		
	CURB		
	EXISTING ASPHALT		
	PROPOSED ASPHALT		
	EXISTING CONCRETE		
	PROPOSED CONCRETE		
	GRAVEL		

STREET CONSTRUCTION NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER.
- 2A CONSTRUCT FIVE FOOT WIDE DETACHED SIDEWALK.
- 2B CONSTRUCT SIX FOOT WIDE CURB TIGHT SIDEWALK.
- 2C CONSTRUCT FIVE FOOT WIDE CURB TIGHT SIDEWALK.
- 3 CONSTRUCT ASPHALT SECTION.
- 4A CONSTRUCT STANDARD DRIVEWAY.
- 4B CONSTRUCT COMMERCIAL DRIVEWAY.
- 5 CONSTRUCT CURB RAMP.
- 6 INSTALL STOP SIGN AND STOP BAR.

STORM CONSTRUCTION NOTES

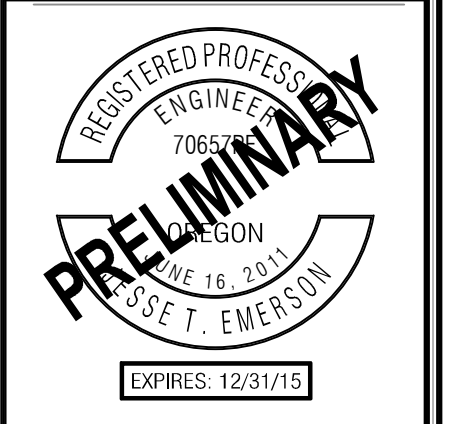
- 1 CONSTRUCT 48" STORM MANHOLE.
- 2A CONSTRUCT 30" CURB INLET WITH 10" STORM LINE.
- 2B CONSTRUCT 48" CURB INLET WITH 10" STORM LINE.
- 3 CONSTRUCT STORM MAIN LINE.
- 4 CONSTRUCT PRIVATE STORM DRAIN LATERAL CONNECTION FOR INDIVIDUAL LOT SERVICE.
- 5 CONNECT STORM MAIN LINE TO EXISTING MANHOLE.



TYPE II LAND USE

DATE	8/11/15
BY	
REVISION SUMMARY	

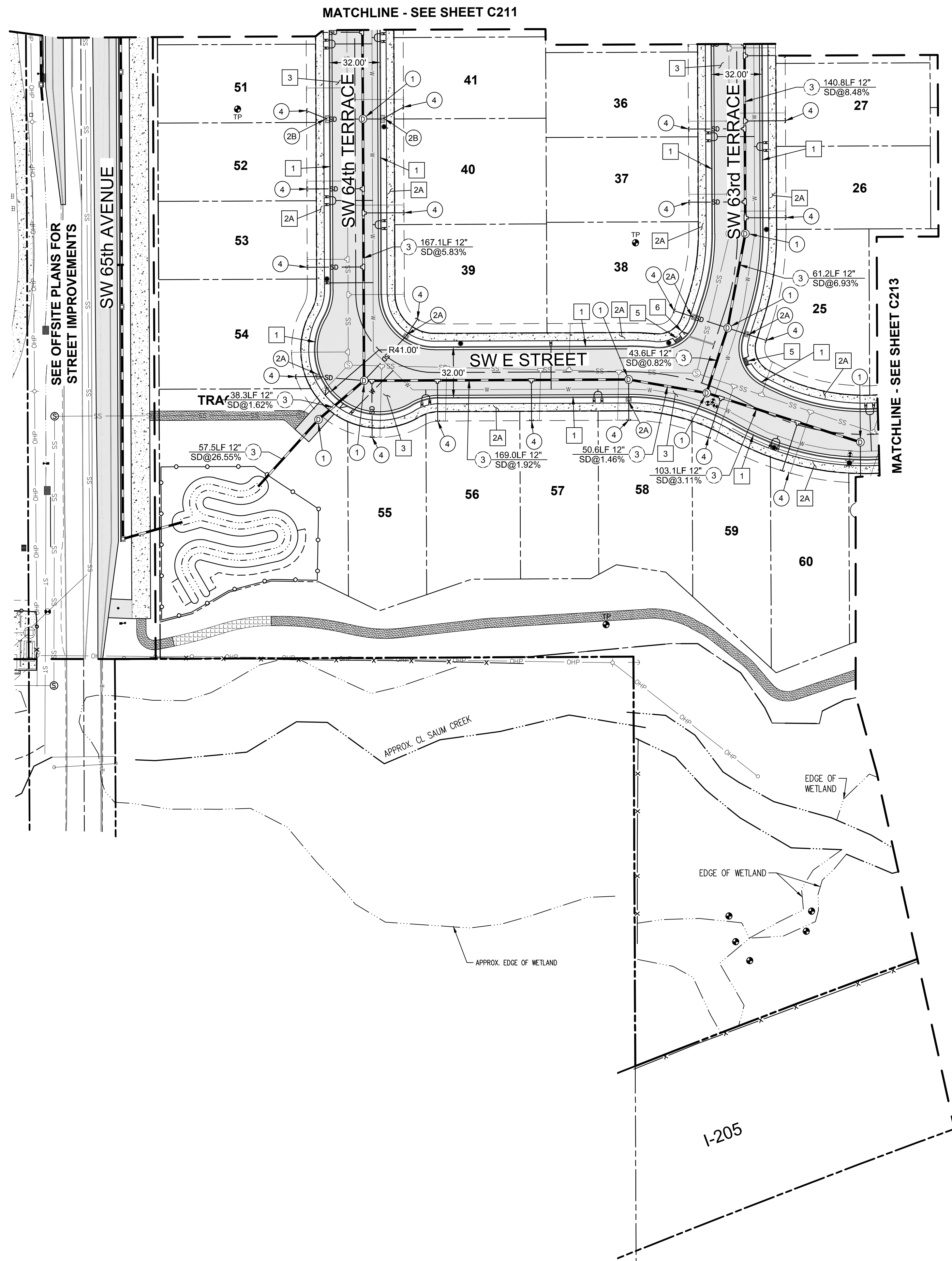
STREET & STORM PLAN III
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 8075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-6886

3J JOB ID #	I 13-159
LAND USE #	I SB15-0002
TAX LOT #	I 251E30B 300 & 600
DESIGNED BY	I JTE, JCP, CKW
CHECKED BY	I JTE, JDH

SHEET TITLE
STREET & STORM III
 SHEET NUMBER
C213



LEGEND

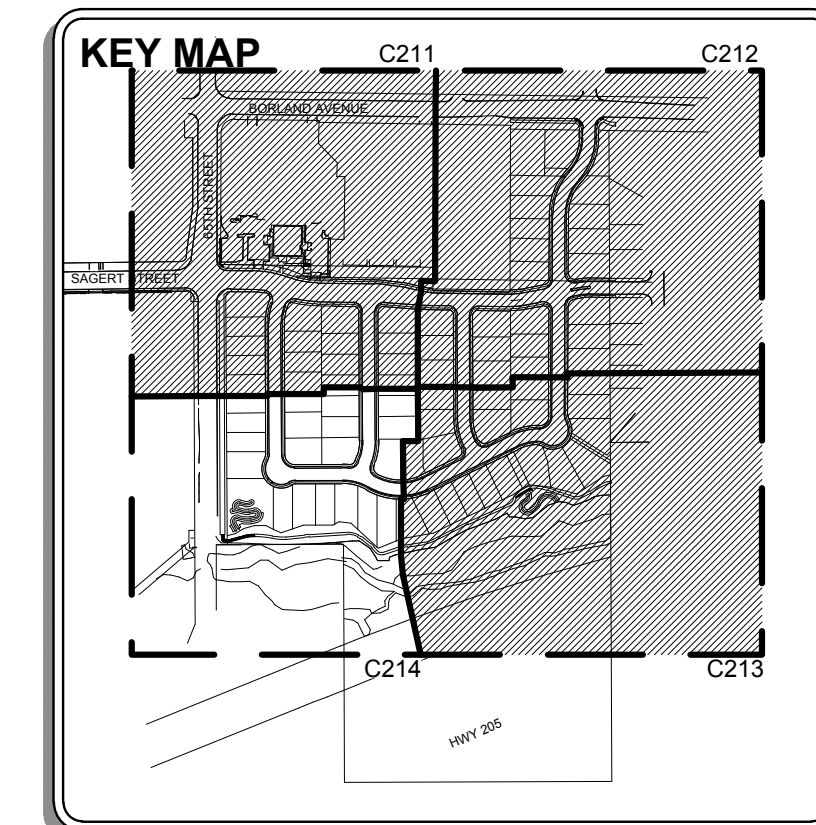
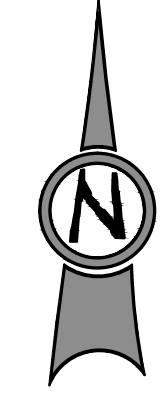
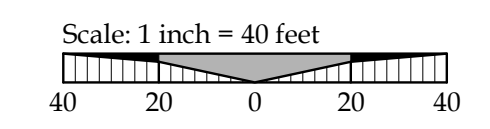
	BOUNDARY LINE		EXISTING TREES
	RIGHT-OF-WAY		EXISTING STUMP
	CENTERLINE		LIGHT POLE
	LOT LINE		WATER VALVE
	EASEMENT		WATER METER
	BUILDING SETBACK		FIRE HYDRANT
	SANITARY SEWER MAIN		SANITARY MANHOLE
	SANITARY SEWER FORCEMAIN		STORM MANHOLE
	SANITARY SEWER LATERAL & STUB		30" CURB INLET
	STORM SEWER MAIN		48" CURB INLET
	STORM SEWER LATERAL		GAS VALVE
	WATER LINE		PHONE PEDESTAL
	GAS LINE		SIGN
	UNDERGROUND TELEPHONE LINE		TEST PIT
	OVERHEAD POWER		UTILITY POLE
	BARBED WIRE FENCE		TRAFFIC SIGNAL BOX
	CHAIN LINK FENCE		STREET LIGHT
	WETLAND		
	STREAM OR WETLAND BUFFER		
	CURB		
	EXISTING ASPHALT		
	PROPOSED ASPHALT		
	EXISTING CONCRETE		
	PROPOSED CONCRETE		
	GRAVEL		

STREET CONSTRUCTION NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER.
- 2A CONSTRUCT FIVE FOOT WIDE DETACHED SIDEWALK.
- 2B CONSTRUCT SIX FOOT WIDE CURB TIGHT SIDEWALK.
- 2C CONSTRUCT FIVE FOOT WIDE CURB TIGHT SIDEWALK.
- 3 CONSTRUCT ASPHALT SECTION.
- 4A CONSTRUCT STANDARD DRIVEWAY.
- 4B CONSTRUCT COMMERCIAL DRIVEWAY.
- 5 CONSTRUCT CURB RAMP.
- 6 INSTALL STOP SIGN AND STOP BAR.

STORM CONSTRUCTION NOTES

- 1 CONSTRUCT 48" STORM MANHOLE.
- 2A CONSTRUCT 30" CURB INLET WITH 10" STORM LINE.
- 2B CONSTRUCT 48" CURB INLET WITH 10" STORM LINE.
- 3 CONSTRUCT STORM MAIN LINE.
- 4 CONSTRUCT PRIVATE STORM DRAIN LATERAL CONNECTION FOR INDIVIDUAL LOT SERVICE. EXTEND SERVICE LATERAL 3' BEYOND PUE.
- 5 CONNECT STORM MAIN LINE TO EXISTING MANHOLE.



8/11/15

TYPE II LAND USE

REVISION SUMMARY	BY	DATE

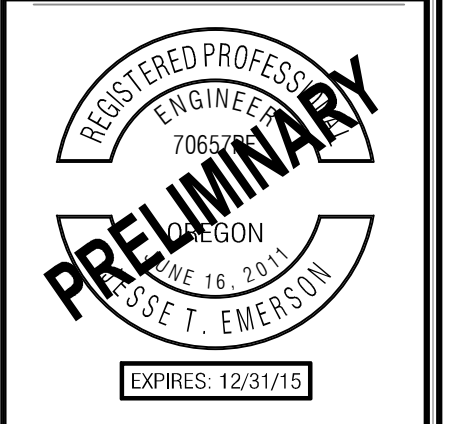
STREET & STORM PLAN IV

SAGERT FARM SUBDIVISION

TYPE II LAND USE DOCUMENTS

LENNAR NORTHWEST, INC.

TUALATIN, OREGON



3J CONSULTING, INC

3J

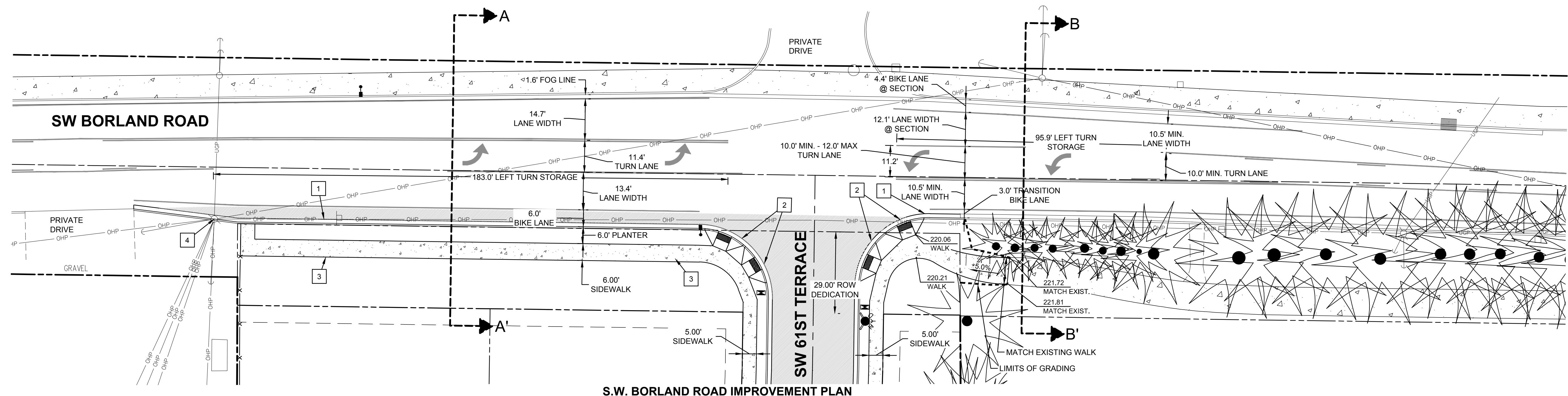
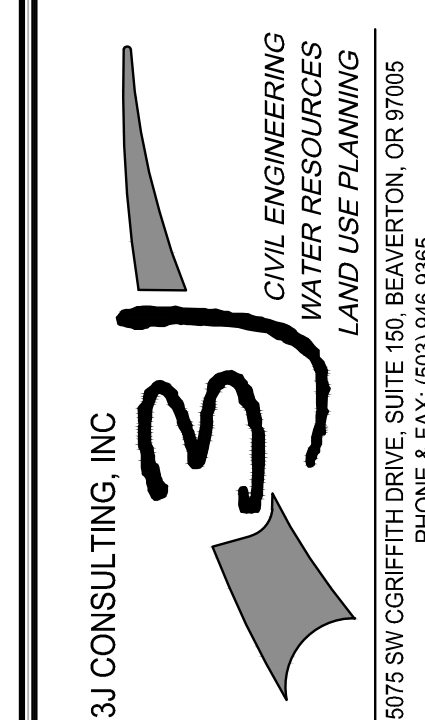
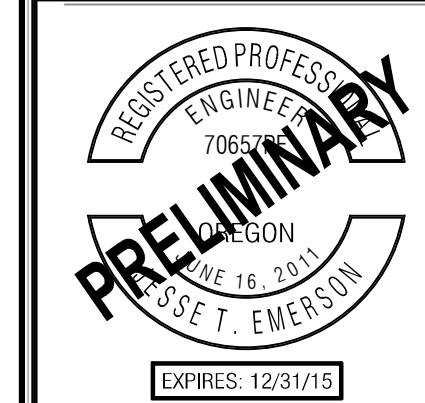
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING

8075 SW CROFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
PHONE & FAX: (503) 946-5886

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
STREET & STORM IV

SHEET NUMBER
C214

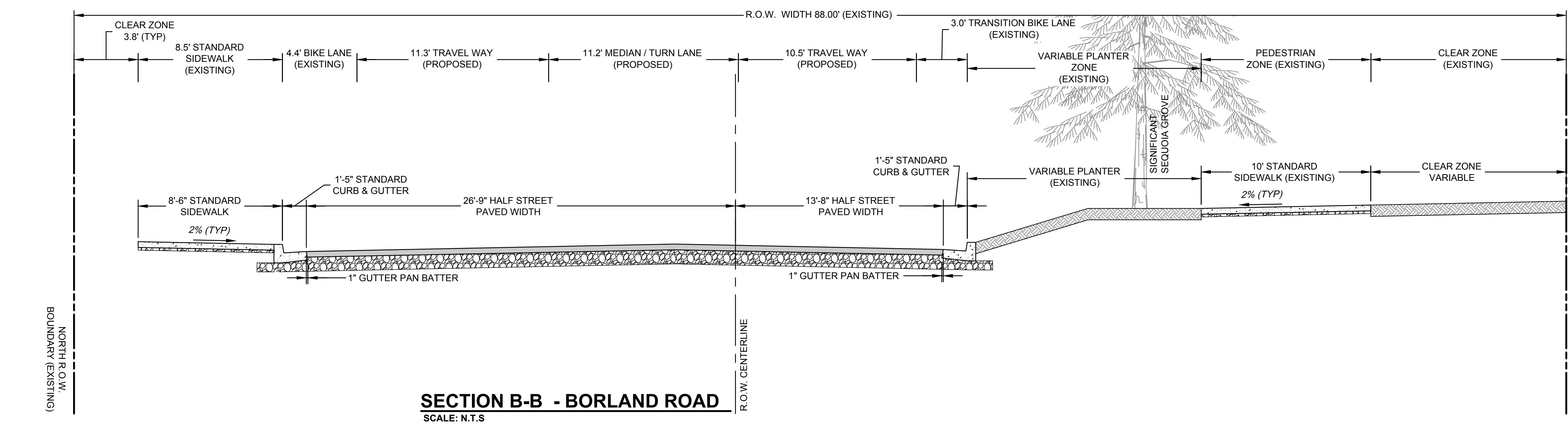
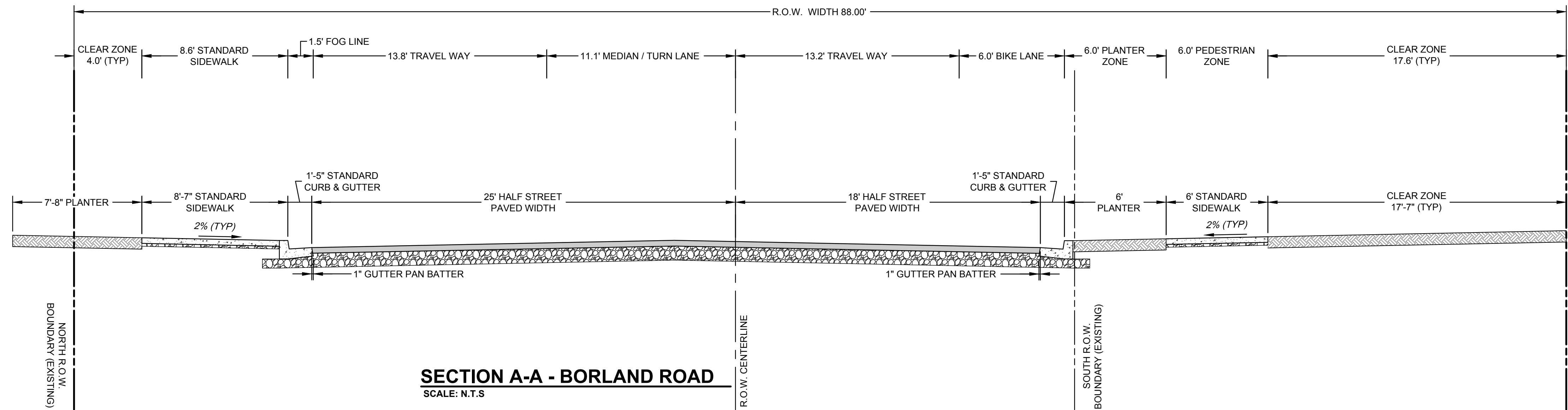
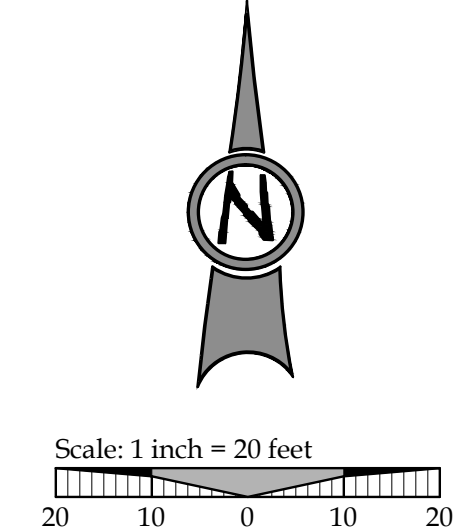


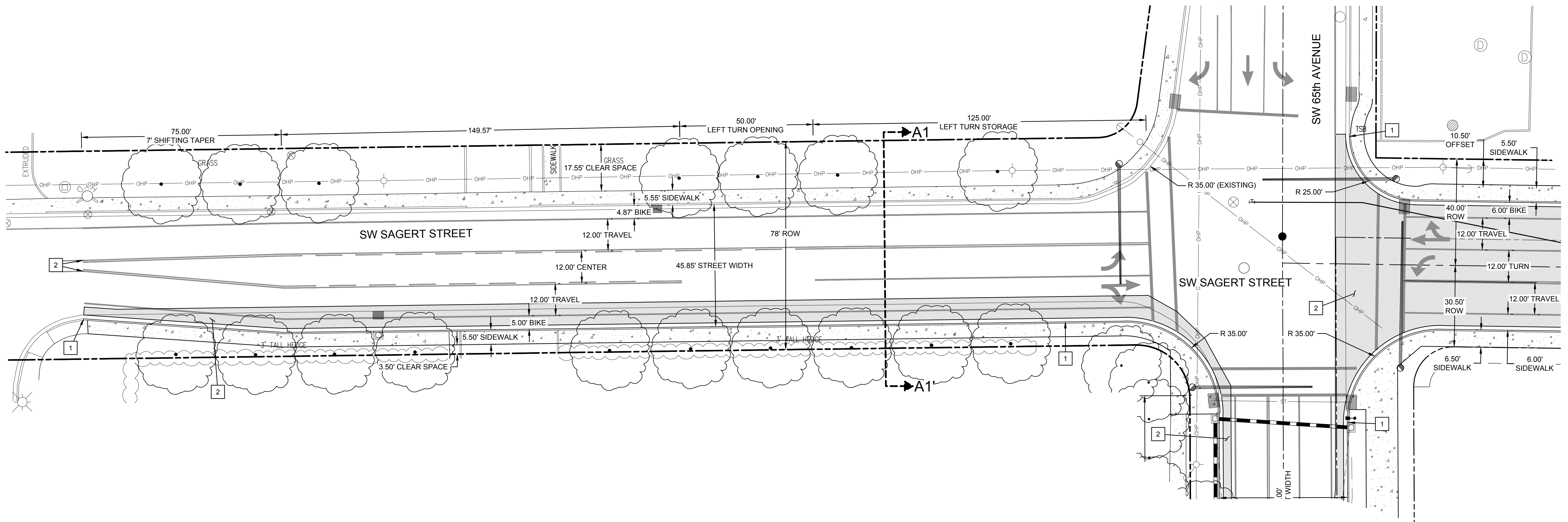
S.W. BORLAND ROAD IMPROVEMENT PLAN

LEGEND

	BOUNDARY LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	EXISTING CENTERLINE
	PROPOSED CENTERLINE
	LOT LINE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	EXISTING OVERHEAD POWER
	EXISTING BARBED WIRE FENCE
	EXISTING CURB
	PROPOSED CURB AND GUTTER
	PROPOSED STORM LINE
	EXISTING STORM LINE
	DRIP LINE
	EXISTING ASPHALT
	CONCRETE
	EXISTING TREE CLUSTER
	PROPOSED ASPHALT
	WATER VALVE
	PROPOSED FIRE HYDRANT
	EXISTING SEWER MANHOLE
	EXISTING GAS VALVE
	EXISTING PHONE PEDESTAL
	EXISTING UTILITY POLE WITH GUY WIRE
	PROPOSED STREET LIGHT

- CONSTRUCTION KEY NOTES**
- 1 CONSTRUCT STANDARD CURB AND GUTTER PER CITY OF TUALATIN STANDARD DETAIL.
 - 2 CONSTRUCT CURB RAMP PER CITY OF TUALATIN STANDARD DETAIL.
 - 3 CONSTRUCT 6' SIDEWALK PER CITY OF TUALATIN STANDARD DETAIL.
 - 4 PGE TO RELOCATE ELECTRICAL POLE.

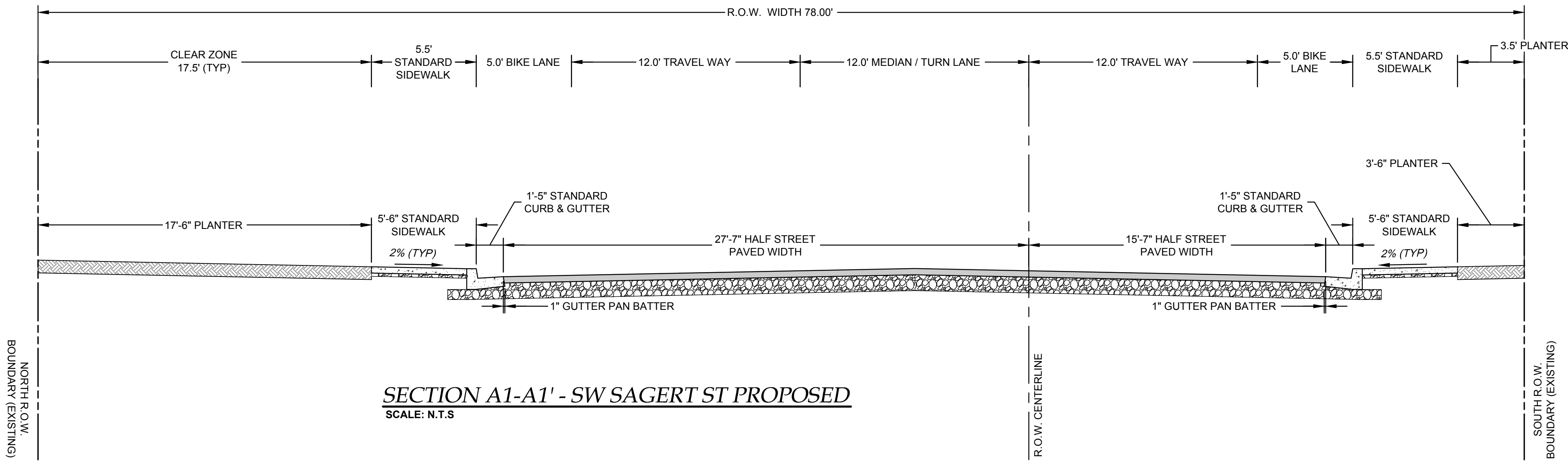




LEGEND

	BOUNDARY LINE		EXISTING ASPHALT
	EXISTING RIGHT-OF-WAY		CONCRETE
	PROPOSED RIGHT-OF-WAY		EXISTING TREE CLUSTER
	EXISTING CENTERLINE		PROPOSED ASPHALT
	PROPOSED CENTERLINE		WATER VALVE
	LOT LINE		PROPOSED FIRE HYDRANT
	EXISTING EASEMENT		EXISTING SEWER MANHOLE
	PROPOSED EASEMENT		EXISTING GAS VALVE
	EXISTING OVERHEAD POWER		EXISTING PHONE PEDESTAL
	EXISTING BARBED WIRE FENCE		EXISTING UTILITY POLE WITH GUY WIRE
	EXISTING CURB		PROPOSED STREET LIGHT
	PROPOSED CURB AND GUTTER		
	PROPOSED STORM LINE		
	EXISTING CLUSTER		
	DRIP LINE		

- CONSTRUCTION KEY NOTES**
- 1 CONSTRUCT STANDARD CURB AND GUTTER PER CITY OF TUALATIN STANDARD DETAIL (TYP).
 - 2 CONSTRUCT ASPHALT WIDENING PER CITY OF TUALATIN STANDARD DETAIL.



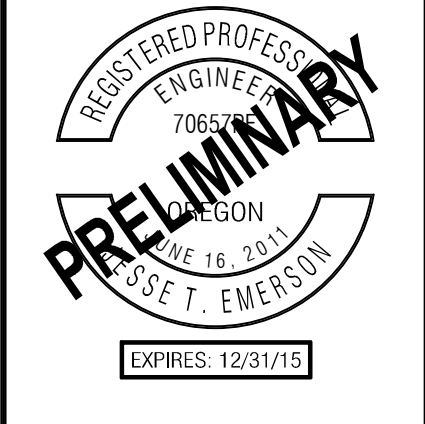
SECTION A1-A1' - SW SAGERT ST PROPOSED
SCALE: N.T.S

Scale: 1 inch = 20 feet

TYPE II LAND USE

REVISION SUMMARY	BY	DATE
		8/11/15

SAGERT ST. & 65TH AVE. INTERSECTION PLAN
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

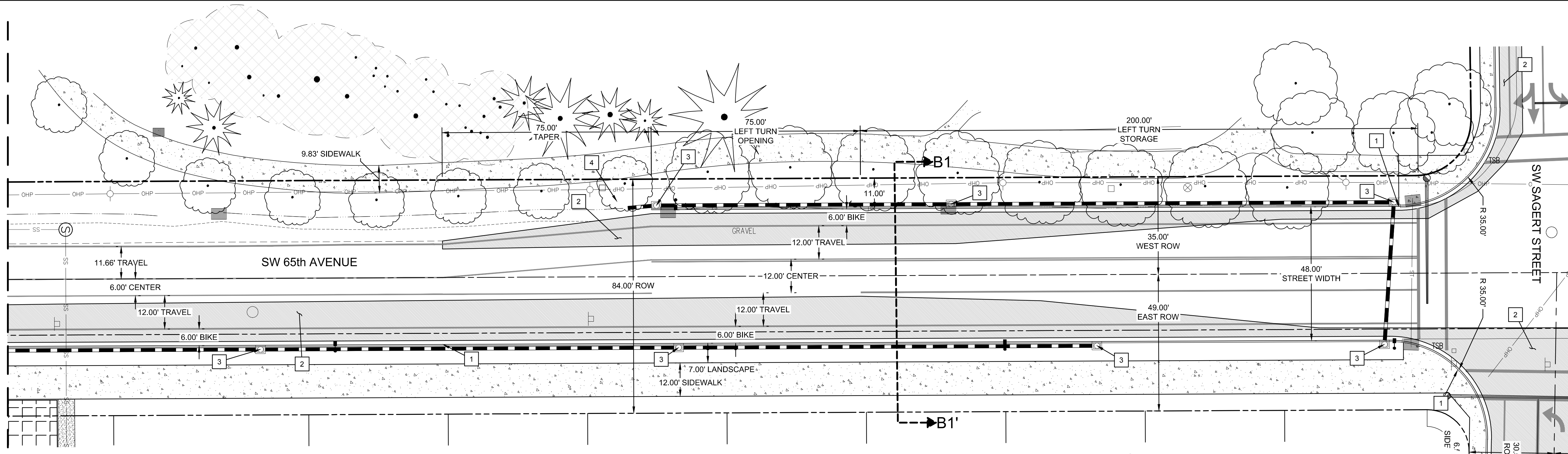


3J CONSULTING, INC

 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 3075 SW CARRIFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 546-5886

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH
SHEET TITLE	SAGERT & 65TH
SHEET NUMBER	C221

MATCHLINE - SEE SHEET C223

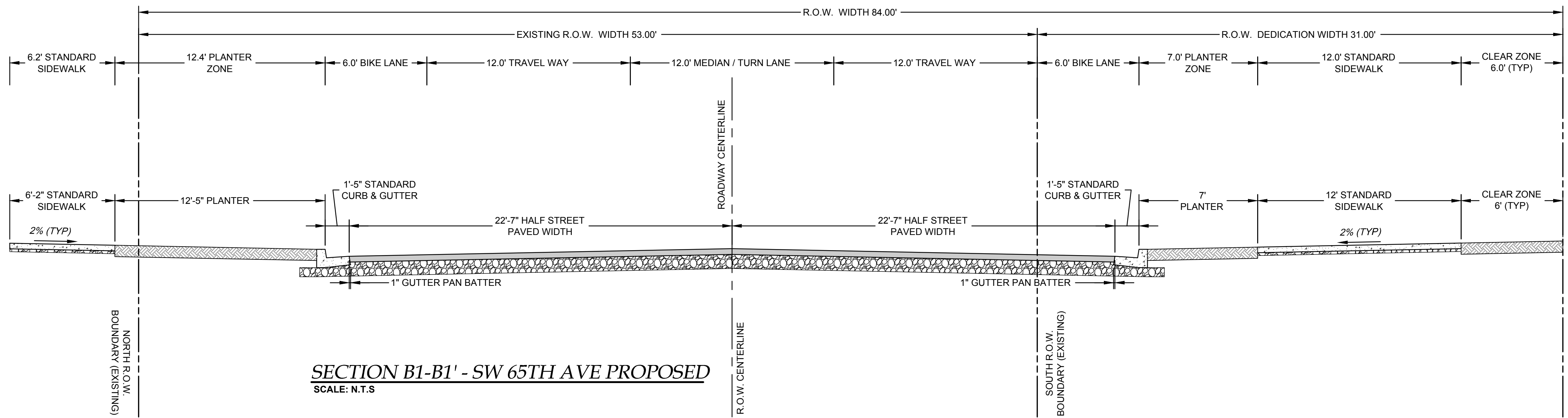


LEGEND

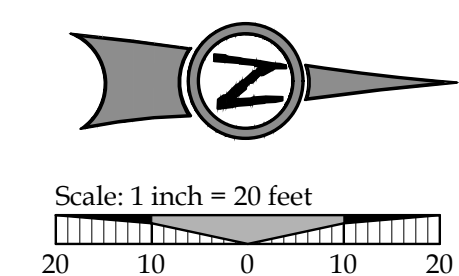
	BOUNDARY LINE		EXISTING ASPHALT
	EXISTING RIGHT-OF-WAY		PROPOSED ASPHALT
	PROPOSED RIGHT-OF-WAY		CONCRETE
	EXISTING CENTERLINE		EXISTING TREE CLUSTER
	PROPOSED CENTERLINE		EXISTING CLUSTER
	LOT LINE		EXISTING CLUSTER DRIP LINE
	EXISTING EASEMENT		WATER VALVE
	PROPOSED EASEMENT		PROPOSED FIRE HYDRANT
	EXISTING GRAVEL EDGE		EXISTING SEWER MANHOLE
	EXISTING OVERHEAD POWER		PROPOSED SEWER MANHOLE
	EXISTING BARBED WIRE FENCE		EXISTING GAS VALVE
	EXISTING DITCH CENTERLINE		EXISTING PHONE PEDESTAL
	EXISTING CURB		EXISTING UTILITY POLE WITH GUY WIRE
	PROPOSED CURB AND GUTTER		PROPOSED STREET LIGHT
	PROPOSED STORM LINE		

CONSTRUCTION KEY NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER PER CITY OF TUALATIN STANDARD DETAIL.
- 2 CONSTRUCT ASPHALT WIDENING PER CITY OF TUALATIN STANDARD DETAIL.
- 3 CONSTRUCT CURB INLET WITH 10" STORM LINE.
- 4 CONSTRUCT RIP-RAP OUTFALL.

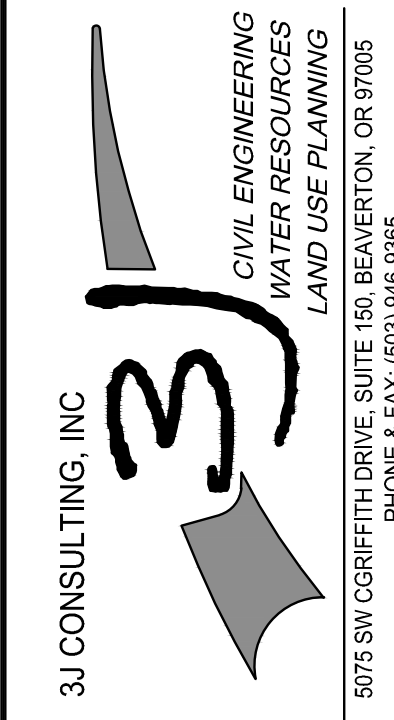
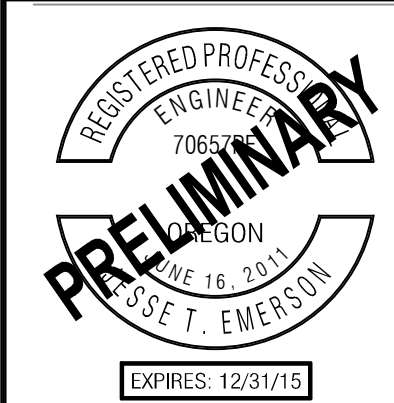


SECTION B1-B1' - SW 65TH AVE PROPOSED
SCALE: N.T.S

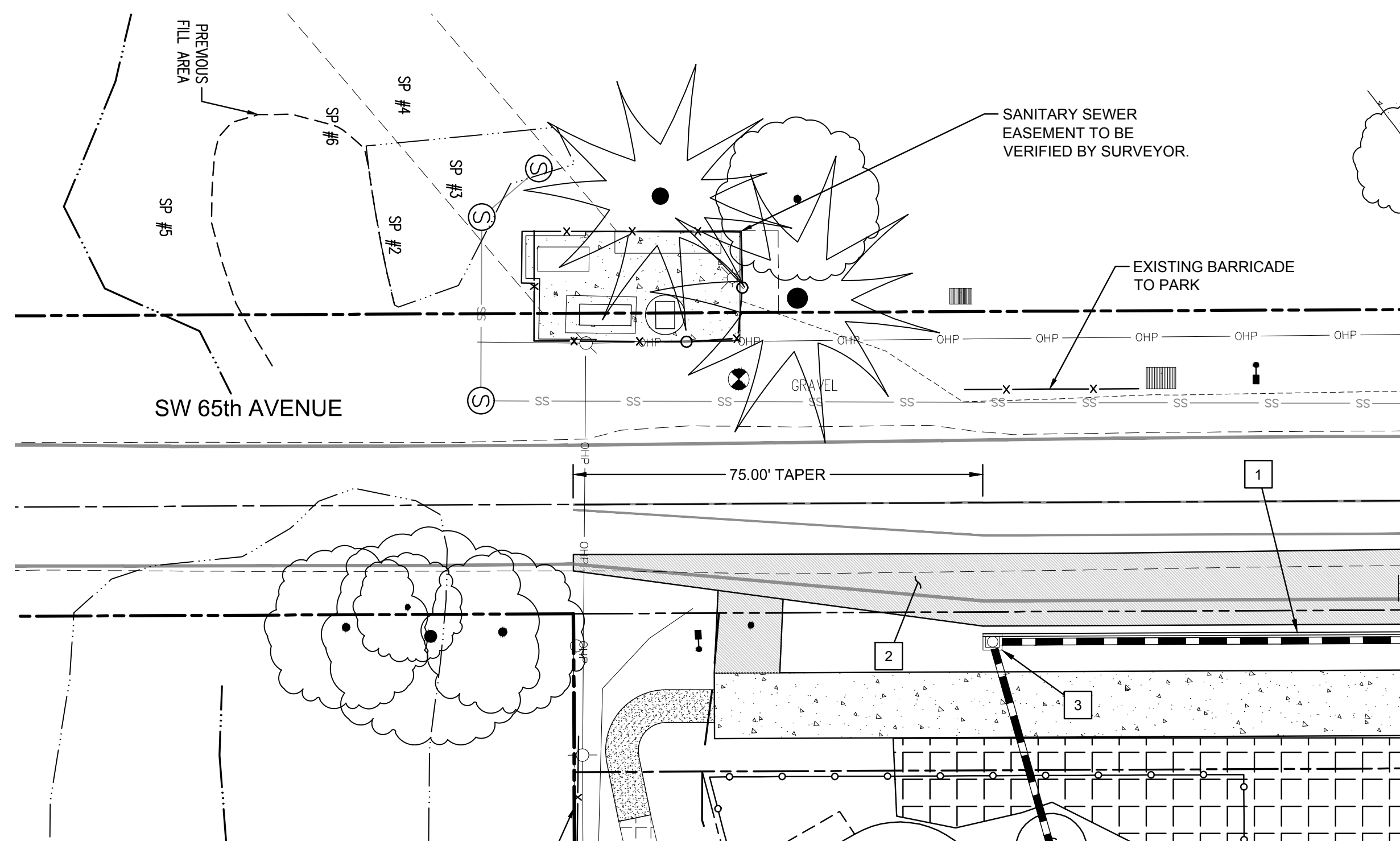


TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

65TH AVE. IMPROVEMENT PLAN I
SAGER FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
LENNAR NORTHWEST, INC.
TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH
SHEET TITLE	65TH AVE. IMP. I
SHEET NUMBER	C222



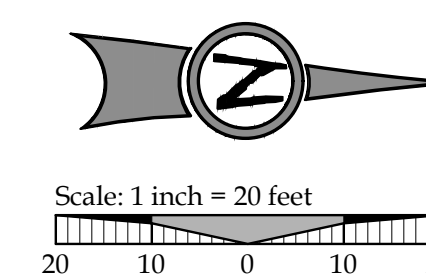
MATCHLINE - SEE SHEET C222

LEGEND

	BOUNDARY LINE		EXISTING ASPHALT
	EXISTING RIGHT-OF-WAY		PROPOSED ASPHALT
	PROPOSED RIGHT-OF-WAY		CONCRETE
	EXISTING CENTERLINE		EXISTING TREE CLUSTER
	PROPOSED CENTERLINE		EXISTING CLUSTER
	LOT LINE		DRIP LINE
	EXISTING EASEMENT		WATER VALVE
	PROPOSED EASEMENT		PROPOSED FIRE HYDRANT
	EXISTING OVERHEAD POWER		EXISTING SEWER MANHOLE
	EXISTING BARBED WIRE FENCE		PROPOSED SEWER MANHOLE
	EXISTING CURB		EXISTING GAS VALVE
	PROPOSED CURB AND GUTTER		EXISTING PHONE PEDESTAL
	PROPOSED STORM LINE		EXISTING UTILITY POLE WITH GUY WIRE
			PROPOSED STREET LIGHT

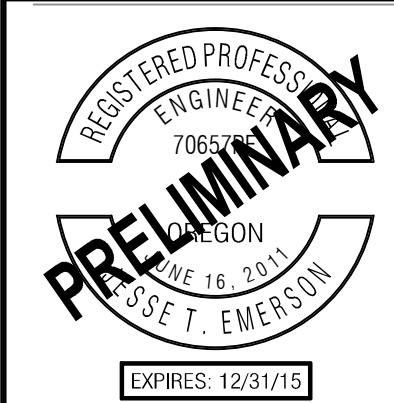
CONSTRUCTION KEY NOTES

- 1 CONSTRUCT STANDARD CURB AND GUTTER PER CITY OF TUALATIN STANDARD DETAIL.
- 2 CONSTRUCT ASPHALT WIDENING PER CITY OF TUALATIN STANDARD DETAIL.
- 3 CONSTRUCT CURB INLET WITH 10" LINE



TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

65TH AVE. IMPROVEMENT PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

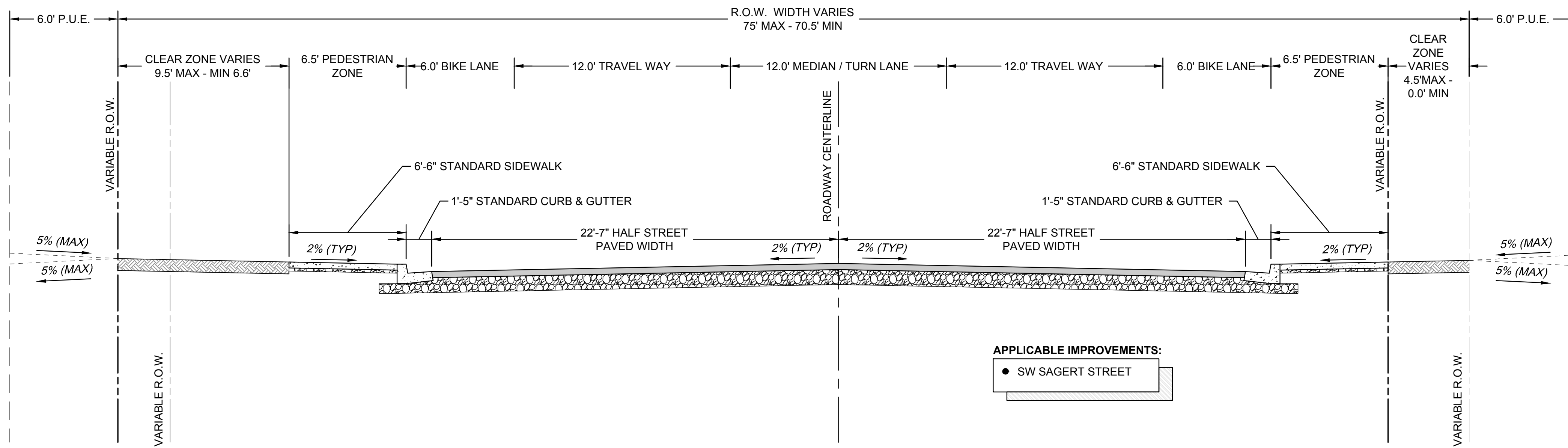


3J CONSULTING, INC.

 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 8075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-8885

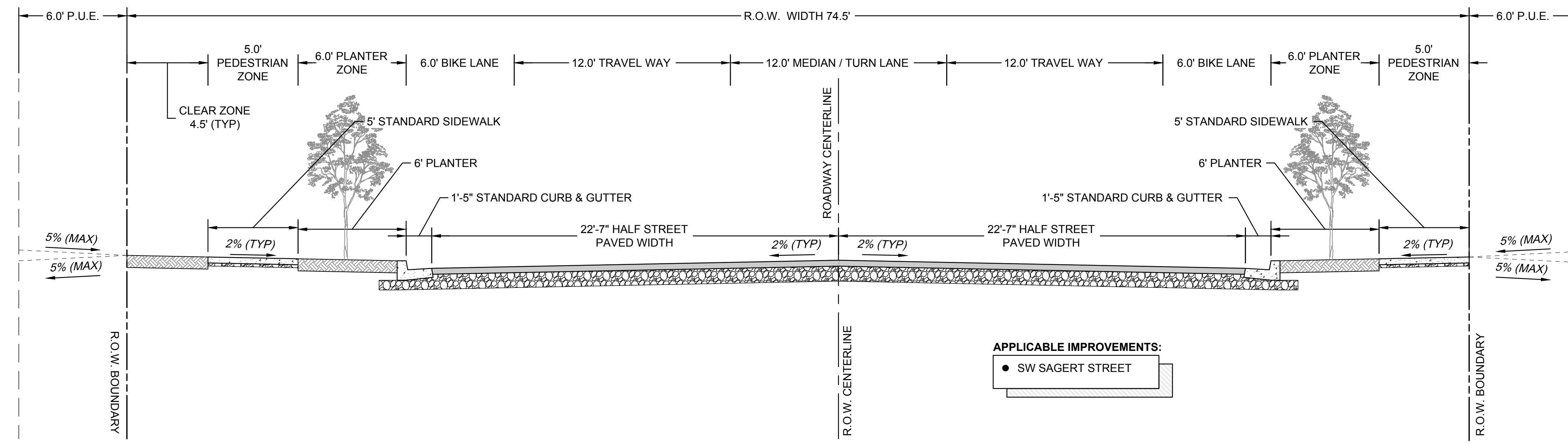
3J JOB ID #		13-159
LAND USE #		SB15-0002
TAX LOT #		251E30B 300 & 600
DESIGNED BY		JTE, JCP, CKW
CHECKED BY		JTE, JDH

SHEET TITLE
65TH ST. IMP. II
 SHEET NUMBER
C223



SECTION A-A: MINOR ARTERIAL SECTION W/ CURB TIGHT SIDEWALK

N.T.S.

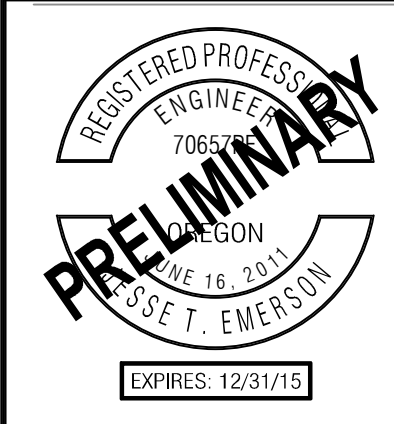


SECTION B-B: MINOR ARTERIAL SECTION

N.T.S.

TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

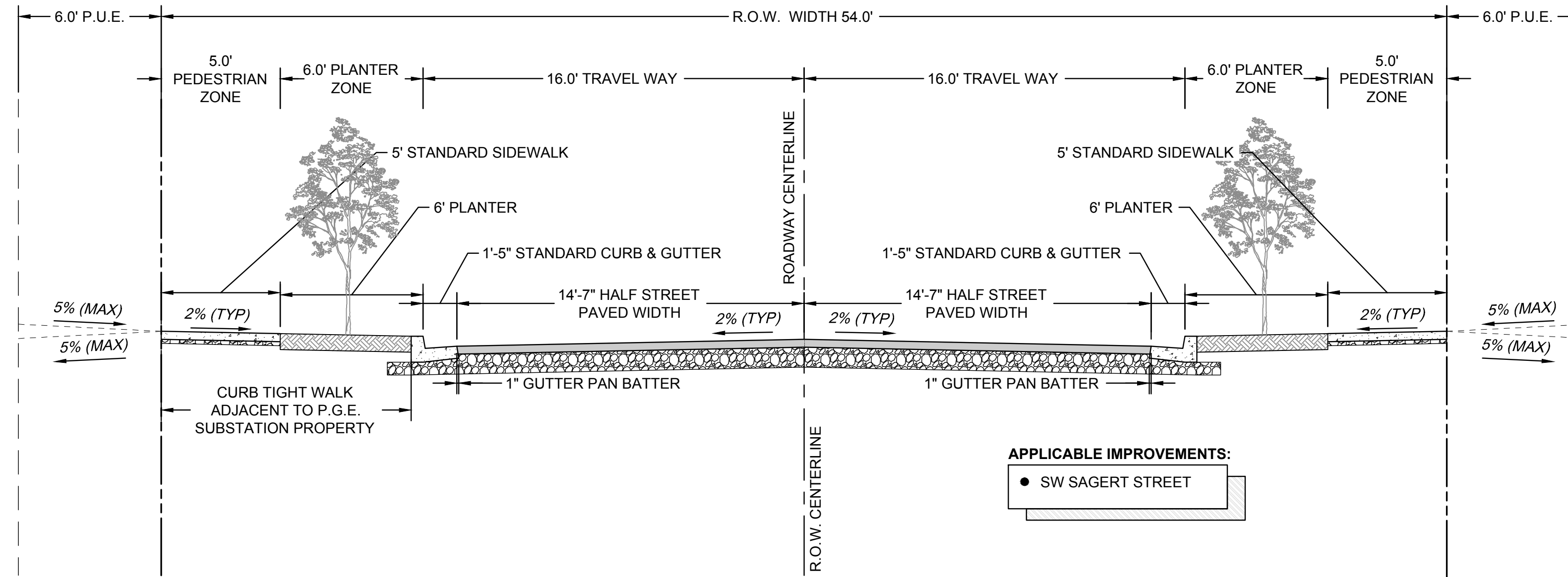
ONSITE TYPICAL SECTIONS I
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 5075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-8385

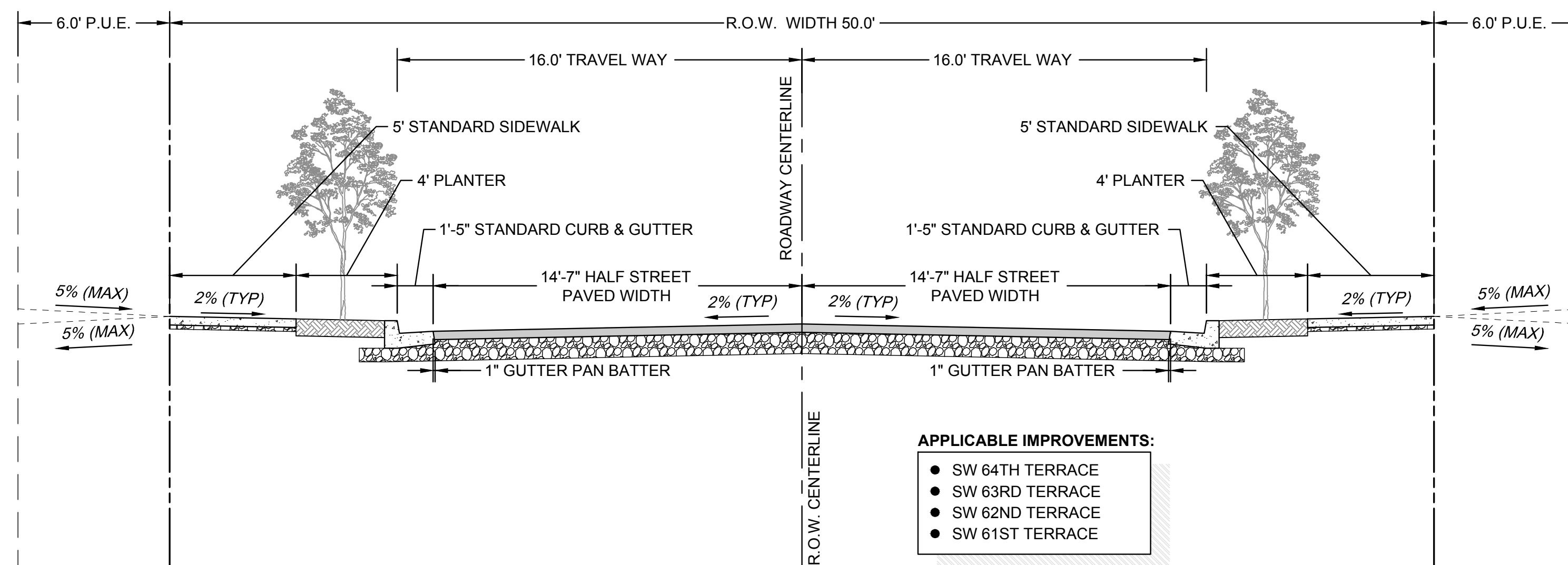
3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
TYP. SECTIONS I
 SHEET NUMBER
C230



SECTION C-C: MODIFIED ARTERIAL SECTION

N.T.S.

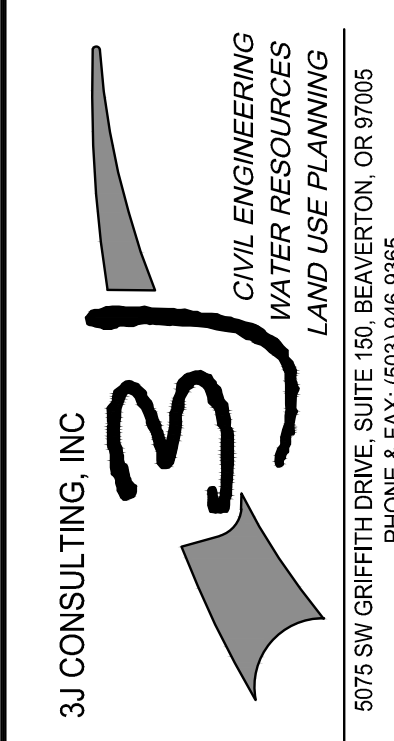
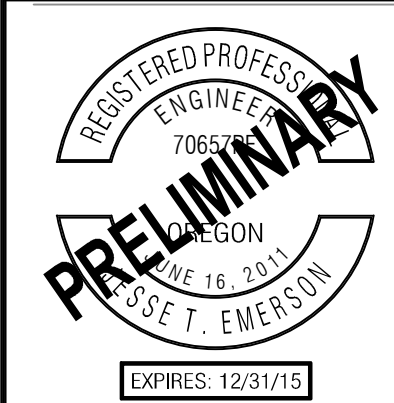


SECTION D-D: LOCAL STREET SECTION

N.T.S.

TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

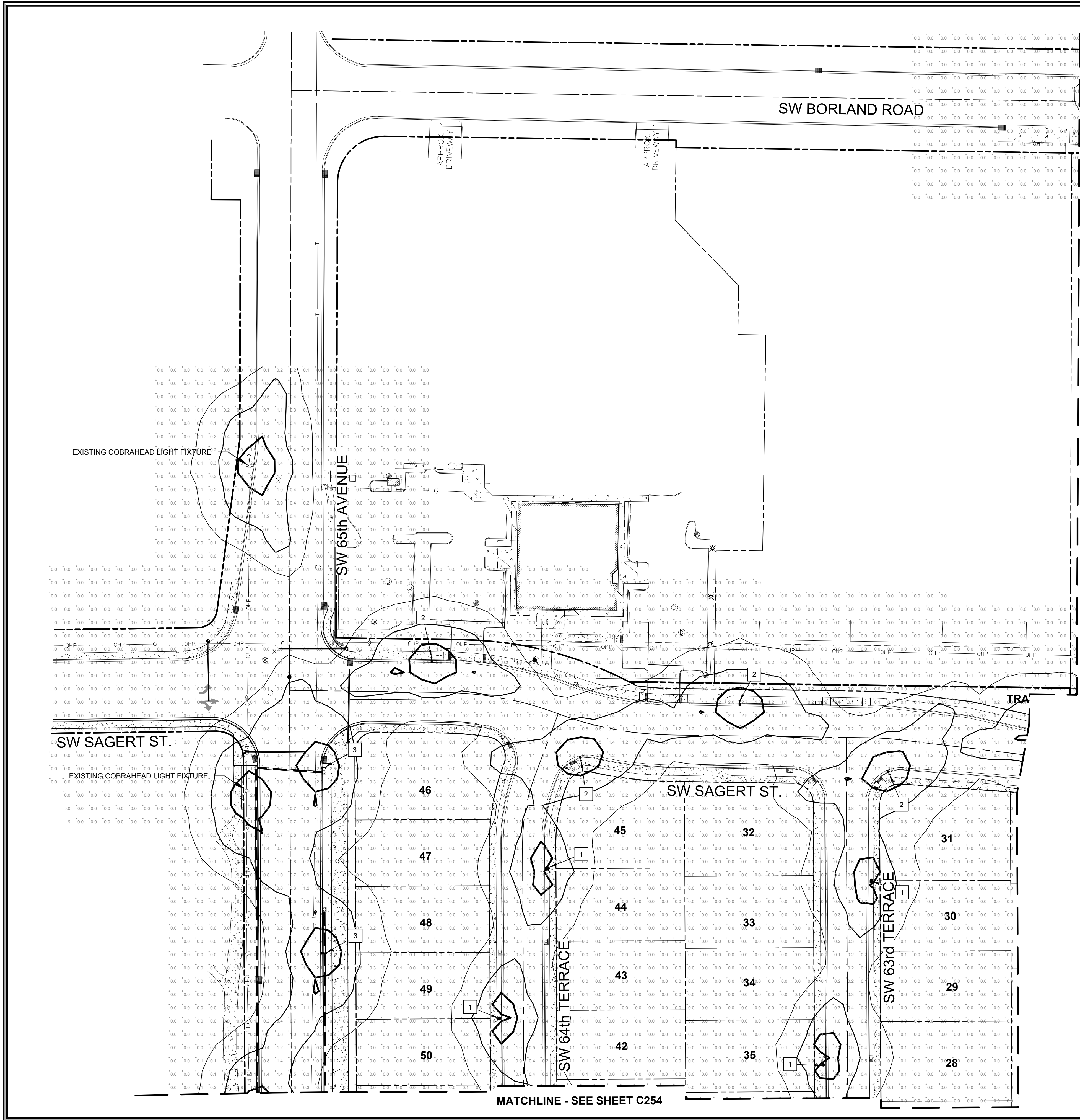
ONSITE TYPICAL SECTIONS II
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
 TYP. SECTIONS II

SHEET NUMBER
C231



LEGEND

- 1.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.1 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- ILLUMINATION ANALYSIS POINT (FC)
- FOOT CANDLE UNIT
- PROPOSED LUMINAIRE

ILLUMINATION PLAN CONSTRUCTION NOTES

- 1 INSTALL STREET LIGHT PACKAGE #1. SEE DETAIL THIS SHEET.
- 2 INSTALL STREET LIGHT PACKAGE #2. SEE DETAIL THIS SHEET.
- 3 INSTALL STREET LIGHT PACKAGE #3. SEE DETAIL THIS SHEET.

ILLUMINATION STATISTICS

ROADWAY SECTION	REQUIRED MINIMUM AVERAGE FC	PROPOSED AVERAGE FC**
SAGERT ST	0.59 FC	0.72 FC
64TH TERRACE	0.40 FC	0.75 FC
63RD TERRACE	0.40 FC	0.62 FC
62ND TERRACE	0.40 FC	0.70 FC
61ST TERRACE - NORTH OF SAGERT ST	0.40 FC	0.70 FC
61ST TERRACE - SOUTH OF SAGERT ST	0.40 FC	0.53 FC
JUNIPER LANE	0.40 FC	0.72 FC
65TH AVENUE (OFFSITE FRONTAGE)	0.59 FC	0.68 FC
BORLAND ROAD (OFFSITE FRONTAGE)	0.59 FC	0.77 FC

*PER CITY OF TUALATIN PUBLIC WORKS DESIGN STANDARDS
 **CALCULATIONS ARE FOR CURB-CURB ROADWAY AREA ONLY

STREET LIGHT PACKAGE #1 "ACORN"

LUMINAIRE: 100W HPS - GE TOWN AND COUNTRY - T10R10S7N2AMS2BL16
 POLE: 20 FT ALUMINUM POST TOP POLE - 16 FT MOUNTING HEIGHT - BRONZE FINISH

STREET LIGHT PACKAGE #2 "SHOEBOX"

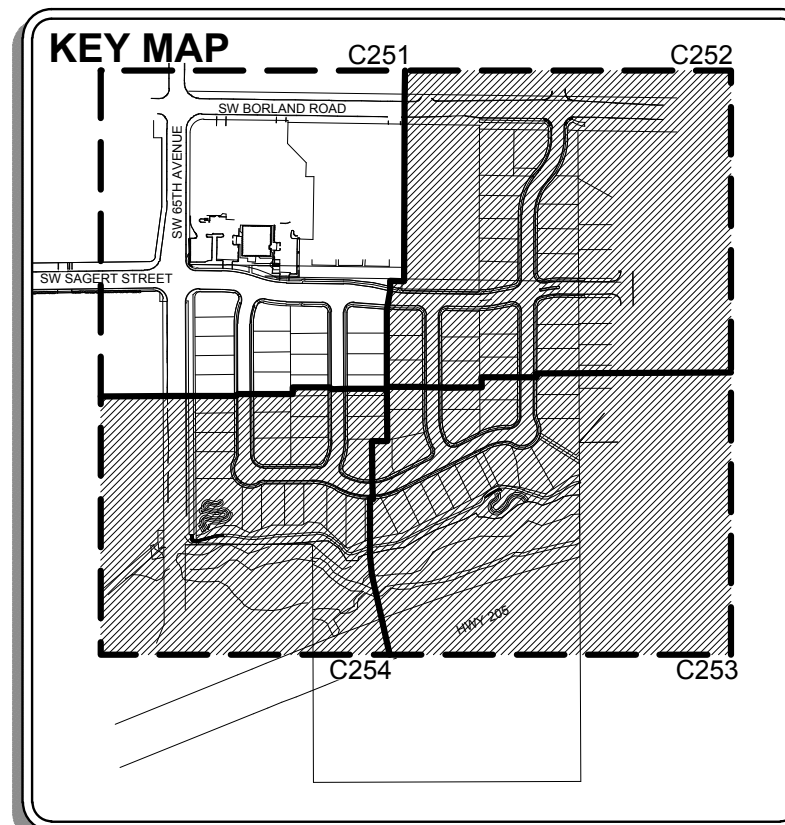
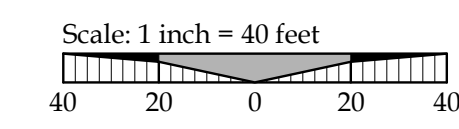
LUMINAIRE: 100W HPS - COOPER LIGHTING - TRIBUTE - TRU10SN42FBZH4S
 POLE: 30 FT ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: NONE

STREET LIGHT PACKAGE #3 "COBRAHEAD"

LUMINAIRE: 100W HPS - COOPER OVH FLAT GLASS REFLECTOR - OVH10SNV2DH4
 POLE: ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: 4 FT

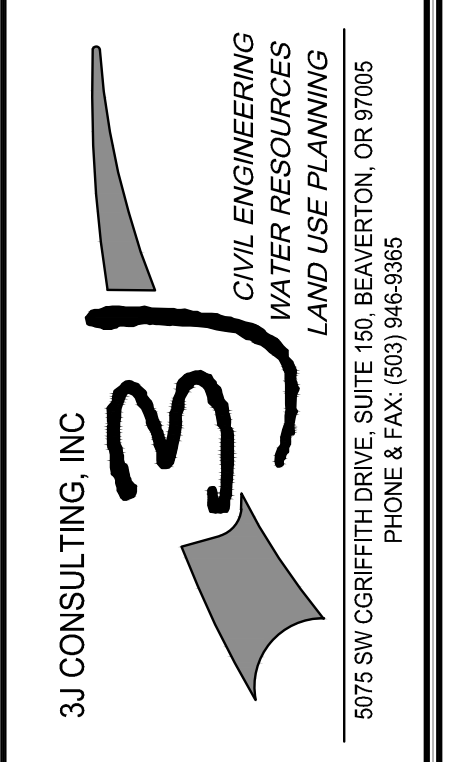
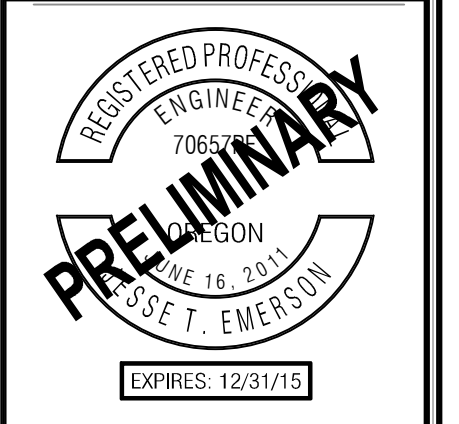
MATCHLINE - SEE SHEET C252

MATCHLINE - SEE SHEET C254



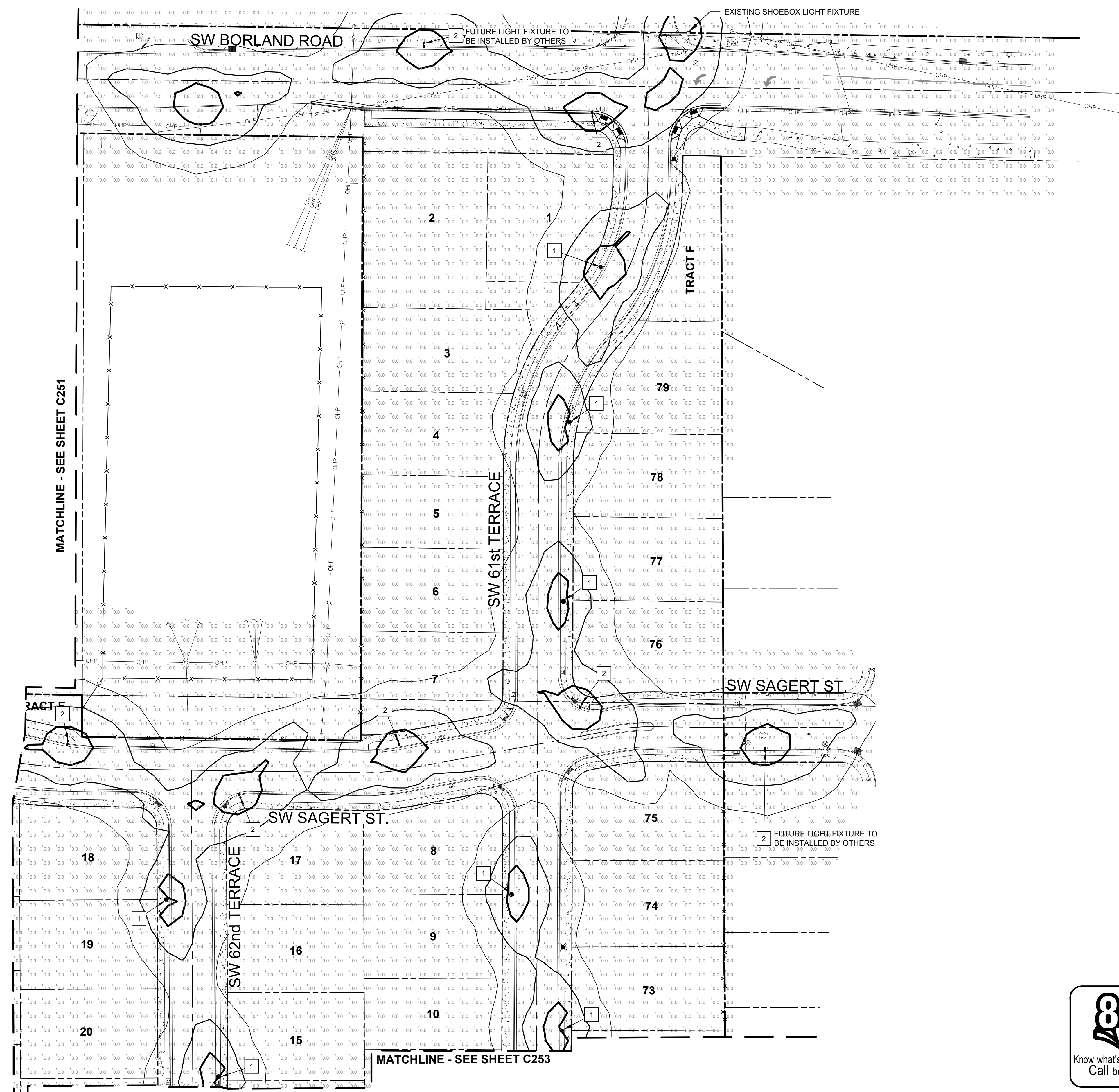
TYPE II LAND USE	8/17/15
REVISION SUMMARY	BY
	DATE

ILLUMINATION PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30R300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
ILLUM. PLAN I
 SHEET NUMBER
C251



LEGEND

- 1.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.1 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- ILLUMINATION ANALYSIS POINT (FC)
- FOOT CANDLE UNIT
- PROPOSED LUMINAIRE

ILLUMINATION PLAN CONSTRUCTION NOTES

- 1 INSTALL STREET LIGHT PACKAGE #1. SEE DETAIL THIS SHEET.
- 2 INSTALL STREET LIGHT PACKAGE #2. SEE DETAIL THIS SHEET.
- 3 INSTALL STREET LIGHT PACKAGE #3. SEE DETAIL THIS SHEET.

ILLUMINATION STATISTICS

ROADWAY SECTION	REQUIRED MINIMUM AVERAGE FC*	PROPOSED AVERAGE FC**
SAGERT ST	0.59 FC	0.72 FC
64TH TERRACE	0.40 FC	0.75 FC
63RD TERRACE	0.40 FC	0.62 FC
62ND TERRACE	0.40 FC	0.70 FC
61ST TERRACE - NORTH OF SAGERT ST	0.40 FC	0.70 FC
61ST TERRACE - SOUTH OF SAGERT ST	0.40 FC	0.53 FC
JUNIPER LANE	0.40 FC	0.72 FC
65TH AVENUE (OFFSITE FRONTAGE)	0.59 FC	0.68 FC
BORLAND ROAD (OFFSITE FRONTAGE)	0.59 FC	0.77 FC

*PER CITY OF TUALATIN PUBLIC WORKS DESIGN STANDARDS
 **CALCULATIONS ARE FOR CURB-CURB ROADWAY AREA ONLY

STREET LIGHT PACKAGE #1 "ACORN"

LUMINAIRE: 100W HPS - GE TOWN AND COUNTRY - T10R10S7N2AMS2BL160
 POLE: 20 FT ALUMINUM POST TOP POLE - 16 FT MOUNTING HEIGHT - BRONZE FINISH

STREET LIGHT PACKAGE #2 "SHOEBOX"

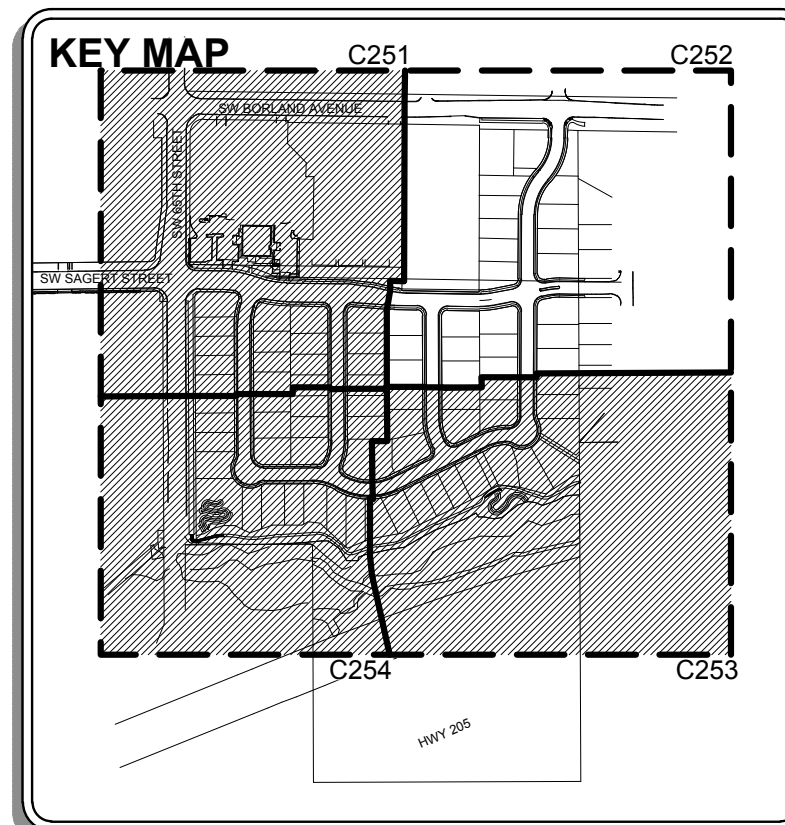
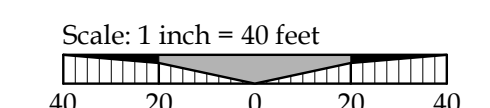
LUMINAIRE: 100W HPS - COOPER LIGHTING - TRIBUTE - TRU10SN42FBZH4S
 POLE: 30 FT ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: NONE

STREET LIGHT PACKAGE #3 "COBRAHEAD"

LUMINAIRE: 100W HPS - COOPER OVH FLAT GLASS REFLECTOR - OVH10SNV2DH4
 POLE: ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: 4 FT

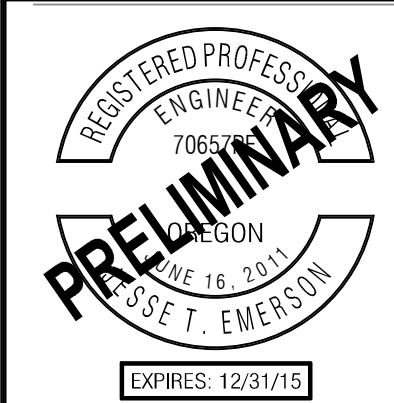
MATCHLINE - SEE SHEET C251

MATCHLINE - SEE SHEET C253



TYPE II LAND USE
 REVISION SUMMARY
 BY DATE
 8/17/15

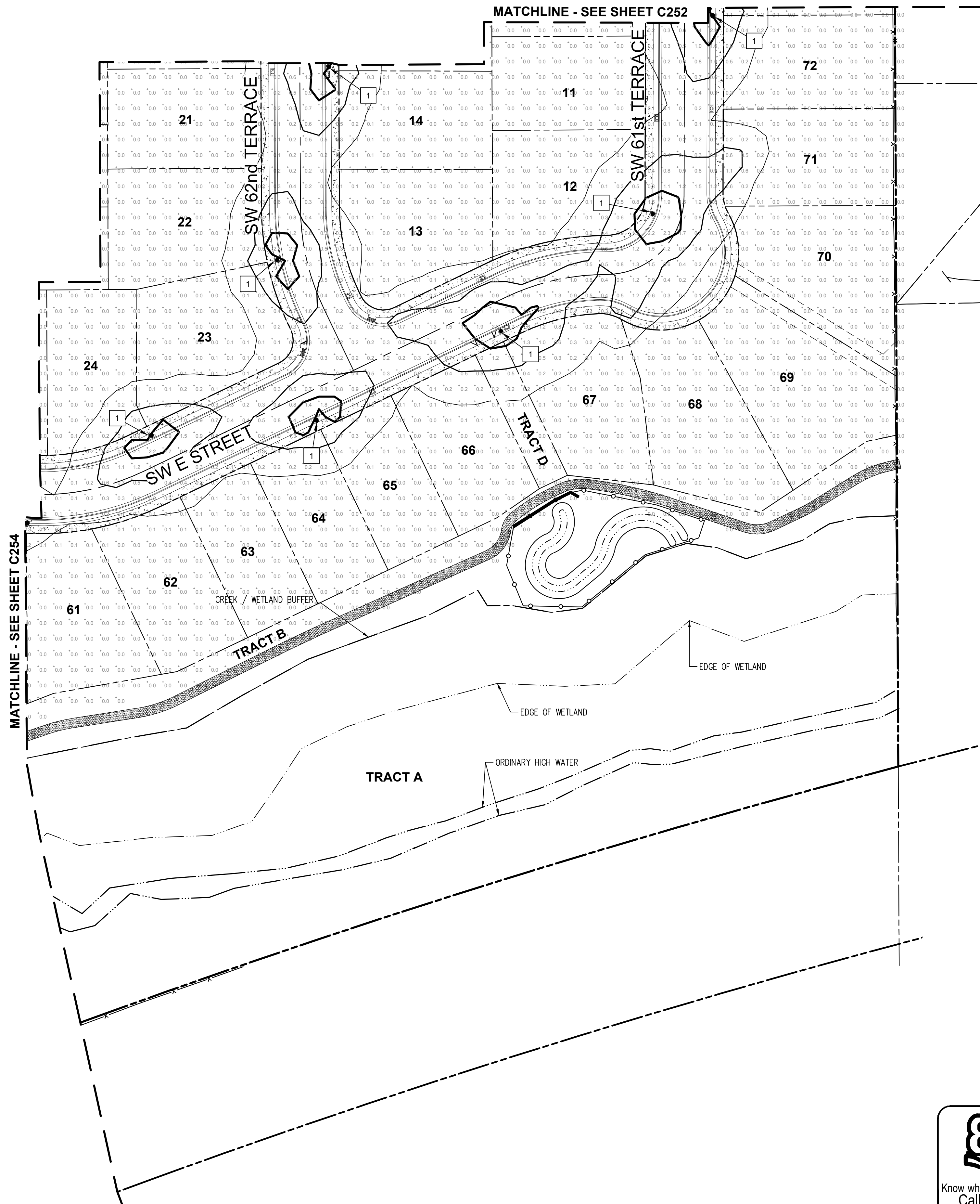
ILLUMINATION PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
ILLUM. PLAN II

SHEET NUMBER
C252



MATCHLINE - SEE SHEET C252

MATCHLINE - SEE SHEET C254

LEGEND

- 1.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.1 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- ILLUMINATION ANALYSIS POINT (FC)
- FOOT CANDLE UNIT
- PROPOSED LUMINAIRE

ILLUMINATION PLAN CONSTRUCTION NOTES

- 1 INSTALL STREET LIGHT PACKAGE #1. SEE DETAIL THIS SHEET.
- 2 INSTALL STREET LIGHT PACKAGE #2. SEE DETAIL THIS SHEET.
- 3 INSTALL STREET LIGHT PACKAGE #3. SEE DETAIL THIS SHEET.

ILLUMINATION STATISTICS

ROADWAY SECTION	REQUIRED MINIMUM AVERAGE FC*	PROPOSED AVERAGE FC**
SAGER ST	0.59 FC	0.72 FC
64TH TERRACE	0.40 FC	0.75 FC
63RD TERRACE	0.40 FC	0.62 FC
62ND TERRACE	0.40 FC	0.70 FC
61ST TERRACE - NORTH OF SAGER ST	0.40 FC	0.70 FC
61ST TERRACE - SOUTH OF SAGER ST	0.40 FC	0.53 FC
JUNIPER LANE	0.40 FC	0.72 FC
65TH AVENUE (OFFSITE FRONTAGE)	0.59 FC	0.68 FC
BORLAND ROAD (OFFSITE FRONTAGE)	0.59 FC	0.77 FC

*PER CITY OF TUALATIN PUBLIC WORKS DESIGN STANDARDS
 **CALCULATIONS ARE FOR CURB-CURB ROADWAY AREA ONLY

STREET LIGHT PACKAGE #1 "ACORN"

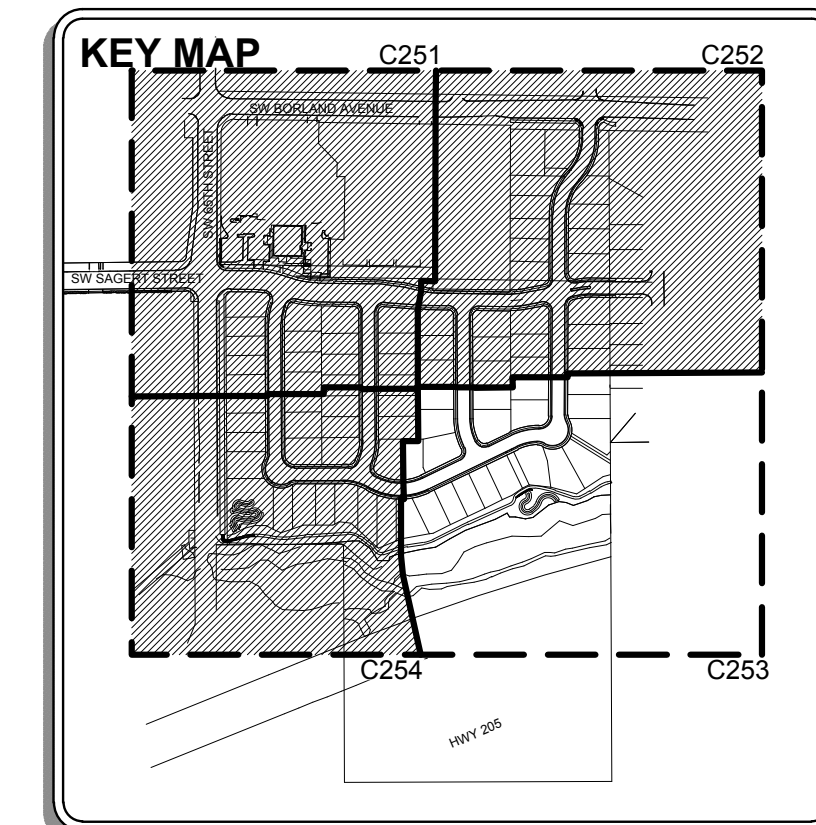
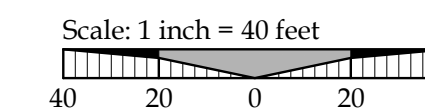
LUMINAIRE: 100W HPS - GE TOWN AND COUNTRY - T10R10S7N2AMS2BL160
 POLE: 20 FT ALUMINUM POST TOP POLE - 16 FT MOUNTING HEIGHT - BRONZE FINISH

STREET LIGHT PACKAGE #2 "SHOEBOX"

LUMINAIRE: 100W HPS - COOPER LIGHTING - TRIBUTE - TRU10SN42FBZH4S
 POLE: 30 FT ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: NONE

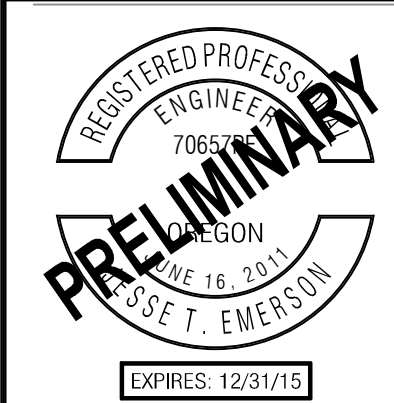
STREET LIGHT PACKAGE #3 "COBRAHEAD"

LUMINAIRE: 100W HPS - COOPER OVH FLAT GLASS REFLECTOR - OVH10SNV2DH4
 POLE: ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: 4 FT



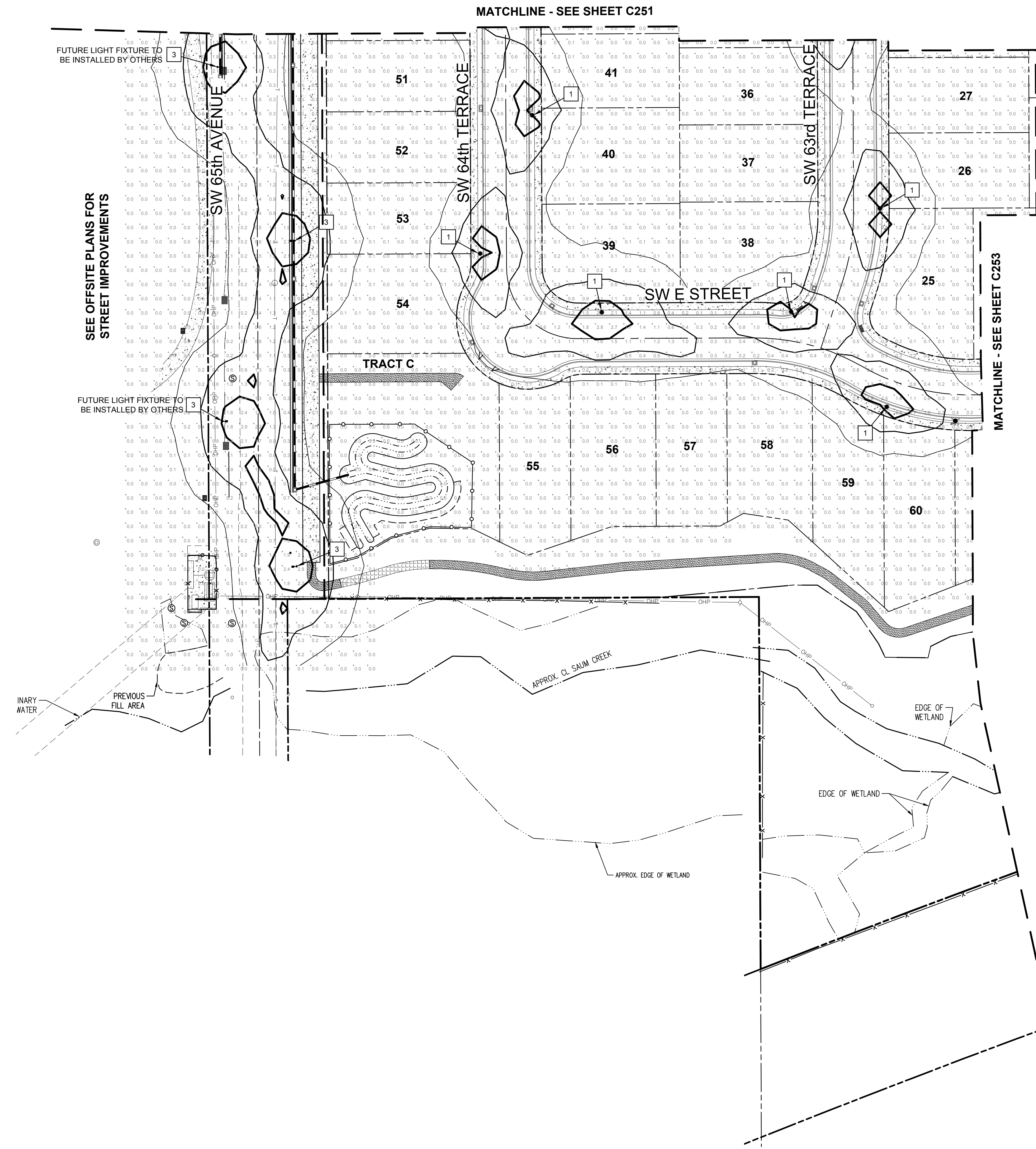
TYPE II LAND USE	8/17/15
REVISION SUMMARY	BY DATE

ILLUMINATION PLAN III
SAGER FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
ILLUM. PLAN III
 SHEET NUMBER
C253



FUTURE LIGHT FIXTURE TO BE INSTALLED BY OTHERS

SEE OFFSITE PLANS FOR STREET IMPROVEMENTS

FUTURE LIGHT FIXTURE TO BE INSTALLED BY OTHERS

INARY WATER

PREVIOUS FILL AREA

MATCHLINE - SEE SHEET C251

MATCHLINE - SEE SHEET C253

APPROX. CL SAUM CREEK

EDGE OF WETLAND

EDGE OF WETLAND

APPROX. EDGE OF WETLAND

LEGEND

- 1.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.5 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- 0.1 FOOT CANDLE ISO-ILLUMINATION CONTOUR
- ILLUMINATION ANALYSIS POINT (FC)
- FOOT CANDLE UNIT
- PROPOSED LUMINAIRE

ILLUMINATION PLAN CONSTRUCTION NOTES

1	INSTALL STREET LIGHT PACKAGE #1 "ACORN". SEE DETAIL THIS SHEET.
2	INSTALL STREET LIGHT PACKAGE #2 "SHOEBOX". SEE DETAIL THIS SHEET.
3	INSTALL STREET LIGHT PACKAGE #3 "COBRAHEAD". SEE DETAIL THIS SHEET.

ILLUMINATION STATISTICS

ROADWAY SECTION	REQUIRED MINIMUM AVERAGE FC*	PROPOSED AVERAGE FC**
SAGERT ST	0.59 FC	0.72 FC
64TH TERRACE	0.40 FC	0.75 FC
63RD TERRACE	0.40 FC	0.62 FC
62ND TERRACE	0.40 FC	0.70 FC
61ST TERRACE - NORTH OF SAGERT ST	0.40 FC	0.70 FC
61ST TERRACE - SOUTH OF SAGERT ST	0.40 FC	0.53 FC
JUNIPER LANE	0.40 FC	0.72 FC
65TH AVENUE (OFFSITE FRONTAGE)	0.59 FC	0.68 FC
BORLAND ROAD (OFFSITE FRONTAGE)	0.59 FC	0.77 FC

*PER CITY OF TUALATIN PUBLIC WORKS DESIGN STANDARDS
 **CALCULATIONS ARE FOR CURB-CURB ROADWAY AREA ONLY

STREET LIGHT PACKAGE #1 "ACORN"

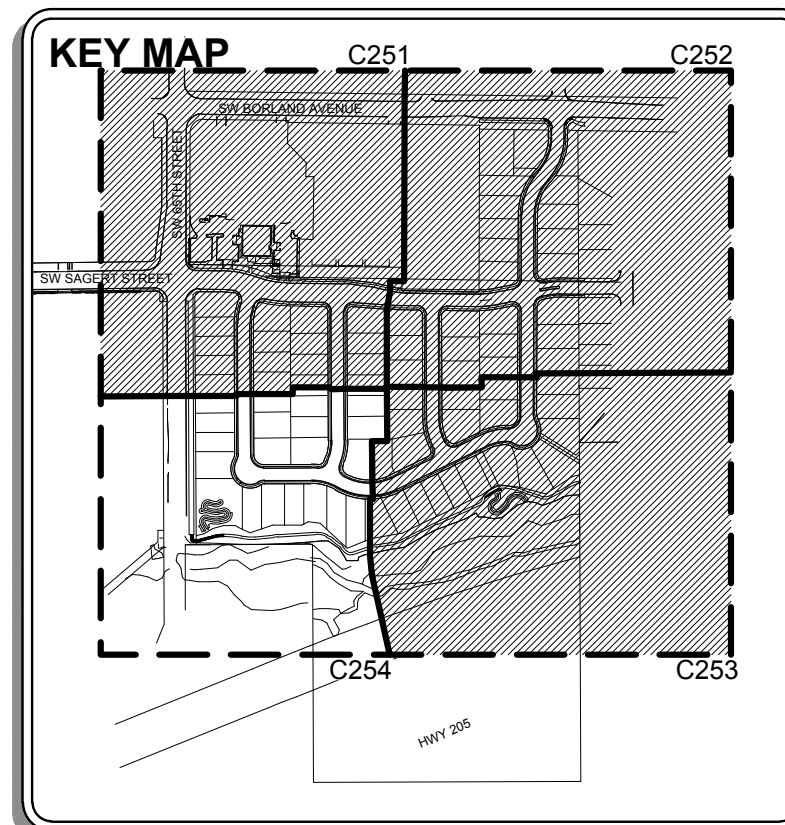
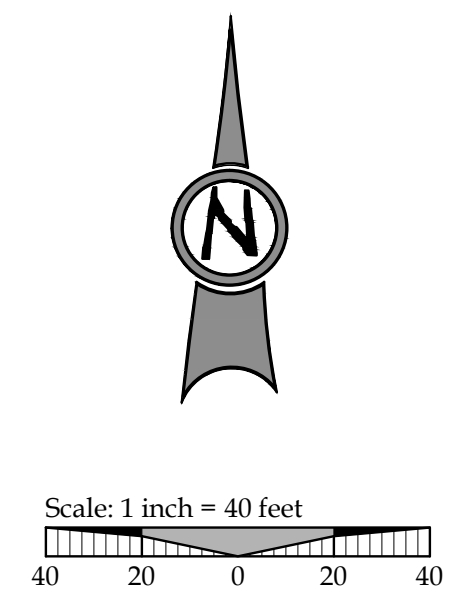
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 POLE: 20 FT ALUMINUM POST TOP POLE - 16 FT MOUNTING HEIGHT - BRONZE FINISH

STREET LIGHT PACKAGE #2 "SHOEBOX"

LUMINAIRE: 100W HPS - COOPER LIGHTING - TRIBUTE - TRU10SN42FBZH4S
 POLE: 30 FT ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: NONE

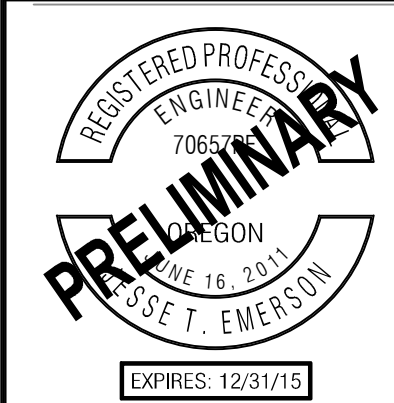
STREET LIGHT PACKAGE #3 "COBRAHEAD"

LUMINAIRE: 100W HPS - COOPER OVH FLAT GLASS REFLECTOR - OVH10SNV2DH4
 POLE: ALUMINUM POLE - 25 FT MOUNTING HEIGHT - BRONZE FINISH
 MAST ARM: 4 FT



TYPE II LAND USE
 REVISION SUMMARY
 BY DATE

ILLUMINATION PLAN IV
SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

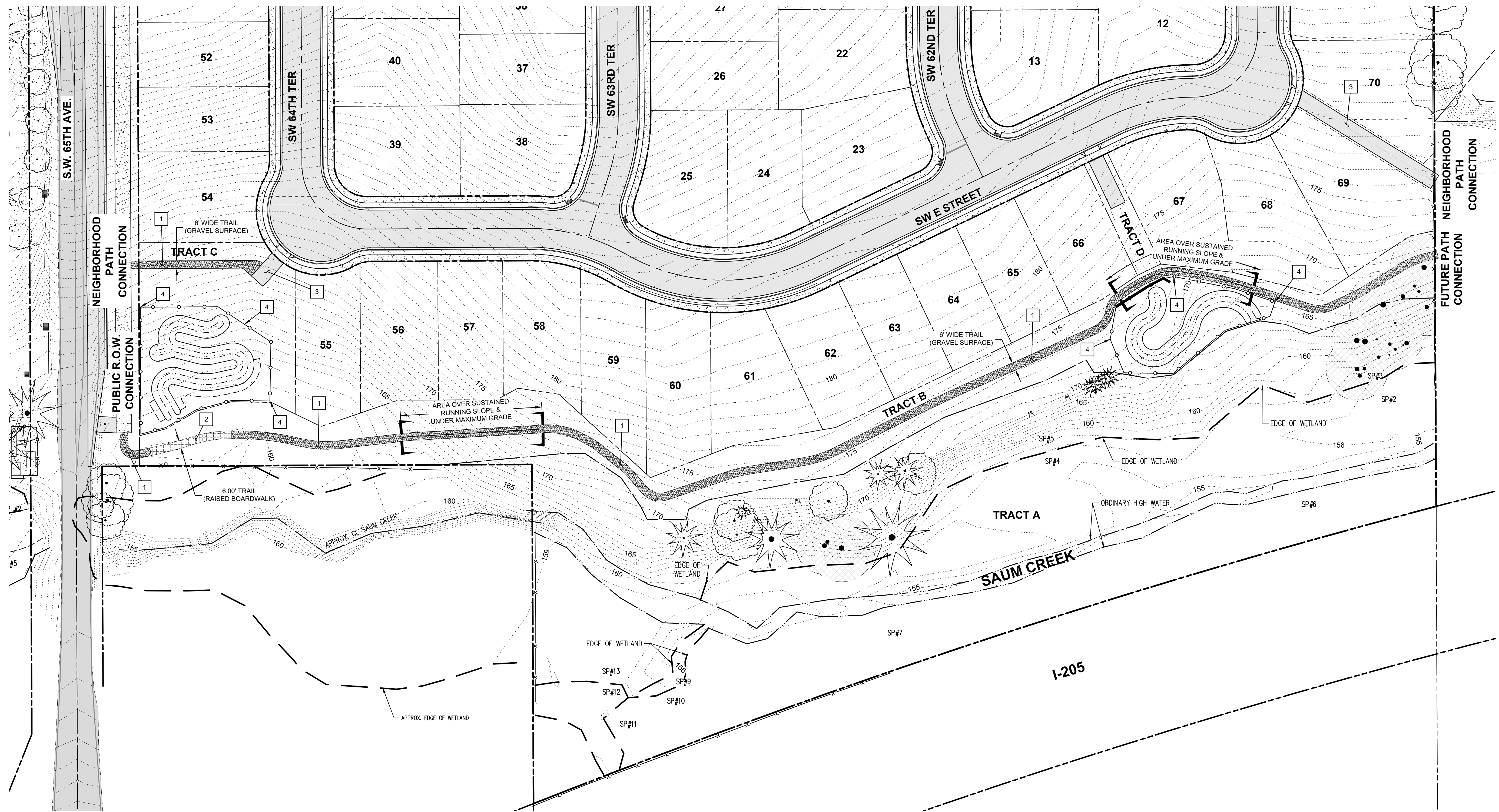


3J CONSULTING, INC

 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 8075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-8886

3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
ILLUM. PLAN IV
 SHEET NUMBER
C254



LEGEND

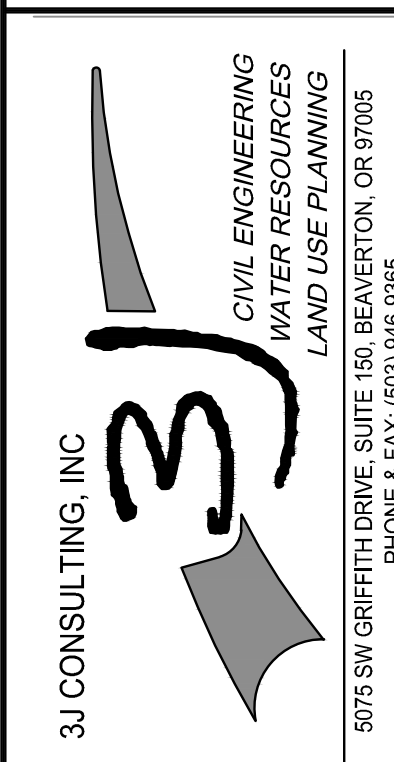
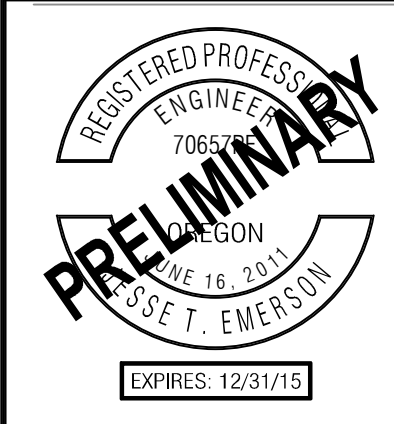
	BOUNDARY LINE
	RIGHT-OF-WAY
	PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	ROAD CENTERLINE
	EDGE OF WETLAND
	BOTTOM OF SWALE
	5FT CONTOUR
	1FT CONTOUR
	WATER QUALITY FACILITY FENCE
	PROPOSED GRAVEL
	PROPOSED ASPHALT
	PROPOSED BOARDWALK
	PROPOSED CONCRETE

SAUM CREEK PATH KEY NOTES

- PATHWAY TO COMPLY WITH CITY OF TUALATIN PUBLIC WORKS CONSTRUCTION CODE, SECTION 203.2.11D "PEDESTRIAN PATH STANDARDS."
- THE SAUM CREEK PATHWAY ALIGNMENT SHOWN HAS BEEN DESIGNED TO AVOID WETLAND / CWS BUFFER IMPACTS TO THE GREATEST EXTENT POSSIBLE AND SHOULD BE CONSIDERED "MODERATE" DIFFICULTY, PER TABLE 203-2B "OUTDOOR RECREATION TRAILS."
- 1 GRAVEL PATH SURFACING TO COMPLY WITH 203.2.11D(5)
 - 2 BOARDWALK MATERIALS AND CONSTRUCTION TO COMPLY WITH 203.2.11D(7)
 - 3 UTILITY MAINTENANCE ACCESS ROUTE TO SERVE AS TRAIL CONNECTION FOR PUBLIC USE.
 - 4 ALL STORMWATER QUALITY FACILITIES TO BE FENCED OFF FROM PUBLIC ACCESS.

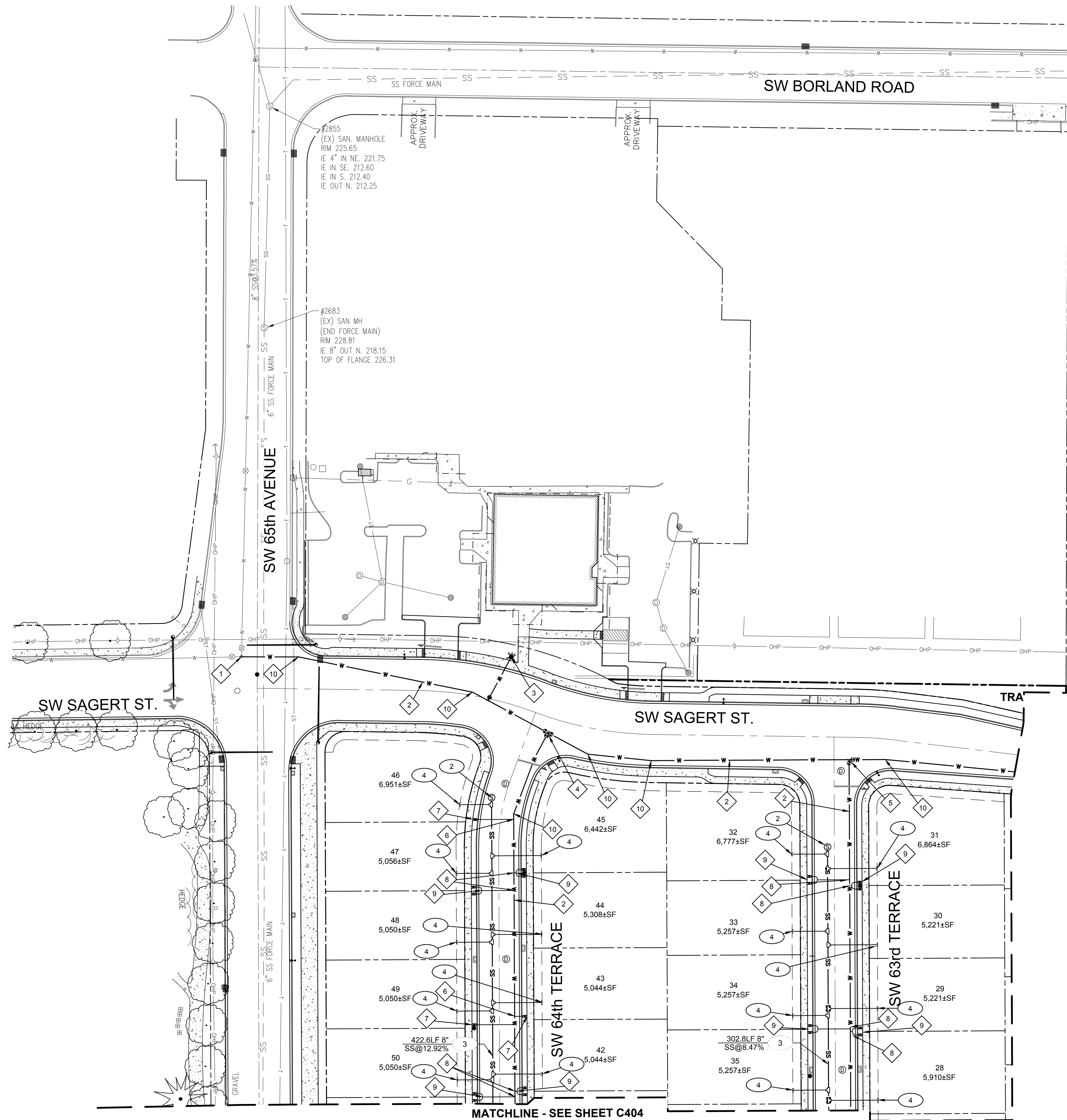
TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

SAUM CREEK TRAIL PLAN
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
TRAIL PLAN
 SHEET NUMBER
C260



LEGEND

	BOUNDARY LINE		EXISTING WATER VALVE
	RIGHT-OF-WAY		EXISTING WATER METER
	CENTERLINE		EXISTING SEWER MANHOLE
	PROPOSED EXTERNAL LOT LINE		PROPOSED SEWER MANHOLE
	PROPOSED LOT LINE		PROPOSED STORM MANHOLE
	PROPOSED EASEMENT		PROPOSED TEE
	EXISTING SANITARY SEWER		PROPOSED FIRE HYDRANT
	EXISTING STORM SEWER		PROPOSED WATER TEE
	EXISTING WATER LINE		PROPOSED GATE VALVE
	EXISTING GAS LINE		PROPOSED WATER METER
	EXISTING UNDERGROUND POWER		
	EXISTING UNDERGROUND PHONE LINE		
	EXISTING OVERHEAD POWER		
	PROPOSED SANITARY SEWER		
	PROPOSED WATER		
	EXISTING CURB		
	EXISTING ASPHALT		
	EXISTING CONCRETE		
	EXISTING TREES		

WATER KEY NOTES

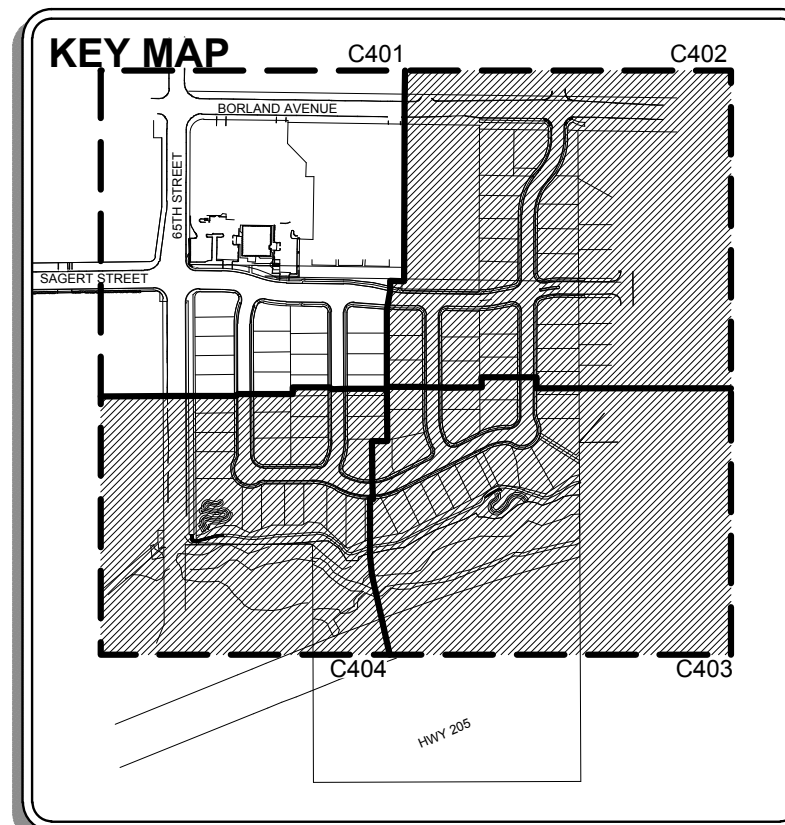
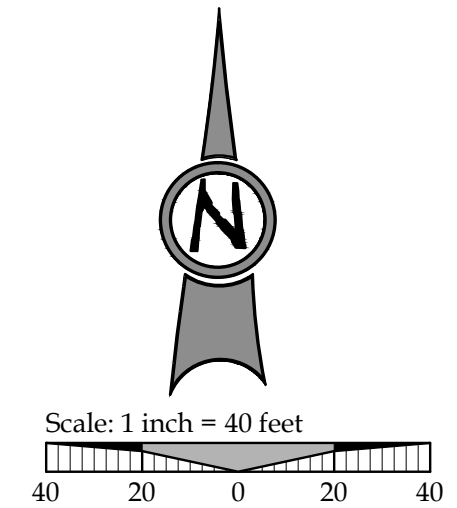
1	CONNECT TO EXISTING PUBLIC WATER MAIN WITH TAPPING SLEEVE. INSTALL SINGLE GATE VALVE. CONTRACTOR TO COORDINATE WITH CITY OF TUALATIN PUBLIC WORKS.
2	CONSTRUCT 8" WATER MAIN PER CITY OF TUALATIN STANDARDS.
3	INSTALL FIRE HYDRANT ASSEMBLY, STUB, TEE, AND GATE VALVE PER CITY OF TUALATIN STANDARDS.
4	INSTALL WATER MAIN TEE AND THREE (3) GATE VALVES PER CITY OF TUALATIN STANDARDS.
5	INSTALL WATER MAIN TEE AND ONE (2) GATE VALVE PER CITY OF TUALATIN STANDARDS.
6	INSTALL SINGLE 3/4-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
7	INSTALL 3/4-INCH METER BOX WITHIN PLANTER STRIP PER CITY OF TUALATIN STANDARDS.
8	INSTALL SINGLE 1-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
9	SPLIT 1-INCH SERVICE LINE INTO TWO 3/4-INCH LINES BEHIND CURB WITH 48-INCHES SEPARATION. INSTALL 3/4-INCH METER BOXES IN PLANTER STRIP PER CITY OF TUALATIN STANDARD DETAILS.
10	INSTALL BENDS AS REQUIRED.

SANITARY SEWER KEY NOTES

1	NOT USED
2	CONSTRUCT STANDARD 48" SANITARY SEWER MANHOLE.
3	CONSTRUCT SANITARY SEWER MAIN LINE.
4	INSTALL NEW SANITARY SEWER LATERAL FOR INDIVIDUAL LOT SERVICE. EXTEND SERVICE LATERAL BEYOND PUE.

PRIVATE & FRANCHISED UTILITY NOTE

ALL EXISTING AND PROPOSED PRIVATE AND FRANCHISED UTILITIES SHOWN ON THIS PLAN ARE INTENDED FOR GENERAL LOCATION AND INFORMATIONAL USE ONLY. ALL PRIVATE AND FRANCHISED UTILITY CONSTRUCTION SHALL CONFORM IN ALL RESPECTS TO THE DESIGN DOCUMENTS AND/OR CONSTRUCTION SPECIFICATIONS SUPPLIED BY EACH RESPECTIVE UTILITY PURVEYOR. ALL OVERHEAD UTILITIES TO BE ROUTED UNDERGROUND ALONG PROJECT FRONTAGE.

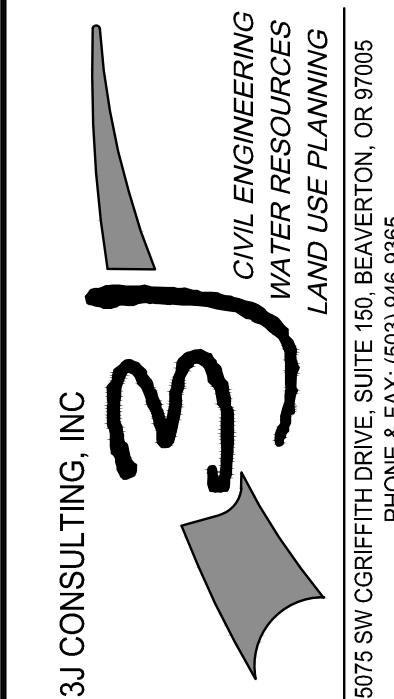
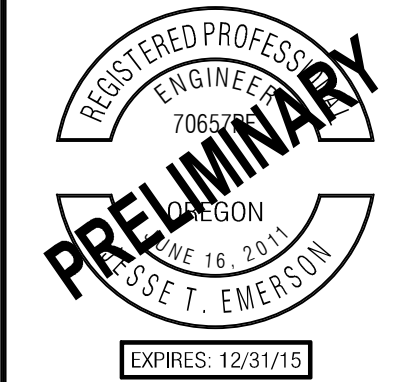


MATCHLINE - SEE SHEET C402

MATCHLINE - SEE SHEET C404

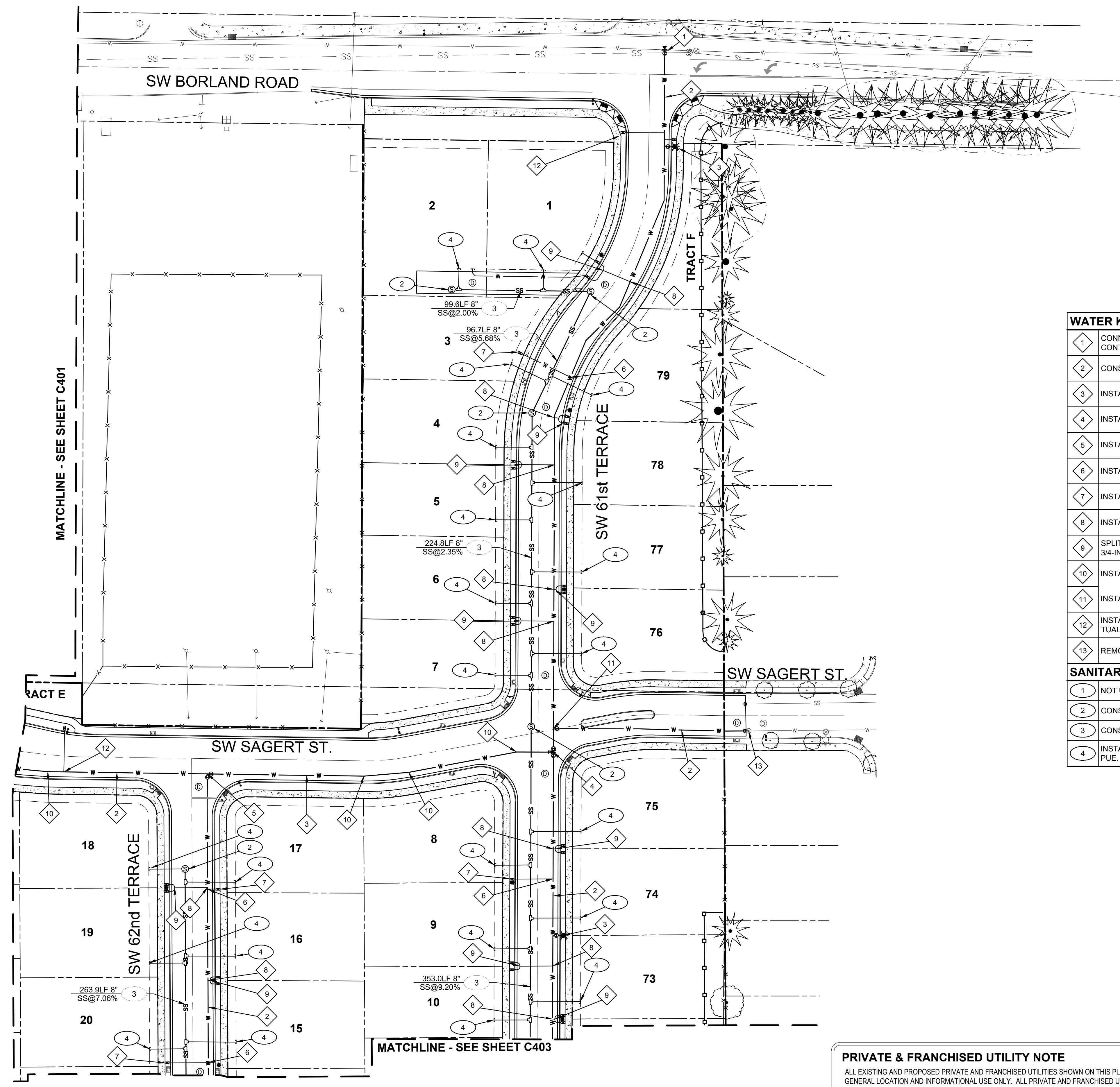
TYPE II LAND USE
REVISION SUMMARY
DATE
BY

SANITARY SEWER & WATER PLAN I
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
SS & WATER I
 SHEET NUMBER
C401



LEGEND

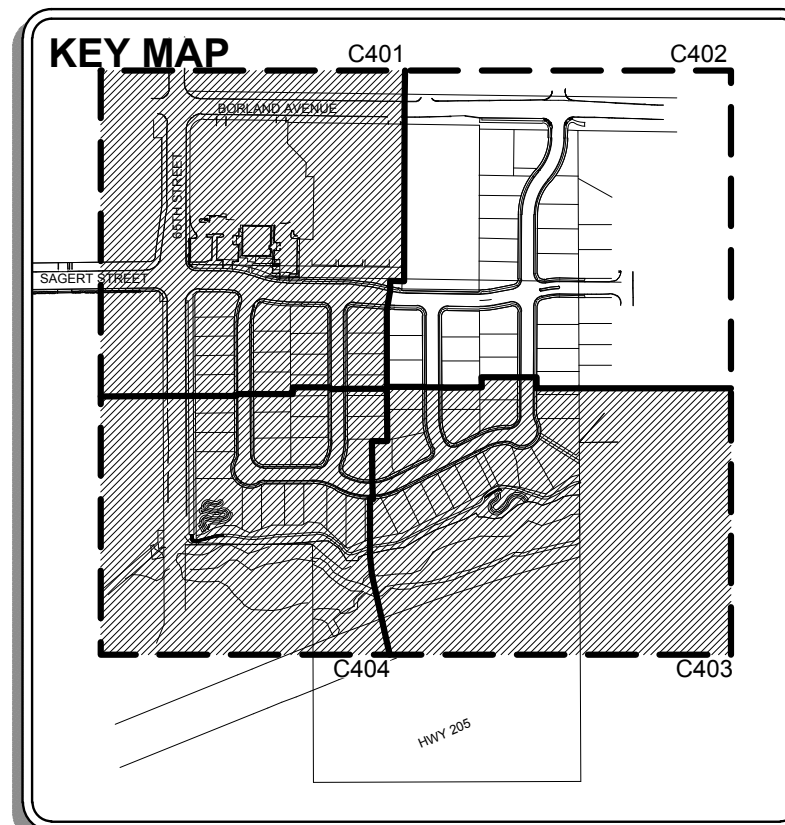
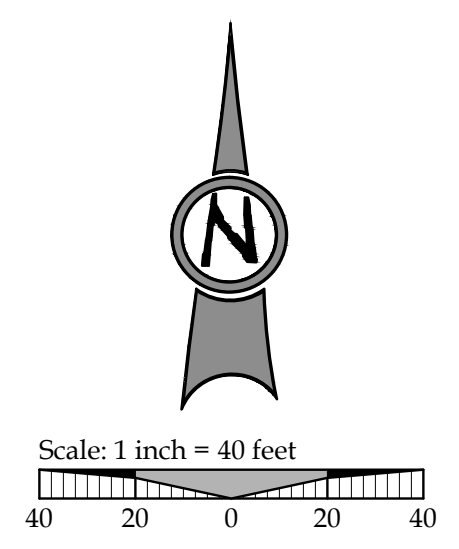
	BOUNDARY LINE		EXISTING WATER VALVE
	RIGHT-OF-WAY		EXISTING WATER METER
	CENTERLINE		EXISTING SEWER MANHOLE
	PROPOSED EXTERNAL LOT LINE		PROPOSED SEWER MANHOLE
	PROPOSED LOT LINE		PROPOSED STORM MANHOLE
	PROPOSED EASEMENT		PROPOSED TEE
	EXISTING SANITARY SEWER		PROPOSED FIRE HYDRANT
	EXISTING STORM SEWER		PROPOSED WATER TEE
	EXISTING WATER LINE		PROPOSED GATE VALVE
	EXISTING GAS LINE		PROPOSED WATER METER
	EXISTING UNDERGROUND POWER		
	EXISTING UNDERGROUND PHONE LINE		
	EXISTING OVERHEAD POWER		
	PROPOSED SANITARY SEWER		
	PROPOSED WATER		
	EDGE OF BRUSH		
	EXISTING CURB		
	EXISTING ASPHALT		
	EXISTING CONCRETE		
	EXISTING TREES		

WATER KEY NOTES

- 1 CONNECT TO EXISTING PUBLIC WATER MAIN WITH TAPPING SLEEVE. INSTALL SINGLE GATE VALVE. CONTRACTOR TO COORDINATE WITH CITY OF TUALATIN PUBLIC WORKS.
- 2 CONSTRUCT 8" WATER MAIN PER CITY OF TUALATIN STANDARDS.
- 3 INSTALL FIRE HYDRANT ASSEMBLY, STUB, TEE, AND GATE VALVE PER CITY OF TUALATIN STANDARDS.
- 4 INSTALL WATER MAIN TEE AND THREE (3) GATE VALVES PER CITY OF TUALATIN STANDARDS.
- 5 INSTALL WATER MAIN TEE AND ONE (2) GATE VALVE PER CITY OF TUALATIN STANDARDS.
- 6 INSTALL SINGLE 3/4-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
- 7 INSTALL 3/4-INCH METER BOX WITHIN PLANTER STRIP PER CITY OF TUALATIN STANDARDS.
- 8 INSTALL SINGLE 1-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
- 9 SPLIT 1-INCH SERVICE LINE INTO TWO 3/4-INCH LINES BEHIND CURB WITH 48-INCHES SEPARATION. INSTALL 3/4-INCH METER BOXES IN PLANTER STRIP PER CITY OF TUALATIN STANDARD DETAILS.
- 10 INSTALL BENDS AS REQUIRED.
- 11 INSTALL WATER MAIN TEE AND ONE (1) GATE VALVE PER CITY OF TUALATIN STANDARDS.
- 12 INSTALL SINGLE 3/4-INCH IRRIGATION SERVICE LINE, INCLUDING METER AND METER BOX PER CITY OF TUALATIN STANDARDS.
- 13 REMOVE EXISTING BLOWOFF AND CONNECT TO EXISTING WATER MAIN.

SANITARY SEWER KEY NOTES

- 1 NOT USED
- 2 CONSTRUCT STANDARD 48" SANITARY SEWER MANHOLE.
- 3 CONSTRUCT SANITARY SEWER MAIN LINE.
- 4 INSTALL NEW SANITARY SEWER LATERAL FOR INDIVIDUAL LOT SERVICE. EXTEND SERVICE LATERAL BEYOND PUE.

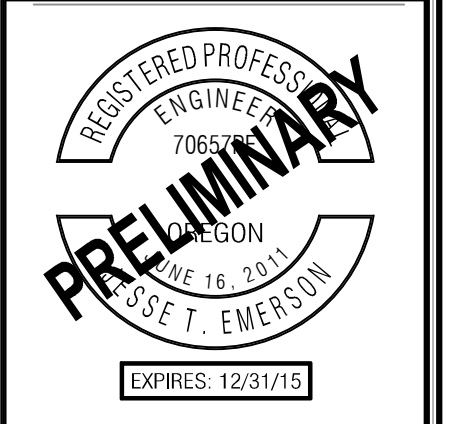


PRIVATE & FRANCHISED UTILITY NOTE
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TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY
	DATE

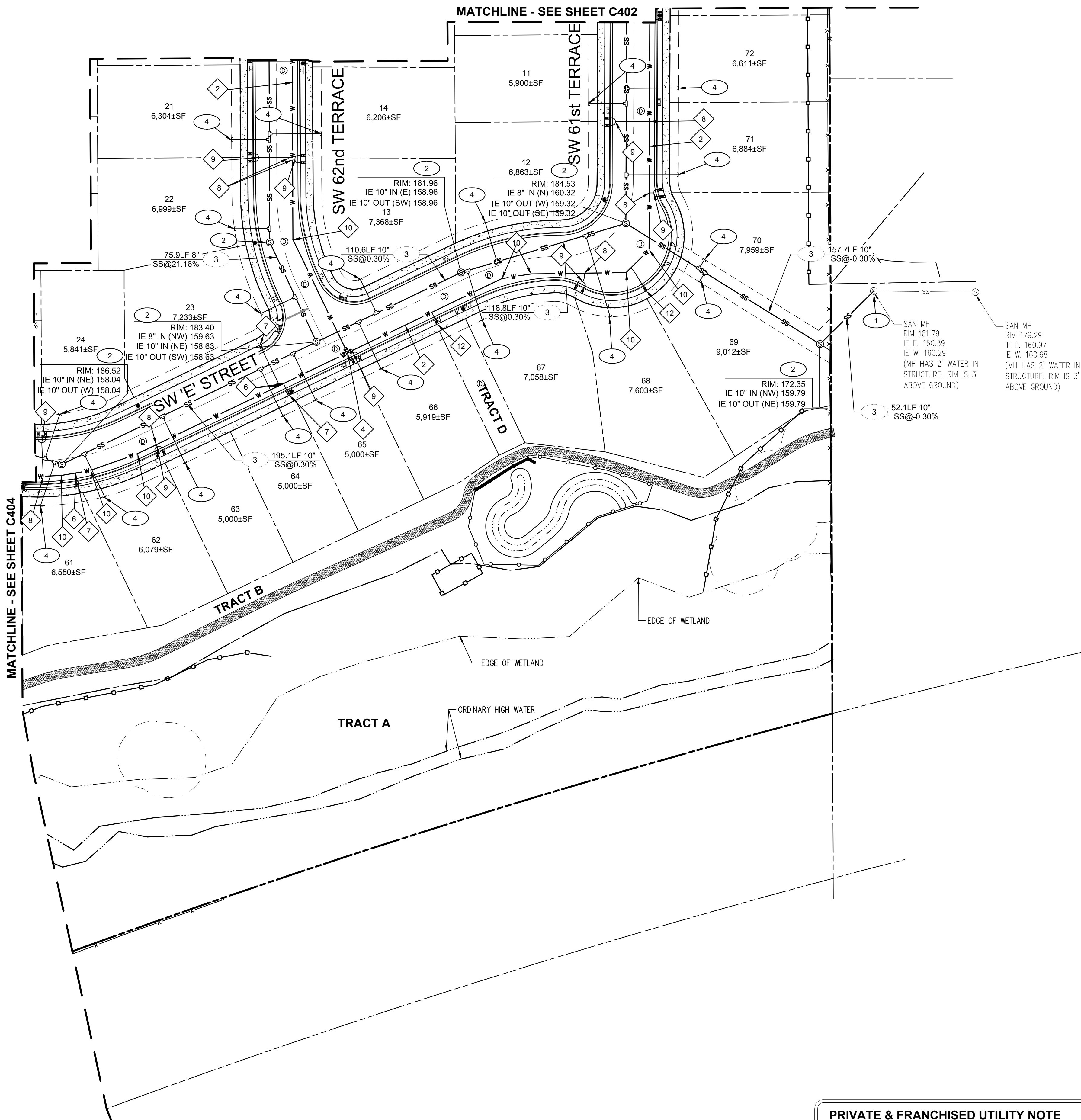
SANITARY SEWER & WATER PLAN II
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 8075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-8886

3J JOB ID # | 13-159
 LAND USE # | SB15-0002
 TAX LOT # | 251E30B 300 & 600
 DESIGNED BY | JTE, JCP, CKW
 CHECKED BY | JTE, JDH

SHEET TITLE
SS & WATER II
 SHEET NUMBER
C402



LEGEND

--- (dashed)	BOUNDARY LINE	⊗	EXISTING WATER VALVE
--- (dotted)	RIGHT-OF-WAY	⊕	EXISTING WATER METER
--- (dash-dot)	CENTERLINE	⊙	EXISTING SEWER MANHOLE
--- (long-dash)	PROPOSED EXTERNAL LOT LINE	⊚	PROPOSED SEWER MANHOLE
--- (short-dash)	PROPOSED LOT LINE	⊛	PROPOSED STORM MANHOLE
---	PROPOSED EASEMENT	⊜	PROPOSED TEE
SS	EXISTING SANITARY SEWER	⊝	PROPOSED FIRE HYDRANT
SD	EXISTING STORM SEWER	⊞	PROPOSED WATER TEE
W	EXISTING WATER LINE	⊟	PROPOSED GATE VALVE
G	EXISTING GAS LINE	⊠	PROPOSED WATER METER
UGP	EXISTING UNDERGROUND POWER		
T	EXISTING UNDERGROUND PHONE LINE		
OHP	EXISTING OVERHEAD POWER		
SS	PROPOSED SANITARY SEWER		
W	PROPOSED WATER		
---	EDGE OF BRUSH		
---	WETLAND		
---	CREEK LINE		
---	EXISTING CURB		
---	EXISTING ASPHALT		
---	EXISTING CONCRETE		
---	EXISTING TREES		

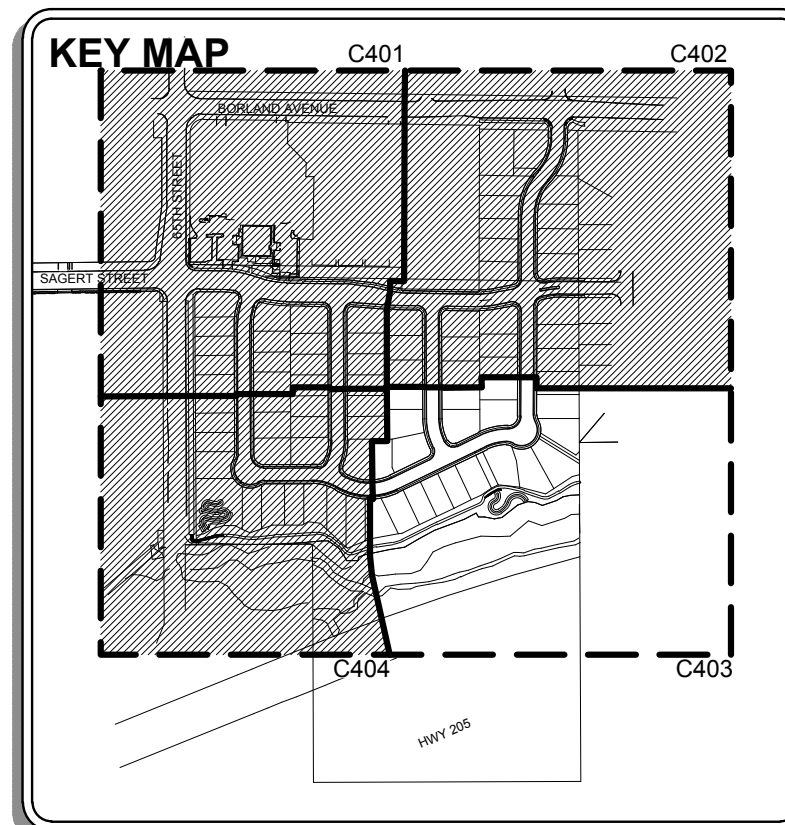
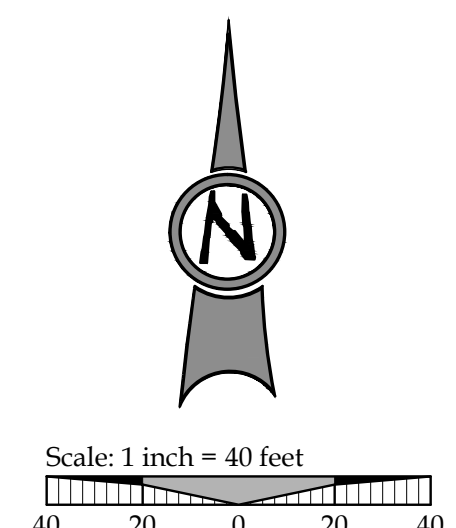
WATER KEY NOTES

1	NOT USED
2	CONSTRUCT 8" WATER MAIN PER CITY OF TUALATIN STANDARDS.
3	NOT USED
4	INSTALL WATER MAIN TEE AND THREE (3) GATE VALVES PER CITY OF TUALATIN STANDARDS.
5	NOT USED
6	INSTALL SINGLE 3/4-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
7	INSTALL 3/4-INCH METER BOX WITHIN PLANTER STRIP PER CITY OF TUALATIN STANDARDS.
8	INSTALL SINGLE 1-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
9	SPLIT 1-INCH SERVICE LINE INTO TWO 3/4-INCH LINES BEHIND CURB WITH 48-INCHES SEPARATION. INSTALL 3/4-INCH METER BOXES IN PLANTER STRIP PER CITY OF TUALATIN STANDARD DETAILS.
10	INSTALL BENDS AS REQUIRED.
11	NOT USED
12	INSTALL SINGLE 3/4-INCH IRRIGATION SERVICE LINE, INCLUDING METER AND METER BOX PER CITY OF TUALATIN STANDARDS.

SANITARY SEWER KEY NOTES

1	CONNECT TO EXISTING SANITARY SEWER MANHOLE.
2	CONSTRUCT STANDARD 48" SANITARY SEWER MANHOLE.
3	CONSTRUCT SANITARY SEWER MAIN LINE.
4	INSTALL NEW SANITARY SEWER LATERAL FOR INDIVIDUAL LOT SERVICE. EXTEND SERVICE LATERAL BEYOND PUE.

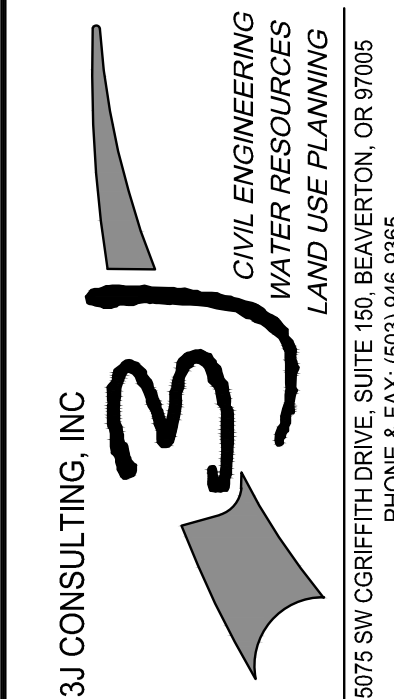
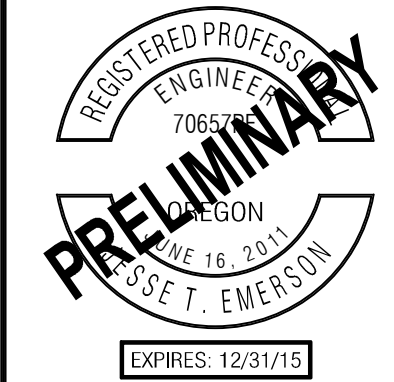
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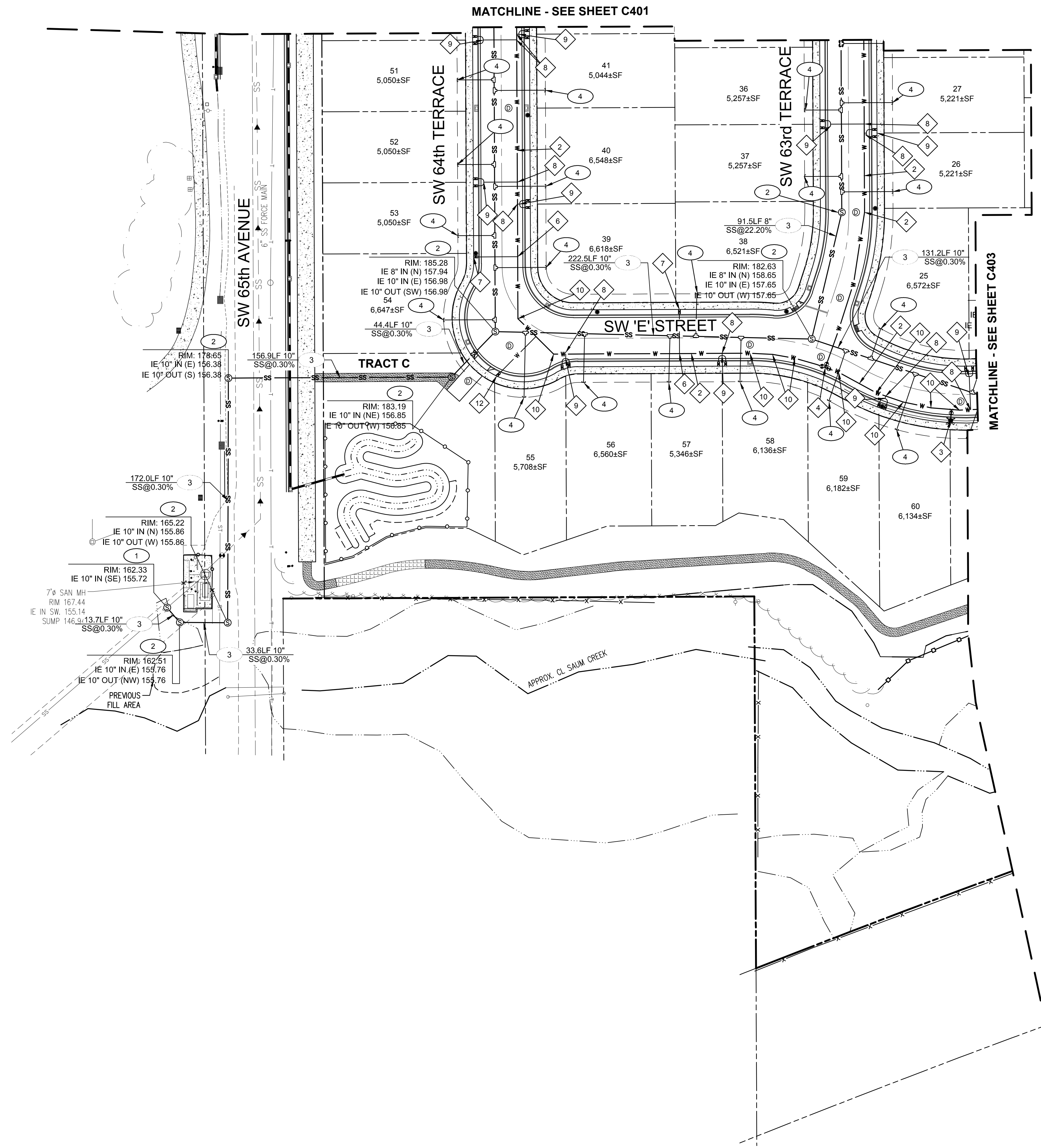
TYPE II LAND USE

REVISION SUMMARY	DATE
	8/11/15

SANITARY SEWER & WATER PLAN III
 SAGERT FARM SUBDIVISION
 TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON



3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH
SHEET TITLE	SS & WATER III
SHEET NUMBER	C403



LEGEND

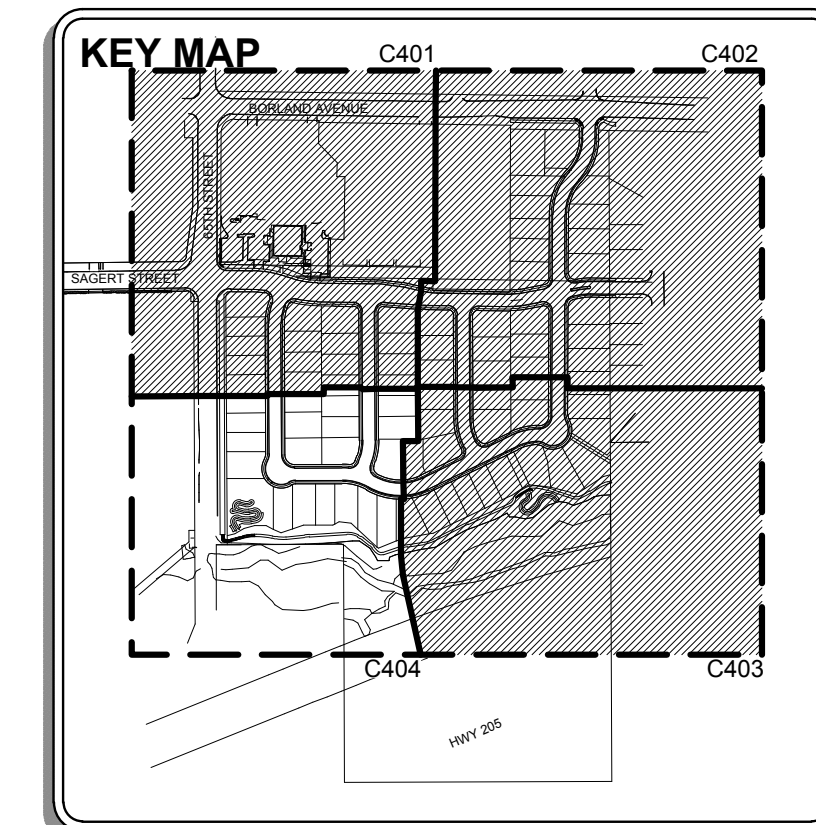
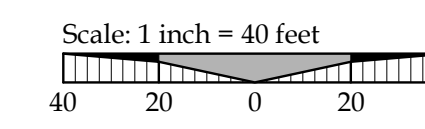
	BOUNDARY LINE		EXISTING WATER VALVE
	RIGHT-OF-WAY		EXISTING WATER METER
	CENTERLINE		EXISTING SEWER MANHOLE
	PROPOSED EXTERNAL LOT LINE		PROPOSED SEWER MANHOLE
	PROPOSED LOT LINE		PROPOSED STORM MANHOLE
	PROPOSED EASEMENT		PROPOSED TEE
	EXISTING SANITARY SEWER		PROPOSED FIRE HYDRANT
	EXISTING STORM SEWER		PROPOSED WATER TEE
	EXISTING WATER LINE		PROPOSED GATE VALVE
	EXISTING GAS LINE		PROPOSED WATER METER
	EXISTING UNDERGROUND POWER		
	EXISTING UNDERGROUND PHONE LINE		
	EXISTING OVERHEAD POWER		
	PROPOSED SANITARY SEWER		
	PROPOSED WATER		
	PROPOSED TREE PROTECTION FENCING		
	EDGE OF BRUSH		
	WETLAND		
	CREEK LINE		
	EXISTING CURB		
	EXISTING ASPHALT		
	EXISTING CONCRETE		
	EXISTING TREES		

WATER KEY NOTES

1	NOT USED
2	CONSTRUCT 8" WATER MAIN PER CITY OF TUALATIN STANDARDS.
3	INSTALL FIRE HYDRANT ASSEMBLY, STUB, TEE, AND GATE VALVE PER CITY OF TUALATIN STANDARDS.
4	INSTALL WATER MAIN TEE AND THREE (3) GATE VALVES PER CITY OF TUALATIN STANDARDS.
5	NOT USED
6	INSTALL SINGLE 3/4-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
7	INSTALL 3/4-INCH METER BOX WITHIN PLANTER STRIP PER CITY OF TUALATIN STANDARDS.
8	INSTALL SINGLE 1-INCH WATER SERVICE PER CITY OF TUALATIN STANDARDS.
9	SPLIT 1-INCH SERVICE LINE INTO TWO 3/4-INCH LINES BEHIND CURB WITH 48-INCHES SEPARATION. INSTALL 3/4-INCH METER BOXES IN PLANTER STRIP PER CITY OF TUALATIN STANDARD DETAILS.
10	INSTALL BENDS AS REQUIRED.
11	NOT USED
12	INSTALL SINGLE 3/4-INCH IRRIGATION SERVICE LINE, INCLUDING METER AND METER BOX PER CITY OF TUALATIN STANDARDS.

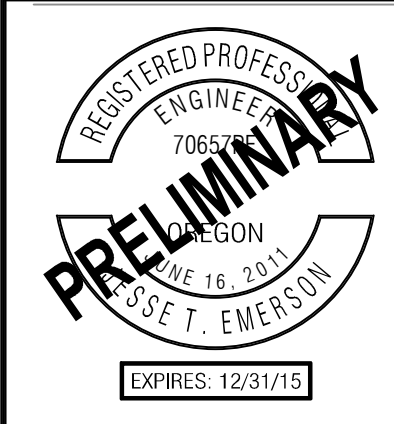
SANITARY SEWER KEY NOTES

1	CONSTRUCT 48" SANITARY SEWER MANHOLE OVER EXISTING SANITARY MAIN.
2	CONSTRUCT STANDARD 48" SANITARY SEWER MANHOLE.
3	CONSTRUCT SANITARY SEWER MAIN LINE.
4	INSTALL NEW SANITARY SEWER LATERAL FOR INDIVIDUAL LOT SERVICE. EXTEND SERVICE LATERAL BEYOND PUE.



TYPE II LAND USE	8/11/15
REVISION SUMMARY	BY DATE

SANITARY SEWER & WATER PLAN IV
SAGERT FARM SUBDIVISION
TYPE II LAND USE DOCUMENTS
 LENNAR NORTHWEST, INC.
 TUALATIN, OREGON

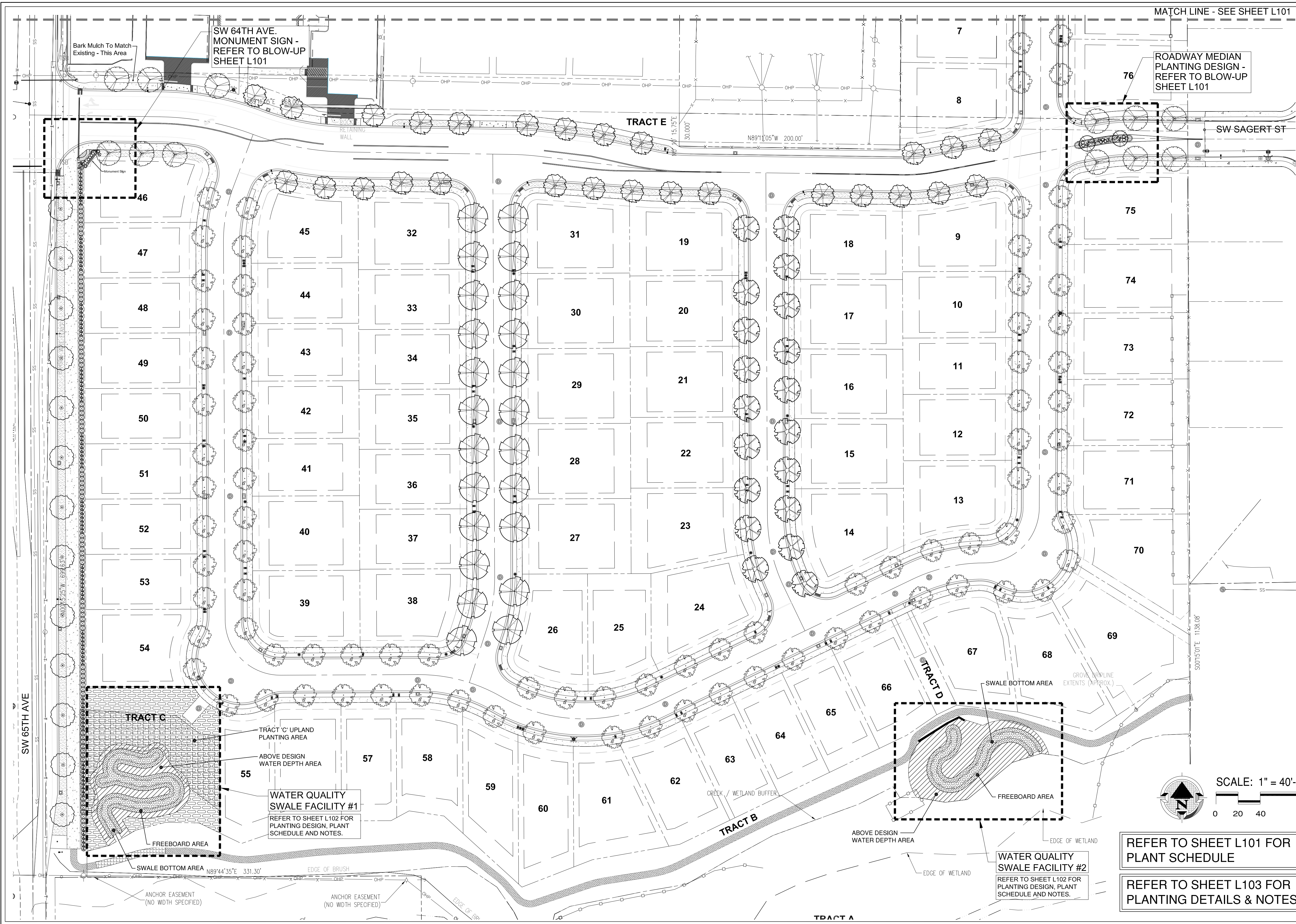


3J CONSULTING, INC.
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 8075 SW GRIFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-5885

3J JOB ID #	13-159
LAND USE #	SB15-0002
TAX LOT #	251E30B 300 & 600
DESIGNED BY	JTE, JCP, CKW
CHECKED BY	JTE, JDH

SHEET TITLE
SS & WATER IV

SHEET NUMBER
C404



MATCH LINE - SEE SHEET L101

SW 64TH AVE
MONUMENT SIGN -
REFER TO BLOW-UP
SHEET L101

ROADWAY MEDIAN
PLANTING DESIGN -
REFER TO BLOW-UP
SHEET L101

SW SAGERT ST

SW 65TH AVE

TRACT C

TRACT 'C' UPLAND
PLANTING AREA

ABOVE DESIGN
WATER DEPTH AREA

WATER QUALITY
SWALE FACILITY #1
REFER TO SHEET L102 FOR
PLANTING DESIGN, PLANT
SCHEDULE AND NOTES.

FREEBOARD AREA

SWALE BOTTOM AREA

ANCHOR EASEMENT
(NO WIDTH SPECIFIED)

EDGE OF BRUSH

ANCHOR EASEMENT
(NO WIDTH SPECIFIED)

EDGE OF BRUSH

ANCHOR EASEMENT
(NO WIDTH SPECIFIED)

TRACT B

CREEK / WETLAND BUFFER

TRACT D

SWALE BOTTOM AREA

GROVE SETLINE
EXTENTS (APPROX.)

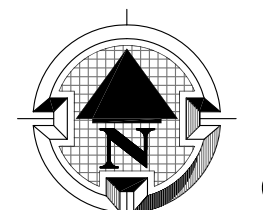
FREEBOARD AREA

WATER QUALITY
SWALE FACILITY #2
REFER TO SHEET L102 FOR
PLANTING DESIGN, PLANT
SCHEDULE AND NOTES.

ABOVE DESIGN
WATER DEPTH AREA

EDGE OF WETLAND

EDGE OF WETLAND



SCALE: 1" = 40'-0"

0 20 40 80

REFER TO SHEET L101 FOR
PLANT SCHEDULE

REFER TO SHEET L103 FOR
PLANTING DETAILS & NOTES

NOT FOR CONSTRUCTION

MEARS
DESIGN+GROUP
LANDSCAPE ARCHITECTURE & PLANNING
PO Box 23338 | PORTLAND, OREGON | 97281
PHONE: 503.601.4516 | FAX: 503.924.4688

REGISTERED
540
TROY A. MEARS
OREGON
11/21/2003
LANDSCAPE ARCHITECT

SAGERT FARM SUBDIVISION
STREET TREE PLANTING PLAN

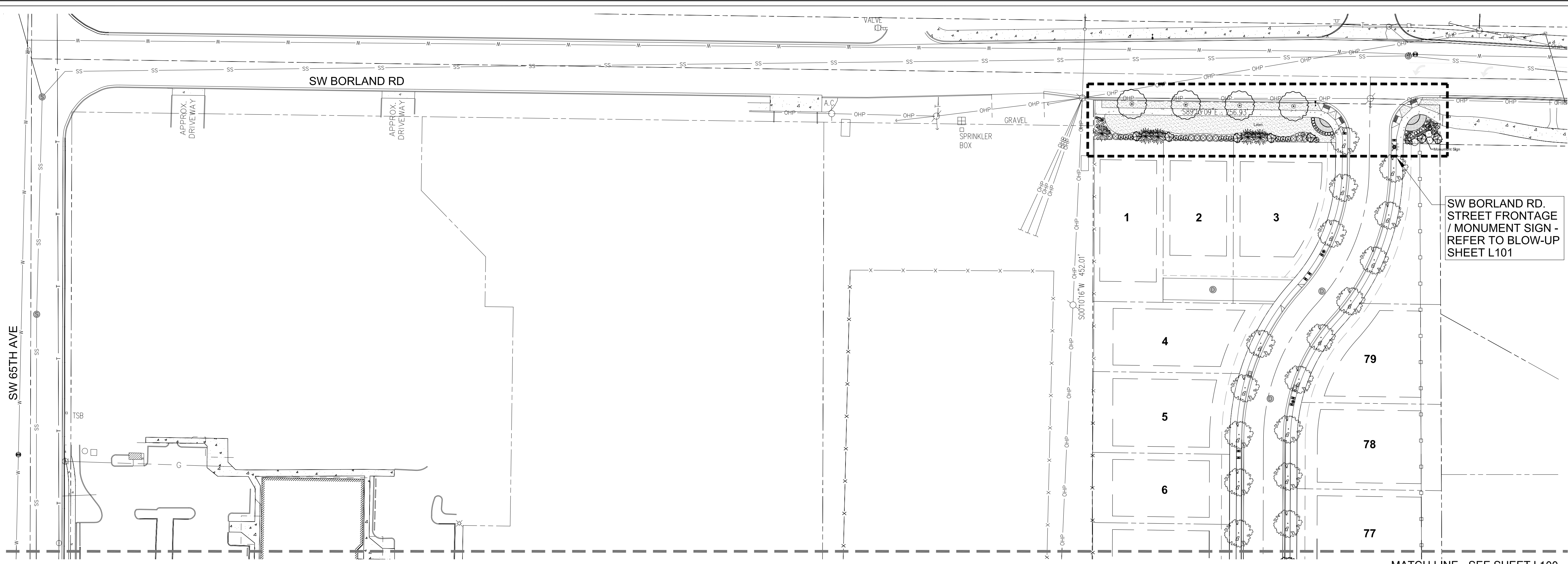
LENNAR
TUALATIN, OR (CLACKAMAS COUNTY)

REV.	DATE	DESCRIPTION
1	8/12/2015	Site Revisions

SHEET NAME:
PLANTING PLAN

DRAWN BY: TAM
CHECKED BY: TAM
ISSUE DATE: 6/4/2015
JOB NO.: 1533

SHEET:
L100
OF: 4



NOT FOR CONSTRUCTION

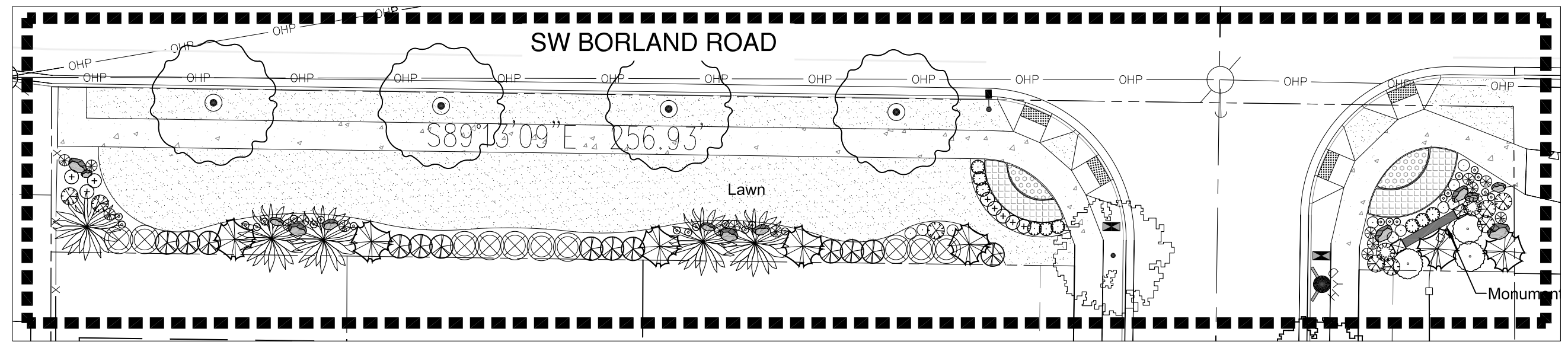
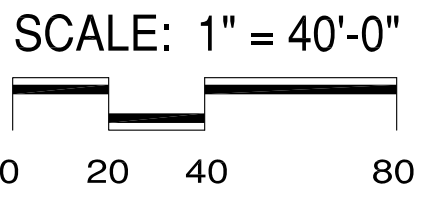
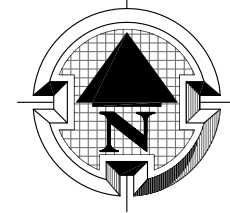
MEARS
DESIGN+GROUP
LANDSCAPE ARCHITECTURE & PLANNING
PO Box 23338 | PORTLAND, OREGON | 97281
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REGISTERED
540
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OREGON
11/21/2003
LANDSCAPE ARCHITECT

SW BORLAND RD.
STREET FRONTAGE / MONUMENT SIGN -
REFER TO BLOW-UP
SHEET L101

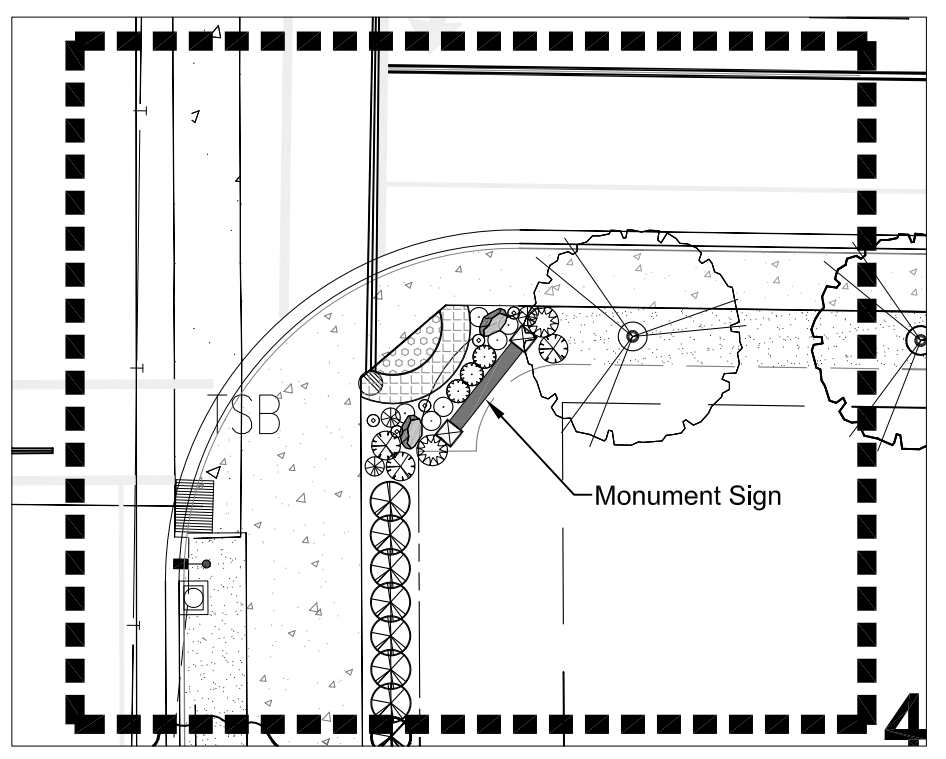
MATCH LINE - SEE SHEET L100

REFER TO SHEET L103 FOR
PLANTING DETAILS & NOTES



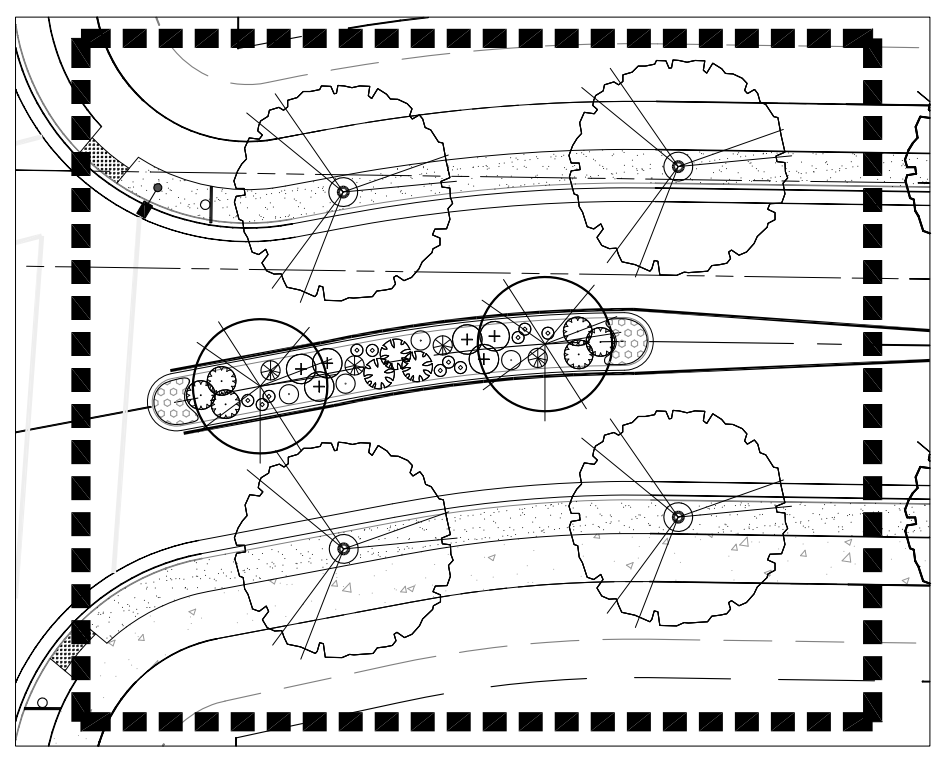
BORLAND ROAD STREET FRONTAGE AND MONUMENT SIGN LANDSCAPE
(Refer to plant schedule this sheet)

SCALE: 1" = 20'-0"



SW 64TH AVE. MONUMENT SIGN PLANTING
(Refer to plant schedule this sheet)

SCALE: 1" = 20'-0"



ROADWAY MEDIAN PLANTING
(Refer to plant schedule this sheet)

SCALE: 1" = 20'-0"

SUGGESTED PLANT SCHEDULE RIGHT-OF-WAY PLANTING						
TREES						
SYM	Scientific name Common Name	Minimum Species Quantity	Plant Category	Minimum Size	Condition	Remarks
⊗	Acer freemanii 'Autumn Blaze' Autumn Blaze Maple	19	Tree	1.5" Cal.	B&B	Street Tree
⊗	Acer platanoides 'Crimson King' Crimson King Maple	102	Tree	1.5" Cal.	B&B	Street Tree
⊗	Acer platanoides 'Crimson Sentry' Crimson Sentry Maple	12	Tree	1.5" Cal.	B&B	Street Tree
⊙	Chamaecyparis obtusa 'Gracilis' Gracilis Hinoki Cypress	3	Tree	6'-7'	B&B	
⊗	Cupressocyparis leylandii 'Naylor's Blue' Naylor's Blue Cypress	5	Tree	6'-7'	B&B	
⊗	Magnolia grandiflora 'Little Gem' Little Gem Magnolia	7	Tree	1.5" Cal.	B&B	
⊗	Quercus coccinea Scarlet Oak	23	Tree	1.5" Cal.	B&B	Street Tree
⊙	Tilia cordata 'Greenspire' Greenspire Linden	17	Tree	1.5" Cal.	B&B	Street Tree
⊗	Zelkova serrata 'Green Vase' Green Vase Zelkova	27	Tree	1.5" Cal.	B&B	Street Tree
⊗	Pyrus calleryana 'Glen's Form' Chanticleer Pear	2	Tree	1.5" Cal.	B&B	Street Tree
Total Street Trees		220				

*Street Tree Quantities and Locations Are Subject To Change Due To Future Determination of Residential Lot Driveway Locations

SUGGESTED PLANT SCHEDULE RIGHT-OF-WAY PLANTING						
SHRUBS/PERENNIALS						
SYM	Scientific name Common Name	Minimum Species Quantity	Plant Category	Minimum Size	Condition	Remarks
⊕	Berberis thunbergii 'Crimson Pygmy' Crimson Pygmy Barberry	14	Shrub	2 Gal.	Can	As Shown
⊗	Berberis thunbergii 'Rose Glow' Rose Glow Barberry	80	Shrub	2 Gal.	Can	As Shown
⊙	Euonymus fortunei 'Emerald 'n Gold' Emerald 'n Gold Euonymus	18	Shrub	1 Gal.	Can	As Shown
⊗	Euonymus japonica 'Aureo-variegata' Gold Spot Euonymus	109	Shrub	5 Gal.	Can	As Shown
⊗	Nandina domestica 'Moon Bay' Moon Bay Nandina	11	Shrub	1 Gal.	Can	As Shown
⊙	Rhododendron 'varieties' Baden Baden Rhododendron	20	Shrub	1 Gal.	Can	As Shown
⊗	Viburnum davidii David Viburnum	3	Shrub	1 Gal.	Can	
⊗	Viburnum tinus 'Spring Bouquet' Spring Bouquet Viburnum	4	Shrub	1 Gal.	Can	As Shown
GRASSES/GROUND COVER						
⊙	Imperata cylindrica 'Rubra' Japanese Bloodgrass	42	Grass	1 Gal.	Can	As Shown
⊗	Pennisetum alopecuroides 'Hameln' Hameln Dwarf Fountain Grass	23	Grass	1 Gal.	Can	As Shown
⊗	Vinca minor 'Bowles' Bowles Periwinkle	48	G/C	4"	Pots	18" o/c.
⊗	Erica x darleyensis 'Kramers Rote' Kramers Red Winter Heath	85	G/C	4"	Pots	18" o/c.
Lawn as Specified						

SAGERT FARM SUBDIVISION
STREET TREE PLANTING PLAN

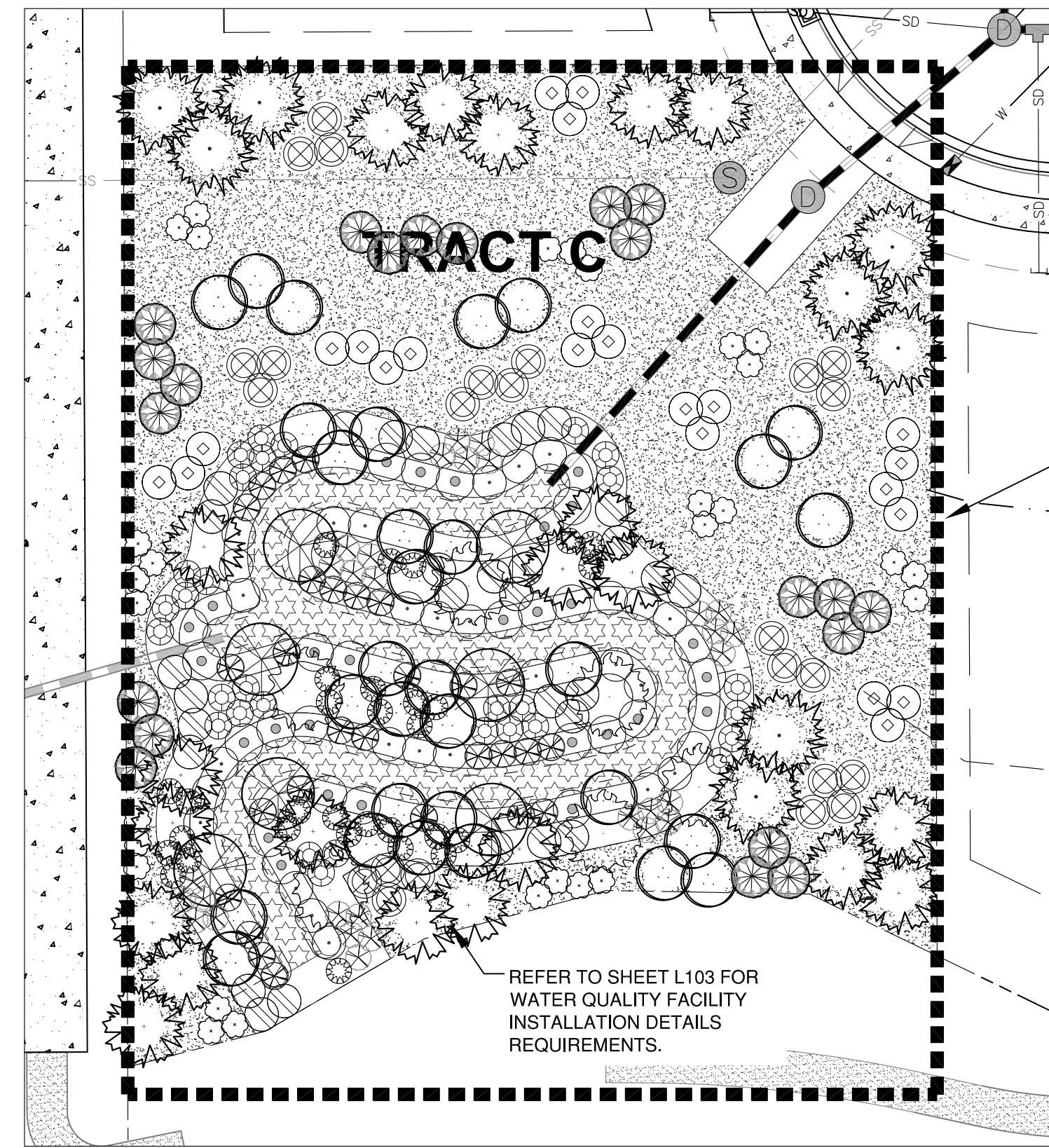
LENNAR
TUALATIN, OR (CLACKAMAS COUNTY)

REVISIONS		
REV.	DATE	DESCRIPTION
	8/12/2015	Site Revisions

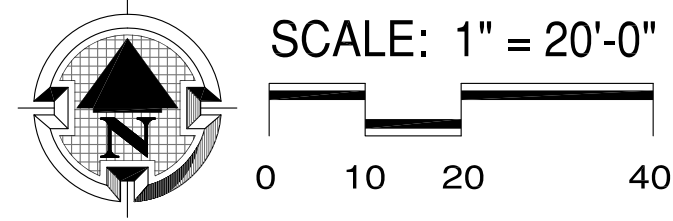
SHEET NAME:
PLANTING PLAN

DRAWN BY: TAM
CHECKED BY: TAM
ISSUE DATE: 6/4/2015
JOB NO.: 1533

SHEET:
L101
OF: 4



WATER QUALITY SWALE #1 / TRACT 'C'
(Refer to plant schedule this sheet)



WATER QUALITY SWALE FACILITY

REFER TO SHEET L103 FOR WATER QUALITY FACILITY INSTALLATION DETAILS REQUIREMENTS.

TREATMENT AREA 1: VEGETATED SWALE (REFER TO PLANTING DETAILS SHEET L103)

WATER QUALITY SWALE (SWALE BOTTOM AREA) 1,427 SQ FT									
Plant Communities									
Scientific name (Common Name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height (1" Dia.)	On Center / Seeding Rate	Spacing Format	
Juncus patens (Spreading rush)	2141	Herb	Moist	Part	Plug	6"	6/sq.ft.	Mass	
Carex obnupta (Slough Sedge)	2141	Herb	Moist	Part	Plug	4"	6/sq.ft.	Mass	
Scirpus microcarpus (Small Fruited Bulrush)	2140	Herb	Wet	Sun	Plug	6"	6/sq.ft.	Mass	
Juncus effusus (Common Rush)	2140	Herb	Moist	Sun	Plug	6"	6/sq.ft.	Mass	
Total Plants	8562								

MID-SLOPE AREA (FREEBOARD) 1,693 SQ FT									
Plant Communities									
Common Name (Scientific name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center / Seeding Rate	Spacing Format	
Vine Maple (Acer circinatum)	10	Tree	Dry/Moist	Part	2 gal.	2'	4-5'	Single	
Oregon Ash (Fraxinus latifolia)	7	Tree	Moist	Part	2 gal.	6-8'	6'	Single	
Total Trees	17								
Red-Osier Dogwood (Cornus sericea)	29	Shrub	Wet	Part	1 gal.	2'	3-4'	Cluster	
Pacific Ninebark (Physocarpus capitatus)	28	Shrub	Moist	Shade	1 gal.	2'	9'	Cluster	
Douglas Spiraea (Spiraea douglasii)	28	Shrub	Wet	Sun	1 gal.	1.5'	4-5'	Cluster	
Total Shrubs	85								

ABOVE DESIGN WATER DEPTH AREA 2,391 SQ FT									
Plant Communities									
Common Name (Scientific name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center / Seeding Rate	Spacing Format	
Vine Maple (Acer circinatum)	10	Tree	Dry/Moist	Part	2 gal.	2'	4-5'	Single	
Douglas Fir (Pseudotsuga menziesii)	8	Tree	Dry	Sun	2 gal.	2'	12'	Single	
Oregon White Oak (Quercus garryana)	6	Tree	Dry	Sun	2 gal.	2'	10'	Single	
Total Trees	24								
Red Flowering Currant (Ribies sanguineum)	30	Shrub	Dry	Sun	1 gal.	1.5'	4-5'	Cluster	
Serviceberry (Amelanchier alnifolia)	30	Shrub	Dry	Part	1 gal.	2'	4-5'	Single	
Salal (Gaultheria shallon)	30	Shrub	Dry	Sun	1 gal.	4"	3-4'	Cluster	
Tall Oregon Grape (Mahonia aquifolium)	30	Shrub	Dry	Sun	1 gal.	6"	4-5'	Single	
Total Shrubs	120								

- Tree spacing = sq footage x 0.01; Shrub spacing = sq footage x 0.05; Groundcover = 100% areal cover
- Single = distribute throughout planting area. Cluster = group 3 to 7 plants in same area with herb or grass in between.
- Mass = plant densely to form a single stand of that species in a given area.

TRACT 'C' PLANTING SCHEDULE (REFER TO PLANTING DETAILS SHEET L103)

15,000 SF	Minimum Species Quantity	Plant Category	Minimum Size	Condition	Spacing Format
Mitigation Area					
TREES					
SYM Scientific name (Common Name)					
Abies grandis (Grand Fir)	8	Tree	2 Gal.	B&B	As Shown
Acer circinatum (Vine Maple)	11	Tree	2 Gal.	B&B	As Shown
Pseudotsuga menziesii (Douglas Fir)	13	Tree	2 Gal.	B&B	As Shown
Tree subtotal	32				
SHRUBS					
SYM Scientific name (Common Name)					
Amelanchier alnifolia (Serviceberry)	21	Shrub	1 Gal.	Can	As Shown
Mahonia aquifolium (Tall Oregon Grape)	23	Shrub	1 Gal.	Can	As Shown
Rosa nutkana (Nootka Rose)	29	Shrub	1 Gal.	Can	As Shown
Symphoricarpos albus (Snowberry)	24	Shrub	1 Gal.	Can	As Shown
TOTAL SHRUBS	97				
GROUND COVER					
SYM Scientific name (Common Name)					
Sunmark Companies Ecologymix		Seed	2 lbs/1000 sq.ft.		

Site Requirements: (Water Quality Swales #1 and #2)

- All invasive, non-native or noxious plant material are to be removed. Methods for removal and control of invasive / non-native and/or noxious plants are to follow strategies as outlined within the CWS IVAM Guidance manual. The subject site is to employ manual / mechanical management strategies and pesticide management strategies throughout maintenance period or until healthy stand of desirable vegetation is established.
- Preserve site's existing native vegetation to the maximum extent practicable. Every effort shall be made to protect a sites existing native vegetation. Native vegetation along Sensitive Areas and Vegetated Corridors shall be retained to the maximum extent practicable.
- Replanting / Enhancement as follows:
 - Refer to plant table and plan for plant species, location, distribution, quantities, size, condition and requirements.
 - A native seed mix has been specified for the buffer area only. All plants to be pit planted with additional organic matter if required but no traditional fertilizer is necessary. Plant placement shall be consistent with the form of the naturally occurring plant community. Shrubs shall be placed in singles or clusters of the same species to provide a natural planting scheme.
- Plant installation requirements. Permittee is responsible for installation of site planting as specified. All trees and shrubs planted in the upland area are to be mulched a minimum of three inches in depth and 18 inches in dia. Appropriate mulches include those made from composted leaves or bark that have not been chemically treated. Temporary irrigation will be provided and used during the two year maintenance period.
- Monitoring and maintenance. Permittee is responsible for monitoring and maintaining the site. All new plant material is to be tagged. The removal of non-native, invasive weeds is necessary throughout the two year maintenance period, or until a healthy stand of desirable vegetation is established. The site is to be monitored a min. of two times per year, by June 1 and September 30. If at any time the landscaping falls below the 80% survival level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.
- Permittee is required to provide and install a temporary irrigation system to maintain vegetative corridor plant establishment during the monitoring and maintenance period. The irrigation system will be fed from an owner provided 3/4" meter (see Civil) and shall be designed to not exceed site available GPM and PSI. Refer to irrigation industry best practices and standards for acceptable design/build practices. Landscape Contractor to provide irrigation as-built record drawing upon completion and acceptance of irrigation system.

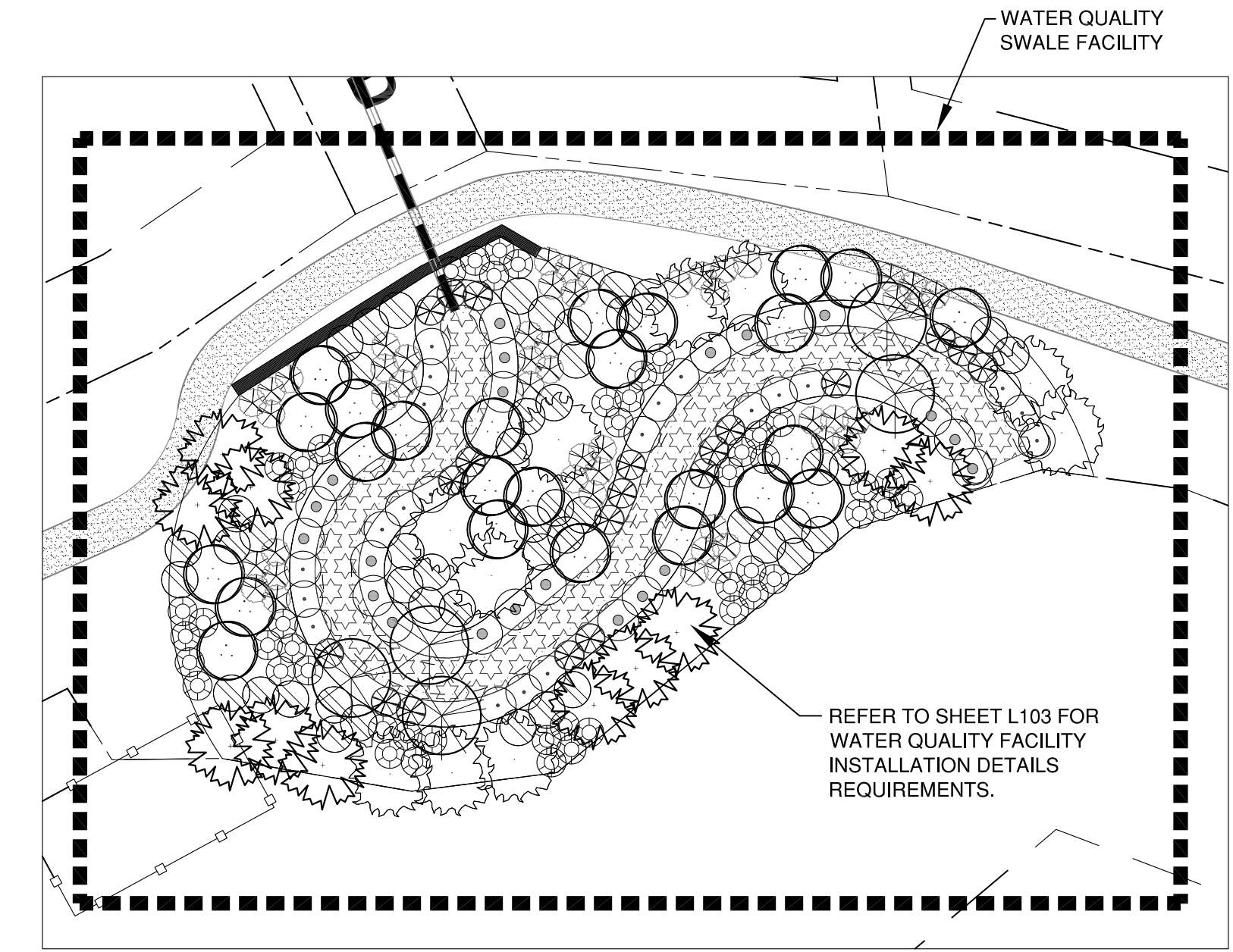
Seed Mix for Upland Buffer Zone:

Pro-Time 402 Native Riparian Grass Mix:

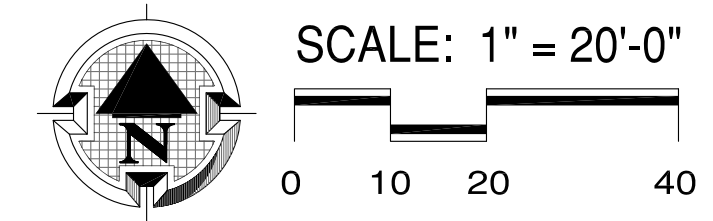
Species	Quantity	Percentage
Blue Wildrye	Elymus glaucus	60%
Native Red Fescue	Festuca rubra v rubra	30%
Tufted hairgrass	Deschampsia cespitosa	10%

Application Rate of 20 to 30 lbs./acre

*Seed all bare areas greater than 25 square feet in size



WATER QUALITY SWALE #2
(Refer to plant schedule this sheet)



WATER QUALITY SWALE FACILITY

REFER TO SHEET L103 FOR WATER QUALITY FACILITY INSTALLATION DETAILS REQUIREMENTS.

TREATMENT AREA 2: VEGETATED SWALE (REFER TO PLANTING DETAILS SHEET L103)

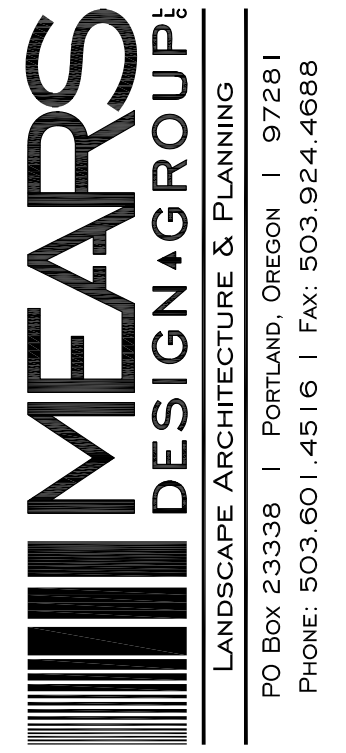
WATER QUALITY SWALE (SWALE BOTTOM AREA) 1,030 SQ FT									
Plant Communities									
Scientific name (Common Name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height (1" Dia.)	On Center / Seeding Rate	Spacing Format	
Juncus patens (Spreading rush)	1545	Herb	Moist	Part	Plug	6"	6/sq.ft.	Mass	
Carex obnupta (Slough Sedge)	1545	Herb	Moist	Part	Plug	4"	6/sq.ft.	Mass	
Scirpus microcarpus (Small Fruited Bulrush)	1545	Herb	Wet	Sun	Plug	6"	6/sq.ft.	Mass	
Juncus effusus (Common Rush)	1545	Herb	Moist	Sun	Plug	6"	6/sq.ft.	Mass	
Total Plants	6180								

MID-SLOPE AREA (FREEBOARD) 1,244 SQ FT									
Plant Communities									
Common Name (Scientific name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center / Seeding Rate	Spacing Format	
Vine Maple (Acer circinatum)	7	Tree	Dry/Moist	Part	2 gal.	2'	4-5'	Single	
Oregon Ash (Fraxinus latifolia)	5	Tree	Moist	Part	2 gal.	6-8'	6'	Single	
Total Trees	12								
Red-Osier Dogwood (Cornus sericea)	21	Shrub	Wet	Part	1 gal.	2'	3-4'	Cluster	
Pacific Ninebark (Physocarpus capitatus)	21	Shrub	Moist	Shade	1 gal.	2'	9'	Cluster	
Douglas Spiraea (Spiraea douglasii)	20	Shrub	Wet	Sun	1 gal.	1.5'	4-5'	Cluster	
Total Shrubs	62								

ABOVE DESIGN WATER DEPTH AREA 3,884 SQ FT									
Plant Communities									
Common Name (Scientific name)	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center / Seeding Rate	Spacing Format	
Vine Maple (Acer circinatum)	18	Tree	Dry/Moist	Part	2 gal.	2'	4-5'	Single	
Douglas Fir (Pseudotsuga menziesii)	11	Tree	Dry	Sun	2 gal.	2'	12'	Single	
Oregon White Oak (Quercus garryana)	10	Tree	Dry	Sun	2 gal.	2'	10'	Single	
Total Trees	39								
Red Flowering Currant (Ribies sanguineum)	49	Shrub	Dry	Sun	1 gal.	1.5'	4-5'	Cluster	
Serviceberry (Amelanchier alnifolia)	49	Shrub	Dry	Part	1 gal.	2'	4-5'	Single	
Salal (Gaultheria shallon)	48	Shrub	Dry	Sun	1 gal.	4"	3-4'	Cluster	
Tall Oregon Grape (Mahonia aquifolium)	48	Shrub	Dry	Sun	1 gal.	6"	4-5'	Single	
Total Shrubs	194								

- Tree spacing = sq footage x 0.01; Shrub spacing = sq footage x 0.05; Groundcover = 100% areal cover
- Single = distribute throughout planting area. Cluster = group 3 to 7 plants in same area with herb or grass in between.
- Mass = plant densely to form a single stand of that species in a given area.

NOT FOR CONSTRUCTION



REGISTRED 540
TROY A. MEARS OREGON
11/21/2003
LANDSCAPE ARCHITECT

SAGERT FARM SUBDIVISION
WATER QUALITY SWALE PLANTING PLAN

LENNAR
TUALATIN, OR (CLACKAMAS COUNTY)

REV.	DATE	DESCRIPTION
8/12/2015		Site Revisions

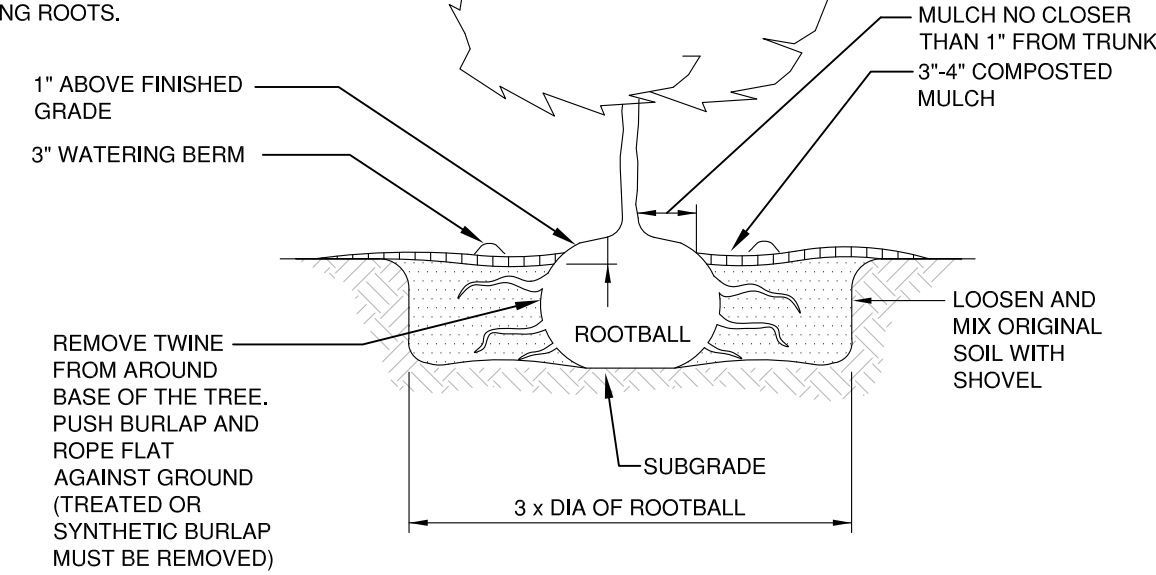
SHEET NAME:
PLANTING PLAN

DRAWN BY: TAM
CHECKED BY: TAM
ISSUE DATE: 6/4/2015
JOB NO.: 1533

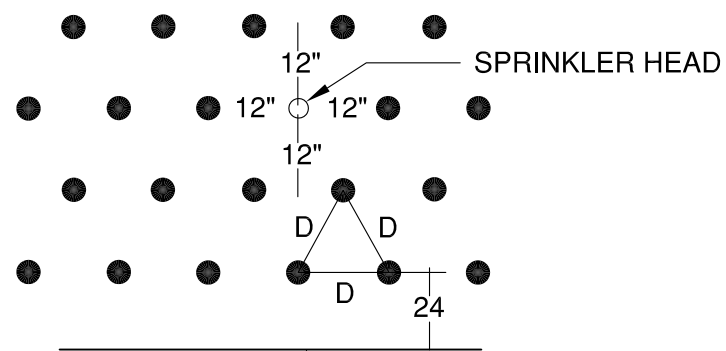
SHEET:
L102
OF: 4

NO FERTILIZER TABLETS REQUIRED FOR VEGETATED CORRIDOR PLANTINGS.

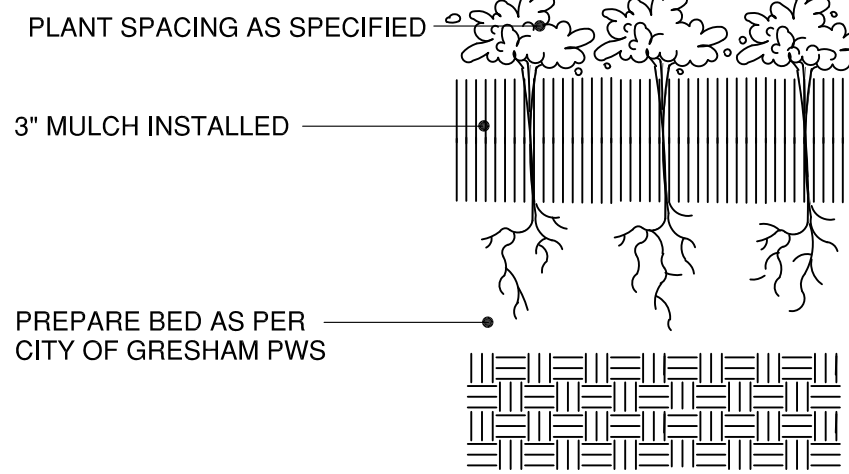
NOTE: IF TREE IS CONTAINER GROWN STOCK, BREAK ROOT BALL APART BEFORE PLACING IN PLANTING HOLE.
IF PLANT IS ROOT BOUND MAKE A VERTICAL CUT THROUGH THE LOWER 1/4 OF THE SOIL MASS. PULL OUT AND STRAIGHTEN LARGE, CIRCLING ROOTS.



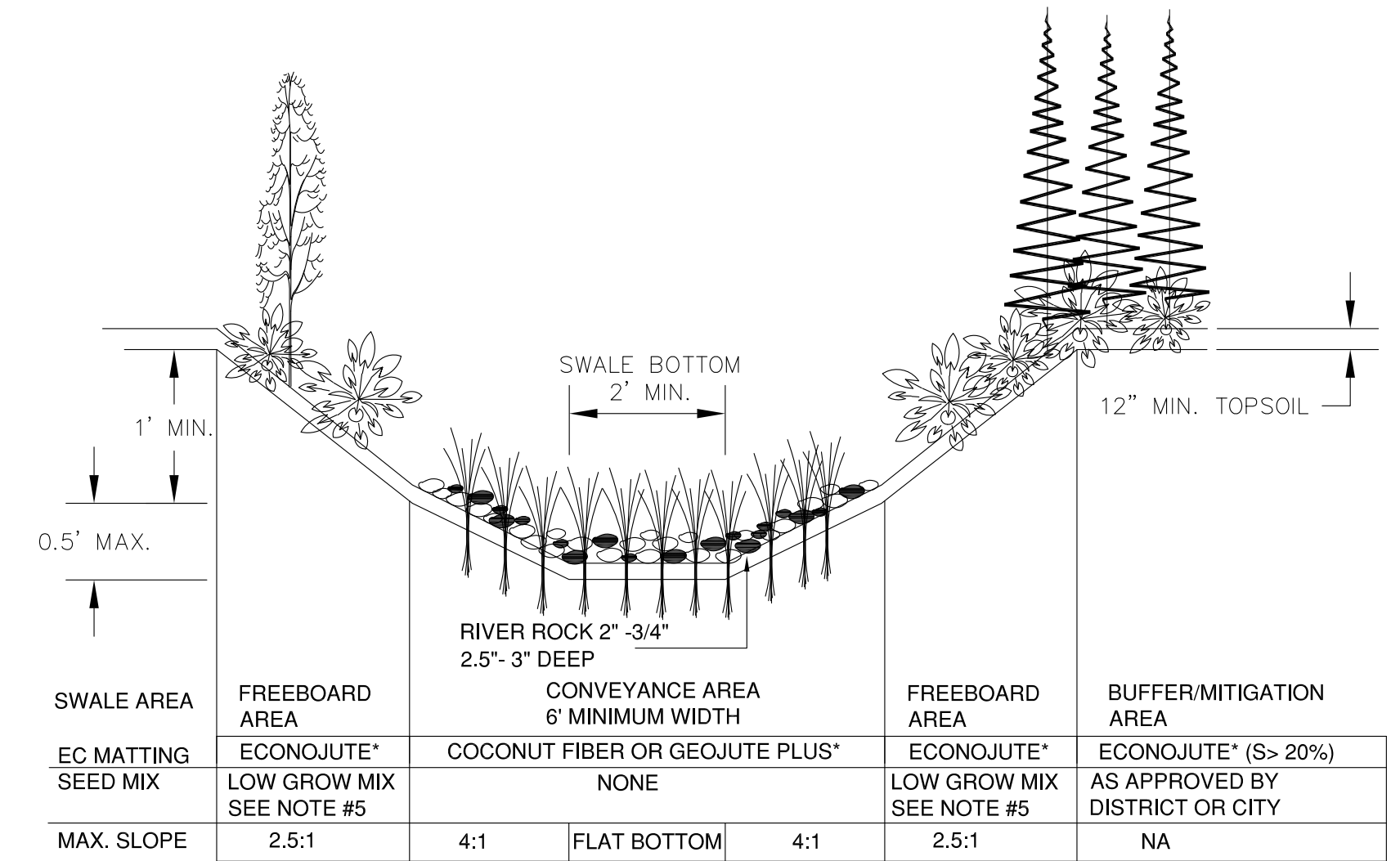
**TREE PLANTING-
CONTAINER/ BURLAPPED** N.T.S.



NOTE: LOCATE PLANTS SPACED EQUAL DISTANT (D) FROM EACH OTHER AS SPECIFIED AND MINIMUM OF 12" FROM SPRINKLER HEAD



GROUNDCOVER PLANTING DETAIL N.T.S.



NOTES:

- REFER TO APPENDIX A, CWS DESIGN & CONSTRUCTION STANDARDS, FOR LANDSCAPING REQUIREMENTS INCLUDING TREE PLACEMENT, TOPSOIL AND PLANTING SPECIFICATIONS.
- PROVIDE IRRIGATION AS APPROVED BY CWS.
- JUTE MATTING- GEOJUTE PLUS IN TREATMENT AREA, ECONOJUTE FOR ALL OTHER AREAS, OR SIMILAR FABRICS. COCONUT FIBER IS ALSO ACCEPTABLE.
- 12-INCHES OF TOPSOIL SHALL BE PLACED THROUGHOUT THE WATER QUALITY TRACT.
- FREEBOARD AREA SEED MIX, DWARF TALL FESCUE 40%, DWARF PERENNIAL RYE 30%, CREEPING RED FESCUE 25%, COLONIAL BENT GRASS 5%. APPLY AT A RATE OF 120# / ACRE.

WATER QUALITY FACILITY

PER CWS STANDARDS

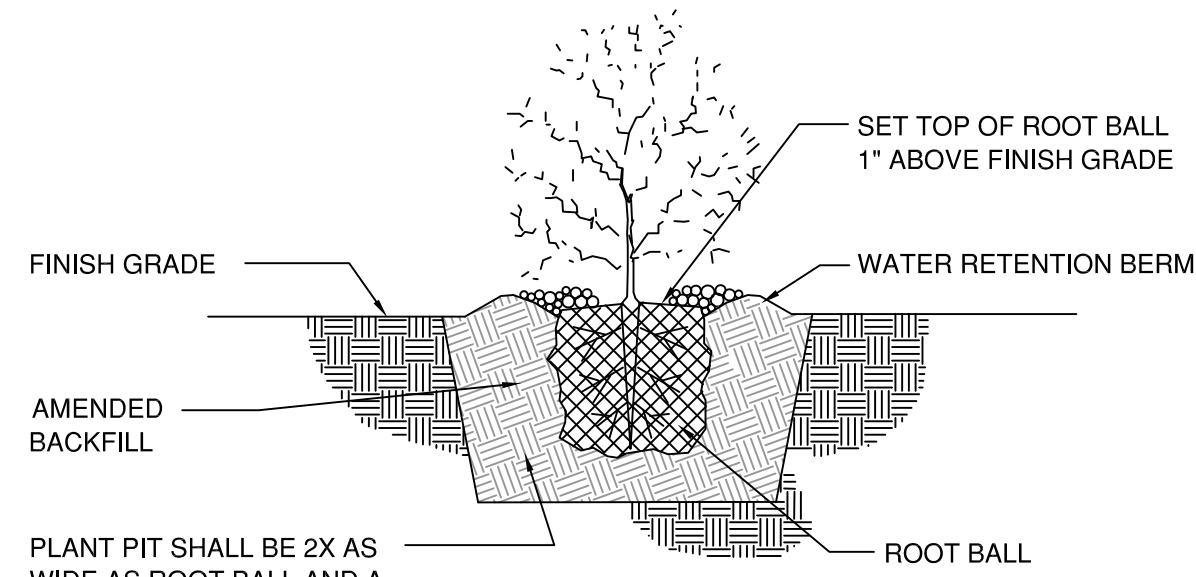
NTS

NOT FOR CONSTRUCTION

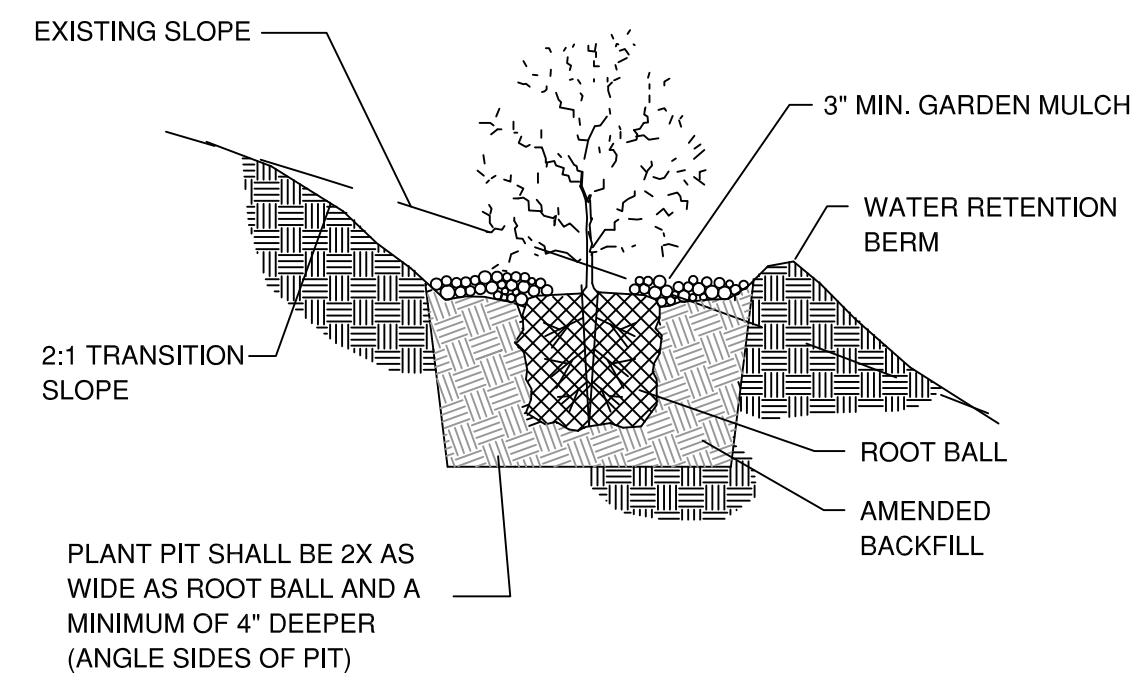


SAGERT FARM SUBDIVISION
PLANTING DETAILS & NOTES

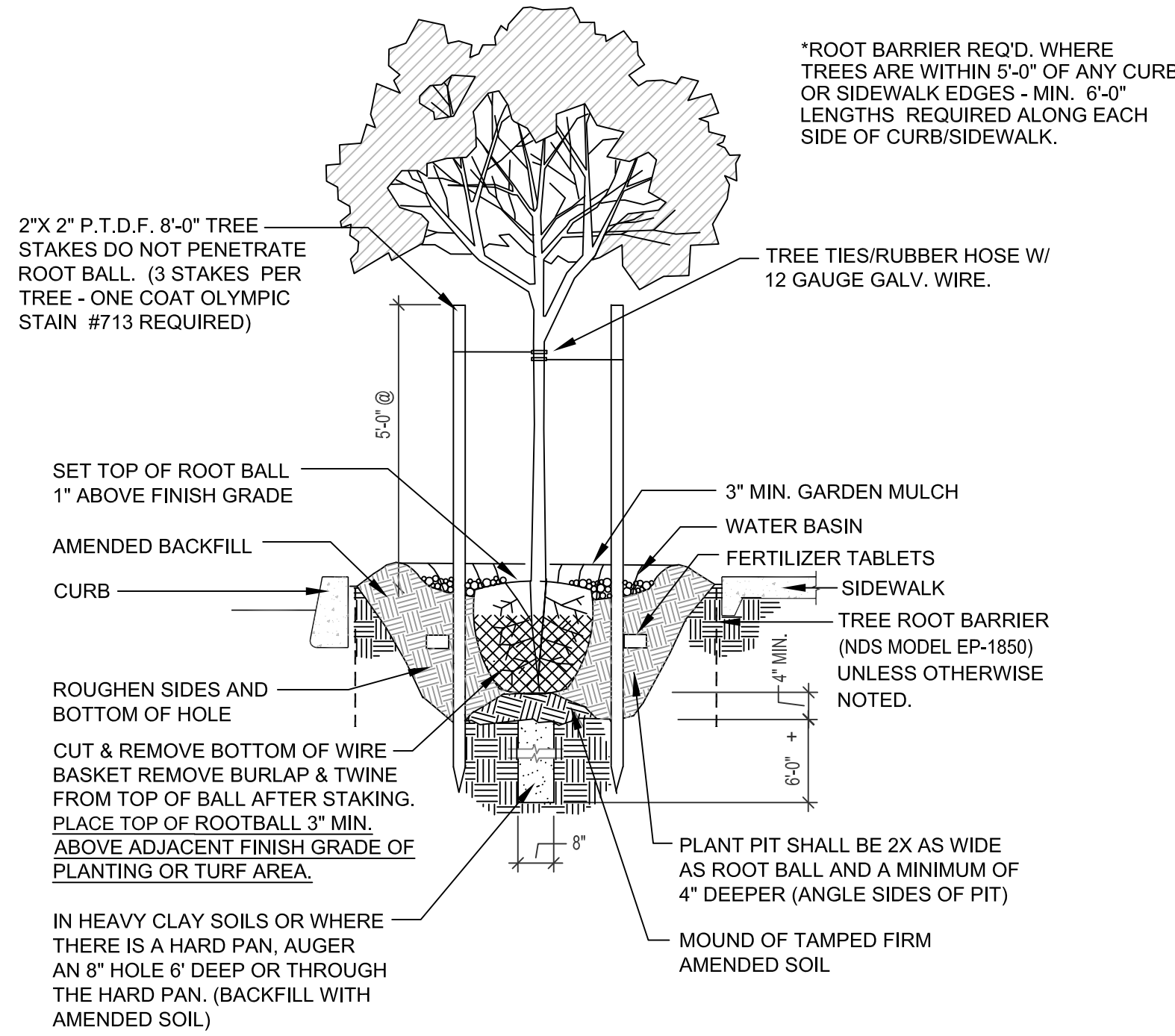
LENNAR
TUALATIN, OR (CLACKAMAS COUNTY)



SHRUB PLANTING DETAIL N.T.S.



SLOPE SHRUB PLANTING DETAIL N.T.S.



STREET TREE PLANTING DETAIL N.T.S.

TYPICAL PLANTING NOTES:

- B&B stock may be substituted with container stock of equal grade.
- Container stock may be substituted with B&B stock of equal grade.
- Plant material shall conform with American Standard for Nursery Stock, ANSI Z60.1, 2004 edition.
- All trees shall be branched.
- Garden mulch all planting beds with 3" min. Layer of specified garden mulch.
- In the event of a discrepancy between the plant listing and the drawings, the plant listing shall govern the plant species and quantities required.
- In the event of question or lack of clarity on drawings, landscape contractor is to call landscape architect before proceeding.
- Landscape contractor is to notify landscape architect prior to installation of plant material to approve final placement.
- Landscape contractor to verify plant material species and quantities prior to planting.
- Refer to Plans and City of Tualatin Development Standards for landscaping requirements including tree placement, topsoil and planting specifications.
- Provide temporary irrigation as approved by City of Tualatin and CWS for Water Quality Facilities.
- Permanent automatic irrigation will be provided for all landscaped area as approved by City of Tualatin Development Standards.

**WATER QUALITY SWALE
CONSTRUCTION & MAINTENANCE NOTES**

CONSTRUCTION

- Water Quality Swale shall be over-excavated and filled to final grade with 12-inch amended topsoil. Topsoil amendments shall be garden compost, not conventional fertilizer amendments.
- A biodegradable Erosion Control Matting shall be placed over the topsoil throughout the swale cross section, fabric shall be held in place in accordance with the manufacturer's installation requirements. Anchor spacing shall be based on 3 fps flow over the fabric.
 - Treatment area - high-density jute matting (Geojute Plus or other approved equal)
 - All other areas - low-density jute matting (EconoJute or other approved equal)
- 2.5-3 inches of 2"-3/4" river run rock shall be placed over the matting evenly throughout the length and width of the swale.
- Plant materials shall be placed in accordance with the plan and plant table as shown on approved plans.
- The water quality swale treatment area plantings can be deemed "substantially complete" once active green growth has occurred to an average growth of 3" and plant density is an average of approx. 6 plants (minimum 1-inch plugs or equivalent) per square foot.
- The facility shall be deemed acceptable to begin the maintenance period when plant growth and density matches the engineer's design as shown on the approved plans and all other requirements have been met. The engineer must certify the facility to be functional, in accordance with the approved plan design to begin the two-year maintenance period.

MAINTENANCE

- The permittee is responsible for the maintenance of this facility for a minimum of two years following construction and acceptance of this facility per Chapter 2.
- Irrigation is to be provided per separate Irrigation plan as approved.
- Note: Irrigation needs are to be met using a temporary irrigation system with a timer during the dry season. Systems should be winterized during the wet season to assure longevity and guard against damage from freezing temperatures. Water source shall be as shown on the approved plans.
- Engineer or Owners Representative is to visit and evaluate the site a minimum of twice annually (Spring and Fall). The landscaping shall be evaluated and replanted as necessary to ensure a minimum of 80% survival rate of the required vegetation and 90% aerial coverage. Non-native, invasive plant species shall be removed when occupying more than 20% of the site.
- The facility shall be re-excavated and planted if siltation greater than 3 inches in depth occurs within the two-year maintenance period.

REVISIONS		
REV.	DATE	DESCRIPTION
	8/12/2015	Site Revisions

SHEET NAME:
DETAILS & NOTES

DRAWN BY: TAM
CHECKED BY: TAM
ISSUE DATE: 6/4/2015
JOB NO.: 1533

SHEET:
L103
OF: 4

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GENERAL INFORMATION

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SITE INFORMATION

Tax Lot Number: 21E30B 00300 & 00600
Address: 20130 SW 65TH Avenue
Size: 20.90 acres
Zoning Designation: Low Density Residential (RL)

Neighborhood: East Tualatin CIO
Comprehensive Plan: Low Density Residential
Existing Use: Single Family Residential
Street Functional: SW Sagert Street (East of SW 65th Avenue) – Minor Collector

Classifications: SW Sagert Street (West of SW 65th Avenue) – Minor Arterial
SW 65th Avenue – Major Arterial
SW Borland Road – Major Arterial

Surrounding Zoning: East and West – Low Density Residential (RL)
North – Commercial Office (CO) and Medical Commercial (MC)
South – Clackamas County Zoning

INTRODUCTION

APPLICANT'S REQUEST

The Applicant seeks approval of an application for Subdivision Preliminary Plat for the development of 79 residential lots. This narrative describes the proposed subdivision of the site and documents compliance with the relevant sections of the City of Tualatin's Development Code ("TDC").

PROPOSED SITE IMPROVEMENTS

The project site consists of a total of 20.90 acres. The proposed development site is located east of SW 65th Avenue, south of SW Borland Road, and north of Saum Creek and the I-205 corridor. The site is bounded to the east by the Sequoia Ridge subdivision. The site's northern boundary is formed by two separate professional medical office buildings, a PGE substation, and SW Borland Road. The site is bounded by Saum Creek and Interstate 205 to the south. There currently sits a single-family detached home with a wooden barn near the center of the property.

The proposed residential subdivision includes the extension of SW Sagert Street (east of SW 65th Avenue). The site slopes downward towards the south. A substantial area in the southern portion of the site is designated with a Significant Natural Resource Overlay and will be preserved in a tract.

The intent of this subdivision is to provide seventy-nine (79) buildable lots, for development with single-family homes, a use permitted outright in the RL zone.

APPLICABLE CRITERIA

The following sections of the Tualatin Development Code (TDC) have been extracted as they have been deemed to be applicable to the proposal. Following each applicable criteria or design standard, the Applicant has provided a series of draft findings. The intent of providing code and detailed responses and findings is to document that the proposed development has satisfied the approval criteria for a Subdivision Preliminary Plat.

TDC CHAPTER 36. SUBDIVIDING, PARTITIONING AND PROPERTY LINE ADJUSTMENTS

SECTION 36.070 LAND DIVISIONS AND PROPERTY LINE ADJUSTMENTS.

- (1) All land divisions shall be created by a subdivision or partition plat and must comply with ORS Chapter 92 and this Chapter.

Applicant's Finding: This narrative, along with drawings and other exhibits, have been provided as evidence demonstrating that the proposed development complies with the applicable regulations of the City of Tualatin and ORS Chapter 92. This land division is proposed to be created by a subdivision complying with all applicable standards.

The requirements of this section have been satisfied.

SECTION 36.080 APPROVAL OF STREETS AND WAYS.

- (1) The subdivision or partition plat shall provide for the dedication of all public rights-of-way, reserve strips, easements, tracts and accessways, together with public improvements therein approved and accepted for public use.
- (a) The applicant shall comply with the requirements of TDC Chapter 74, Public Improvement Requirements.
- (b) The applicant shall comply with the design and construction standards set forth in the Public Works Construction Code.
- (c) The applicant shall provide evidence to the City that property intended to be dedicated to the public is free of all liens, encumbrances, claims and encroachments.
- (2) The subdivision or partition plat shall indicate the ownership and location of private easements and tracts, and the owner-ship and location of private improvements within public rights-of-way and easements.
- (3) Approval of the subdivision or partition plat by the City shall constitute acceptance of all public rights-of-way, reserve strips, easements, tracts and accessways shown thereon, as well as public facilities located therein.

Applicant's Finding: This application has been submitted for preliminary plat approval. It is meant to illustrate proposed right-of-way dedication, construction of utilities and streets, and other improvements necessary to satisfy Tualatin Development Code requirements. All required improvements will be completed in conjunction with the final subdivision plat process.

The requirements of this section have been satisfied.

SECTION 36.090 ISSUANCE OF BUILDING PERMITS.

- (1) Except as provided in subsection (5) of this section no building permit or permits to connect to City utility services shall be is-sued for lots within a subdivision or partition plat until the City Engineer has

determined that the corresponding public improvements are substantially complete to assure that the health and safety of the citizens will not be endangered from inadequate public facilities.

- (2) Subject to submittal and approval of, and compliance with, the subdivision plan, as well as sufficient security to assure completion of the public portions of the subdivision, the applicant or individual lot owners within the subdivision may receive a building permit or utility service for not more than 50 percent of the platted lots within the subdivision prior to:
 - (a) the completion of all required public improvements in accordance with the Public Works Construction Code; and
 - (b) the acceptance of the public improvements by resolution of the City Council.
- (3) No building permits shall be issued or utility service approved for any lot which together with previously approved lots would exceed 50 percent of the platted lots within the subdivision until:
 - (a) all required public improvements have been completed in accordance with the Public Works Construction Code; and
 - (b) the public improvements have been accepted by resolution of the City Council.
- (4) City approval for use of a public improvement prior to the final approval and acceptance by the City of the subdivision plat shall not be construed as a release or waiver of any security which has been filed to assure compliance with the subdivision plan approval or any related agreements.
- (5) For a subdivision or partition in commercial, institutional, or manufacturing planning districts or multi-family residential developments which require Architectural Review approval, the City Engineer may authorize building permits to be issued prior to the public improvements being substantially complete provided the following conditions are satisfied:
 - (a) A Public Works Permit for the public improvements has been issued;
 - (b) An Architectural Review for the development has been approved;
 - (c) The subdivision or partition plat is recorded;
 - (d) All easements and dedications required of any development approval have been recorded; and
 - (e) Such building permits are conditioned to deny occupancy until the public improvements in the subdivision are complete and are accepted by resolution of the City Council.

Applicant's Finding: The Applicant will comply with all requirements necessary to obtain building permits. Upon receiving a substantially complete status, the Applicant may request a number of building permits in order to initiate the construction of a series of two to four model homes.

The requirements of this section have been satisfied.

Section 36.120 Applications and Filing Fee.

- (1) A request for a Subdivision shall be subject to a Neighborhood/Developer Meeting pursuant to TDC 31.063.
- (2) The applicant shall discuss the preliminary plans with the City Engineer in a pre-application conference prior to submitting an application. An applicant for a subdivision shall conduct a Neighborhood/Developer Meeting subject to TDC 31.063. Following the pre-application conference and the Neighborhood/Developer Meeting, the applicant shall prepare and submit a City of Tualatin development application, available from the City Engineer.

Applicant's Finding: On February 28, 2015, the applicant held a general neighborhood meeting to discuss the proposed subdivision with property owners in the surrounding area. Approximately 50

neighbors and other interested persons were in attendance. The notes from that meeting are attached to this narrative. (See Appendix C). In general, the concerns were the proposed density, the plans for the historic barn located on the property, and the roadway and access pattern. Cut-through traffic was expressed as a concern by the existing subdivision to the east. The applicant has worked hard to incorporate those concerns into this final application. For example, Sagert street has been narrowed as it progresses east through the site to better fit with the residential character of the surrounding area and to mitigate cut-through traffic. A center median with plantings has also been provided along the project's eastern access point and an all-way stop has been proposed at intersection with 61st Terrace. At that neighborhood meeting, the applicant also heard localized concerns from the property owners associated with the Tualatin Professional Condominium ("TPC"). The TPC development is located east of SW 65th Avenue, south of Borland Road and north of the Sagert Street extension. Specifically, TPC was concerned about the impact the extension of Sagert Street would have on its parking and circulation improvements that are currently encroaching into the Sagert Street right-of-way. Over a period of approximately ten months, the applicant met twice with representatives of TPC and had numerous other communications with TPC in order to determine how the impact of the Sagert Street extension could best be mitigated while still meeting engineering requirements for the road extension. According to a 1984 agreement between the City and the original developer of the TPC property, the City allowed the developer to dedicate the Sagert Street extension right-of-way, but not actually build its half street improvement. (See Appendix F). Instead the developer paid a fee-in-lieu. The agreement also allowed the developer to encroach into the Sagert Street right-of-way with driveway improvements but the developer specifically agreed "that the driveway improvements to S.W. Sagert Street are temporary in nature" and the developer "agree[d] to maintain said driveway at his expense." (See Appendix F, Section 11.)

Even though the developer agreed to the temporary nature of the driveway improvements, and even though any subsequent purchaser of that property was put on notice from the 1984 recorded agreement that the driveway improvements were temporary, the applicant worked extensively with TPC to explore a number of options to mitigate the impact on the TPC property of removing the driveway improvements within the right-of-way. Some of the options were offered by TPC, while others were offered by the applicant, but in all cases the applicant paid its consultants to evaluate the feasibility of those options against applicable engineering and safety standards and requirements. Unfortunately, no option was both feasible and acceptable to TPC. Because no agreement could be reached, the applicant mitigated the impact on the TPC property as much as it independently could while still complying with applicable standards for the street extension. Specifically, the applicant pushed the Sagert Street extension south, onto its own property, as much as possible while still ensuring that the street lined up in a safe way with the existing Sagert Street right-of-way on the west side of SW 65th Avenue. This ensured that as little of the TPC property as possible would be impacted.

TDC CHAPTER 40. LOW DENSITY RESIDENTIAL PLANNING DISTRICT (RL)

SECTION 40.010 PURPOSE.

The purpose of this district is to provide low density residential areas in the City that are appropriate for dwellings on individual lots, as well as other miscellaneous land uses compatible with a low density residential environment.

Applicant's Finding: The Applicant is proposing the subdivision of the subject property to provide low density residential lots for single family dwellings.

The requirements of this section have been satisfied.

SECTION 40.015 PERMITTED DENSITY.

Housing density shall not exceed 6.4 units per net acre, except as set forth below:

(1) The maximum density for small-lot subdivisions, and partitions and subdivisions affected by TDC 40.055, shall not exceed 7.5 dwelling units per net acre.

Applicant's Finding: The southern portion of the subject site has been identified as a Greenway Protected in the NRPO per The City of Tualatin Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations. Per the requirements of TDC 40.055 the proposed Greenway has been located wholly within a tract. The proposed subdivision is affected by TDC 40.055, therefore the maximum density of the site is 7.5 dwelling units per acre.

The net acreage of the site (after the removal of the right-of-way, greenway tract, CWS vegetative corridor tract, and water quality tract) is 11.4 acres. The proposed 79 dwelling units result in a density of 7.0 dwelling units per net residential acre which is below the maximum of 7.5 dwelling units per acre.

The requirements of this section have been satisfied.

SECTION 40.020 PERMITTED USES.

- (1) Single-family dwellings, including manufactured homes.
- (2) Agricultural uses of land, such as truck gardening, horticulture, but excluding commercial buildings or structures and excluding the raising of animals other than normal household pets.
- (3) Home occupations as provided in TDC 34.030 to 34.050.
- (4) Public transit shelters.
- (5) Greenways and Natural Areas, including but not limited to bike and pedestrian paths and interpretive stations.
- (6) Residential homes.
- (7) Residential facilities for up to 15 residents, not including staff.
- (8) Family day care provider, provided that all exterior walls and outdoor play areas shall be a minimum distance of 400 feet from the exterior walls and pump islands of any automobile service station, irrespective of any structures in between.
- (9) Sewer and water pump stations and pressure reading stations.

- (10) **Wireless communication facility attached, provided it is not on a single-family dwelling or its accessory structures.**
- (11) **Accessory dwelling units as provided in TDC 34.300 to 34.310.**
- (12) **Transportation facilities and improvements.**
- (13) **Public park, public playground, and public recreation building**

Applicant's The proposed single-family dwellings are permitted outright in the RL zone.

Finding: The requirements of this section have been satisfied.

SECTION 40.050 LOT SIZE FOR PERMITTED USES.

Except as otherwise provided, the lot size for a single-family dwelling shall be:

- (1) **The minimum lot area shall be an average of 6,500 square feet.**
- (2) **The average lot width shall be at least 30 feet.**
- (3) **When a lot has frontage on a public street, the minimum lot width shall be 50 feet on a street and 30 feet around a cul-de-sac bulb.**
- (4) **The maximum building coverage shall be 45 percent.**
- (5) **For flag lots, the minimum lot width at the street shall be sufficient to comply with at least the minimum access requirements contained in TDC 73.400(7) - (12).**

Applicant's The proposed lots range in size from 5,000 square feet to 9,012 square feet. With the
Finding: removal of 16 small lots from the average lot size calculation (per Section 40.055 below), the overall average lot area is 6,502 square feet, which exceeds the minimum of 6,500 square feet per the requirements of subsection (1).

All lots exceed the 30-foot minimum average width in subsection (2).

All lots will have frontage on a public street and will meet the minimum width requirement of subsection (3) of 50 feet on a street and 30 feet around a cul-de-sac bulb.

The homes will meet the lot coverage standard of subsection (4). No more than 45% of any lot will be covered with buildings. This can be verified at time of building permit submission.

The Applicant is not proposing flag lots as a part of this subdivision, therefore the requirements of subsection (5) are not applicable. Lot 1 and Lot 2 will have frontage on Borland Road, but will be accessed by a shared access drive located off of SW 61st Terrace, a proposed local street. The proposed shared access drive will meet the minimum access requirements contained in TDC 73.400(7)-(12).

The requirements of this section have been satisfied.

SECTION 40.055 LOT SIZE FOR GREENWAY AND NATURAL AREA TRACTS AND LOTS.

- (1) **The decision authority for partitions and subdivisions may allow one small lot for each 6,500 square feet of Tract created in the subdivision or partition process, provided the following criteria are met:**
 - (a) **Each Tract must be:**

- (i) wholly in the Natural Resource Protection Overlay (NRPO) District (TDC Chapter 72), or
 - (ii) wholly in an Other Natural Areas identified in Figure 3-4 of the Parks and Recreation Master Plan, or
 - (iii) wholly in a Clean Water Services Vegetated Corridor.
- (b) The ownership of each Tract must be one of the following:
- (i) dedicated to the City at the City's option, or
 - (ii) dedicated in a manner approved by the City to a non-profit conservation organization, or
 - (iii) retained in private ownership by the developer.
- (c) The small lot:
- (i) Shall be no less than 5,000 square feet and no more than 5,999.99 square feet.
 - (ii) The average lot width shall be at least 30 feet.
 - (iii) The minimum lot width shall be 50 feet on a street and 30 feet around a cul-de-sac bulb.
 - (iv) The maximum building coverage for lots less than 6,000 square feet shall be 45 percent.
 - (v) The subdivision's or partition's density, net of the Tracts, shall not exceed 7.5 dwelling units per acre.

Applicant's Finding:

The Applicant has proposed a 2.91 acre (127,076 square feet) tract which is wholly in the Natural Resource Overlay District. The Applicant has additionally proposed a 0.96 acre (41,897 square feet) tract for the purpose of the Saum Creek Greenway Trail. The two proposed tracts are to be dedicated to the City at the City's option. Given the 168,973 square foot tract dedication, the Applicant is allowed 25 total small lots (168,973 square feet/6,500 square feet = 25.99 lots).

The Applicant has provided 16 small lots with a minimum square footage of 5,000 square feet and a maximum of 5,999.99 square feet. The average width of the proposed lots will meet the minimum average width of 30 feet. All proposed lots will have street frontage and will meet the minimum frontage requirement of 50 feet on a street and 30 feet around a cul-de-sac bulb. The maximum building coverage will not exceed 45 percent.

The lots proposed for the small lot allowance are lots 10, 33, 36, 41-43, 47-53 and 63-65.

The proposed 79 dwelling units result in a density of 7.0 dwelling units per net residential acre which is below the maximum of 7.5 dwelling units per acre.

The requirements of this section have been satisfied.

- (2) **The decision authority for partitions and subdivisions shall consider, but is not limited to, the following factors when determining if TDC 40.055(1)(b)(i - iii) are allowed:**
- (a) Does the Park and Recreation Master Plan designate the Tract for a greenway, pedestrian or bike path, public park, recreation, overlook or interpretive facility, or other public facility;
 - (b) Does the Tract include one or more designated Heritage Trees, or one or more significant trees;
 - (c) Does the Tract provide a significant view or aesthetic element, or does it include a unique or intrinsically valuable element;

- (d) Does the Tract connect publicly owned or publicly accessible properties;
- (e) Does the Tract abut an existing park, greenway, natural area or other public facility;
- (f) Does the Tract provide a public benefit or serve a public need;
- (g) Does the Tract contain environmental hazards;
- (h) Geologic stability of the Tract; and
- (i) Future maintenance costs for the Tract.

Applicant's Finding: The Park and Recreation Master Plan designates the area shown as Tract A as a greenway per subsection (a).

The Park and Recreation Master Plan designates the area shown as Tract B as a pedestrian path per subsection (a).

The applicant understands that based on the criteria of this section, ownership of Tracts A and B shall be determined by the City.

The requirements of this section have been satisfied.

(3) The following shall apply to small lots included in a partition or subdivision pursuant to (1) above:

- (a) When a small lot abuts an existing lot in an approved and recorded subdivision or partition the small lot shall be no more than 500 square feet smaller than the abutting lot. For example, a new small lot shall be no less than 5,500 square feet if it abuts an existing lot of 6,000 square feet; 5,600 square feet if it abuts an existing lot of 6,100 square feet; 5,700 square feet if it abuts an existing lot of 6,200 square feet; and so on, up to 5,999 square feet if it abuts an existing lot of 6,499 square feet.
- (b) When a small lot is directly across a local street from an existing lot in a City approved and recorded subdivision or partition the small lot shall be no more than 500 square feet smaller than the lot directly across the street. For purposes of this section, a small lot is directly across the street if one or more of its lot lines, when extended in a straight line across the local street, intersect the property line of the lot across the street.
- (c) When a Tract or easement is between a small lot and an existing lot in a City approved and recorded subdivision or partition the small lot shall be separated from the existing lot by at least 50 feet.
- (d) When a subdivision is constructed in phases, a small lot in a later phase may abut or be directly across a local street from an existing lot in an earlier phase.

Applicant's Finding: The Applicant is not proposing to locate any small lots abutting an existing lot in an approved or recorded subdivision or partition per subsection (a).

The Applicant is not proposing to locate any small lots directly across a local street from an existing lot in a City approved and recorded subdivision or partition per subsection (b).

The Applicant is not proposing to locate a tract or easement between any small lots and a City approved and recorded subdivision or partition per subsection (c)

The Applicant is not proposing a phased construction of the proposed subdivision (d).

The requirements of this section have been satisfied.

SECTION 40.070 SETBACK REQUIREMENTS FOR PERMITTED USES.

Except as otherwise provided, the setbacks for permitted uses shall be:

- (1) The front yard setback shall be a minimum of 15 feet, except to an unenclosed porch, which shall be 12 feet.
- (2) The setback to a garage door shall be a minimum of 20 feet.
- (3) The side yard setback shall be a minimum of five feet.
- (4) For a corner lot, the following provisions shall apply:
 - (a) one front yard setback shall be a minimum of 15 feet; it shall be determined by the orientation of the structure based on the location of the front door.
 - (b) the second front yard setback shall be a minimum of 10 feet.
- (5) The rear yard setback shall be a minimum of 15 feet

Applicant's All setback standards will be met at the time of building permit submittal.

Finding:
The requirements of this section have been satisfied.

SECTION 40.090 PROJECTIONS INTO REQUIRED YARDS.

Cornices, eaves, canopies, decks, sun-shades, gutters, chimneys, flues, belt courses, leaders, sills, pilasters, lintels, ornamental features, and other similar architectural features may extend or project into a required front or rear yard setback area not more than three feet and into a required side yard not more than two feet, or into the required open space as established by coverage standards in this chapter.

Applicant's Future construction of dwellings on the proposed lots will be required to comply with

Finding: the provisions of this Section.

The requirements of this section have been satisfied.

SECTION 40.100 STRUCTURE HEIGHT.

Except as otherwise provided, the maximum structure height is 35 feet.

Applicant's Future construction of dwellings on the proposed lots will be required to comply with

Finding: the provisions of this Section.

The requirements of this section have been satisfied.

SECTION 40.110 ACCESS.

Refer to TDC 36.470 [see applicant's response statement above] and 73.400.

SECTION 73.400 ACCESS. [Subsections applicable to single-family residential development]

- (8) To afford safe pedestrian access and egress for properties within the City, a sidewalk shall be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section shall be constructed to City standards, except in the case of streets with inadequate right-of-way width or where the final street design and grade have not been established, in which case the sidewalks shall be constructed to a design and in a manner approved by the City Engineer. Sidewalks approved by the City Engineer may include temporary sidewalks and sidewalks constructed on private

property; provided, however, that such sidewalks shall provide continuity with sidewalks of adjoining commercial developments existing or proposed. When a sidewalk is to adjoin a future street improvement, the sidewalk construction shall include construction of the curb and gutter section to grades and alignment established by the City Engineer.

Applicant's Finding:

The City Engineer has reviewed the proposal and made recommendations to the Applicant, which are incorporated into the proposed pedestrian access configuration.

The Applicant is proposing to construct sidewalks along all street frontage in accordance with the recommendations of the City Engineer and the requirements of the City, as shown on the included plans.

The requirements of this section have been satisfied.

(10) Minimum access requirements for residential uses:

- (a) Ingress and egress for single-family residential uses, including townhouses, shall be paved to a minimum width of 10 feet. Maximum driveway widths shall not exceed 26 feet for one and two car garages, and 37 feet for three or more car garages. For the purposes of this section, driveway widths shall be measured at the property line.**

Applicant's Finding:

All of the proposed lots are wide enough to accommodate homes with two-car garages and driveways meeting these dimensional requirements.

The requirements of this section have been satisfied.

(15) Distance between Driveways and Intersections.

Except for single-family dwellings, the minimum distance between driveways and intersections shall be as provided below. Distances listed shall be measured from the stop bar at the intersection.

- (a) At the intersection of collector or arterial streets, driveways shall be located a minimum of 150 feet from the intersection.**
- (b) At the intersection of two local streets, driveways shall be located a minimum of 30 feet from the intersection.**
- (c) If the subject property is not of sufficient width to allow for the separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while still maintaining the 5-foot setback between the driveway and property line as required by TDC 73.400(14)(b).**
- (d) When considering a public facilities plan that has been submitted as part of an Architectural Review plan in accordance with TDC 31.071(6), the City Engineer may approve the location of a driveway closer than 150 feet from the intersection of collector or arterial streets, based on written findings of fact in support of the decision. The written approval shall be incorporated into the decision of the City Engineer for the utility facilities portion of the Architectural Review plan under the process set forth in TDC 31.071 through 31.077.**

Applicant's Finding: The Applicant is proposing a subdivision consisting of single-family residential development, therefore the standards of this section do not apply to the proposed single-family residential driveways.

The requirements of this section have been satisfied.

(16) Vision Clearance Area.

- (a) **Local Streets** - A vision clearance area for all local street intersections, local street and driveway intersections, and local street or driveway and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 10 feet from the intersection point of the right-of-way lines, as measured along such lines (see [Figure 73-2](#) for illustration).
- (b) **Collector Streets** - A vision clearance area for all collector/arterial street intersections, collector/arterial street and local street intersections, and collector/arterial street and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 25 feet from the intersection point of the right-of-way lines, as measured along such lines. Where a driveway intersects with a collector/arterial street, the distance measured along the driveway line for the triangular area shall be 10 feet (see [Figure 73-2](#) for illustration).
- (c) **Vertical Height Restriction** - Except for items associated with utilities or publicly owned structures such as poles and signs and existing street trees, no vehicular parking, hedge, planting, fence, wall structure, or temporary or permanent physical obstruction shall be permitted between 30 inches and 8 feet above the established height of the curb in the clear vision area (see [Figure 73-2](#) for illustration).

Applicant's Finding: The Applicant has illustrated the required vision clearance area triangle for each proposed intersection on the submitted plans and Figure 1 and Figure 2 submitted under Appendix F. All required vision clearance areas will be maintained.

The requirements of this section have been satisfied.

SECTION 40.120 OFF-STREET PARKING AND LOADING.

Refer to [TDC Chapter 73](#).

SECTION 73.370(2) OFF-STREET PARKING AND LOADING.

USE	MINIMUM MOTOR VEHICLE PARKING REQUIREMENT	MAXIMUM MOTOR VEHICLE PARKING REQUIREMENT	BICYCLE PARKING REQUIREMENT	PERCENTAGE OF BICYCLE PARKING TO BE COVERED
<u>Residential Uses:</u>				
(i) Detached single-family dwelling, residential home, residential facilities (located in low density (RL) planning districts) Townhouse	2.00 vehicle parking spaces per dwelling unit, residential home or residential facility (stalls or spaces within a residential garage not included, except as approved in Architectural Review).	None	None Required	N/A

Applicant's Finding: A minimum of 2.0 off street vehicle spaces will be provided for each residential home. All off-street parking standards will be met when specific building plans are submitted at the time of building permit submittal.

The requirements of this section have been satisfied.

SECTION 40.130 FLOODPLAIN DISTRICT.
Refer to TDC Chapter 70.

Applicant's Finding: Per FEMA AND CWS mapping, the site does not lie within a 100 year flood plain.
The requirements of this section have been satisfied.

TDC CHAPTER 34: SPECIAL REGULATIONS

SECTION 34.210 APPLICATION FOR ARCHITECTURAL REVIEW, SUB-DIVISION OR PARTITION REVIEW, OR TREE REMOVAL PERMIT.

(1) **Architectural Review, Subdivision, or Partition.** When a property owner wishes to remove trees, other than the exemptions permitted under TDC 34.200(3), to develop property, and the development is subject to Architectural Review, Subdivision Review, or Partition Review approval, the property owner shall apply for approval to remove trees as part of the Architectural Review, Subdivision Review, or Partition Review application process.

(a) The application for tree removal shall include:

(i) A Tree Preservation Site Plan, drawn to a legible scale, showing the following information: a north arrow; existing and proposed property lines; existing and proposed topographical contour lines; existing and proposed structures, impervious surfaces, wells, septic systems, and stormwater retention/detention facilities; existing and proposed utility and access locations/easements; illustration of vision clearance areas; and illustration of all trees on-site that are eight inches or more in diameter (including size, species, and tag i.d. number). All trees proposed for removal and all trees proposed for preservation shall be indicated on the site plan as such by identifying symbols, except as follows:

- (A) Where Clean Water Services (CWS) has issued a Service Provider Letter that addresses the proposed development currently under consideration, and
- (B) Where CWS has approved delineation of a "sensitive area" or "vegetated corridor" on the subject property, and
- (C) Where CWS has required dedication of an easement that prohibits encroachment into the delineated area, then
- (D) All trees located within the CWS-required easement need not be individually identified on the Tree Preservation Site Plan if the CWS-required easement boundary is clearly illustrated and identified on the Tree Preservation Site Plan.

(ii) A tree assessment prepared by a qualified arborist, including the following information: an analysis as to whether trees proposed for preservation can in fact be preserved in light of the development proposed, are healthy specimens, and do not pose an imminent hazard to persons or property if preserved; an analysis as to whether any trees proposed for removal could be reasonably preserved in light of the

development proposed and health of the tree; a statement addressing the approval criteria set forth in TDC 34.230; and arborist's signature and contact information. The tree assessment report shall have been prepared and dated no more than one calendar year preceding the date the development application is deemed complete by the City. Where TDC 34.210(1)(a)(i)(A) through (D) are applicable, trees located within the CWS-required easement need not be included in the tree assessment report.

- (iii) All trees on-site shall be physically identified and numbered in the field with an arborist-approved tagging system. The tag i.d. numbers shall correspond with the tag i.d. numbers illustrated on the site plan. Where TDC 34.210(1)(a)(i)(A) through (D) are applicable, trees located in the CWS-required easement need not be tagged.
 - (b) The application for tree removal shall be approved or denied based on the criteria in TDC 34.230.
 - (c) The approval or denial of an application to remove trees shall be a part of the Architectural Review, Subdivision Review, or Partition Review decision.
- (2) Existing Single-Family Dwelling.
[not applicable; detailed provisions omitted for brevity]
- (3) Other. When a property owner wishes to remove trees, other than the exemptions permitted under TDC 34.200(3), for reasons other than those identified in TDC 34.210(1) and (2), the property owner shall apply for a Tree Removal Permit as follows:
[not applicable; detailed provisions omitted for brevity]

Applicant's Finding: The Tree Protection and Removal Plan (Sheet C105-C109) identifies the locations of all trees on site eight inches or more in diameter. The CWS required easement boundary has been identified on the tree plan. Trees proposed for removal have also been identified. A tree assessment has been prepared and provided with this application.

The requirements of this section have been satisfied.

SECTION 34.230 CRITERIA

The Community Development Director shall consider the following criteria when approving, approving with conditions, or denying a request to cut trees.

- (1) An applicant must satisfactorily demonstrate that any of the following criteria are met:
 - (a) The tree is diseased, and
 - (i) The disease threatens the structural integrity of the tree; or
 - (ii) The disease permanently and severely diminishes the esthetic value of the tree; or
 - (iii) The continued retention of the tree could result in other trees being infected with a disease that threatens either their structural integrity or esthetic value.
 - b) The tree represents a hazard which may include but not be limited to:
 - (i) The tree is in danger of falling;
 - (ii) Substantial portions of the tree are in danger of falling.
 - (c) It is necessary to remove the tree to construct proposed improvements based on Architectural Review approval, building permit, or approval of a Subdivision or Partition Review.
- (2) If none of the conditions in TDC 34.240(1) are met, the Community Development Director shall evaluate the condition of each tree based on the following criteria. A tree given a rating of one on a factor will not be required to be retained.

Applicant's Finding: The trees that are being proposed for removal as a part of this Subdivision Review are being removed to accommodate the construction of the proposed improvements for the subdivision plan. All tree removal is detailed in the included Arborist's report, as well as sheets C105 through C109. All proposed tree removal is necessary to construct the proposed improvements associated with the subdivision.

The requirements of this section have been satisfied.

TDC CHAPTER 71: WETLANDS PROTECTION DISTRICT (WPD)

SECTION 71.060 ENVIRONMENTAL STANDARDS

All construction or development, including excavation or filling, or the use of any land within the Wetlands Protection District (WPD), shall conform to the environmental standards required by TDC 71.061 to 71.066.

Applicant's Finding: All construction within the WPD will conform to environmental standards required by the applicable standards, as detailed further in this report.

The requirements of this section have been satisfied.

SECTION 71.061 DEVELOPMENT SETBACK

- (1) Except as otherwise provided for herein, all permanent surface structures and other surface improvements located adjacent to the Wetlands Protected Area (WPA) shall be set back not less than 40 feet from the boundary of the Wetlands Protected Area (WPA) established in accordance with the provisions of this chapter.**
- (2) Where buildings or other surface structures are placed on or immediately adjacent to the outer edge of the setback area, and where means of emergency access or egress is required to be furnished to or from the sides of such buildings or structures that adjoin or face the Wetlands Protected Area (WPA), such means of access or egress may be provided within the setback area.**
- (3) Except as otherwise provided herein or in the Resource Management Plan, no setback for permanent surface structures and other surface improvements is required from the boundary of the Sweek Pond Management Area (SPMA).**

Applicant's Finding: The site has an established vegetative corridor which has been reviewed by Clean Water Services (CWS). As the CWS buffer is wider than the required WPA boundary, all permanent surface structures will be set back 40 feet from the WPA.

The requirements of this section have been satisfied.

SECTION 71.062 EXCAVATION AND FILLING

Excavation, filling and earth-moving activities are permitted within the Wetlands Protection District (WPD), subject to the following restrictions:

- (1) Within the Wetlands Protected Area (WPA), temporary dredging, filling, de-watering or other activities may be undertaken in order to place, install, service or maintain utilities or similar improvements within or across the area only during such periods and in such manner as to reduce as much as reasonably practicable the significant detrimental effects, if any, such activities may have on wildlife within, or on the hydrological integrity of the area.**

- (2) Within the Wetlands Fringe Area (WFA), excavation and filling shall be allowed in all areas for purposes related to its full development and use in accordance with applicable primary planning district classifications and for purposes of increasing or decreasing the elevations within such area to, or in excess of, the level of the so-called "100-year flood plain"; provided, however:
- (a) Excavation or filling in the Wetlands Fringe Area (WFA) shall not, when completed, result in significant increase or decrease in the volume of surface water that will thereafter flow or discharge into the Wetlands Protected Area (WPA) from the Wetlands Fringe Area (WFA).
 - (b) All excavation, filling or other earth-moving activities within the Wetlands Fringe Area (WFA) shall be conducted in such a manner that erosion and silting of surface water runoff into the Wetlands Protected Area (WPA) will not take place. Where upland areas are exposed and subject to erosion due to such excavation, filling or other earth-moving activities, temporary grass cover or other soil stabilizing vegetation shall be established immediately upon completion of such activities if such exposure and erosion will result in erosion or siltation of any portion of the Wetlands Protected Area (WPA).
- (3) Where necessary or desired in order to fully utilize all land lying in the Wetlands Fringe Area (WFA), or for the purpose of the installation or maintenance of subsurface improvements located thereon, fill, excavation or other earth-moving activities shall be permitted within the setback area above described; provided that, upon completion of such activities, the profile of the setback area shall conform with the characteristics of a "Type A" or "Type B" development setback, as depicted by [Figure 71-1](#).
- (a) Fill materials placed in the setback area shall consist of topsoil of suitable nature and character to allow re-vegetation in accordance with the provisions of [TDC 71.064](#), or, in the alternative, where topsoil is not utilized for purposes of fill, the materials that are utilized as fill shall be covered with topsoil to a depth of at least 12 inches where the underlying fill material is heavily compacted.
 - (b) Quatoma, Woodburn or Hillsboro loam, when identified within the setback area or upon adjacent land inside the Wetlands Fringe Area (WFA) by the U.S. Soil Conservation Service or by other reliable means, shall be suitable in nature and character to serve as topsoil for purposes of allowing re-vegetation of soil surfaces altered by filling, excavation or other earth-moving activities undertaken within the setback area, or elsewhere within the Wetlands Fringe Area (WFA) in accordance with the requirements of the provisions of [TDC 71.064](#). Where other types of soils or materials are proposed for use as topsoil in accordance with this subsection, the same shall be of a type and character that will promote rapid propagation and growth of vegetation which will provide food, cover and nesting areas for wildlife, as well as a visual barrier or screen between the Wetlands Protected Area (WPA) and adjacent uplands.
 - (c) Cove clay and silty clay loam shall not be used for purposes of providing any topsoil cover required to be placed within the setback area after filling, excavation or other earth-moving activities.
 - (d) Placement of landfill and topsoil within the setback area should be accomplished before September 15 in order to provide adequate opportunity for re-vegetation to occur during the ensuing growing season. Pending permanent re-vegetation in accordance with the requirements of [TDC 71.064](#), filled areas within the setback area should be planted with temporary grass cover, winter cereal grains (broadcast at a rate of not less than 100 pounds per acre), or other soil-stabilizing vegetation for fast and effective control of any erosion or siltation that will occur in the Wetlands Protected Area (WPA) if stabilization is not effected in such areas.
- (4) Within the Sweek Pond Management Area (SPMA) filling, de-watering or other activities may be undertaken in order to place, install, service or maintain utilities or similar improvements, subject to the Resource Management Plan. The work will be accomplished in such manner as to reduce as much as reasonably practicable the significant detrimental effects, if any, such activities may have on wildlife within, or on the hydrological integrity of the area.

Applicant's Finding: Any excavation, filling or earth-moving activities within the Wetlands Protection District will expressly follow the requirements of this section. This will be further reviewed with grading and erosion control permits, construction improvement permits, and on-site inspection throughout the construction process.

The requirements of this section have been satisfied.

SECTION 71.063 CONTAMINATION AND SEDIMENTATION

During the course of development, site preparation, construction of any improvements, or usage of lands lying within the Wetlands Fringe Area (WFA) or the Sweek Pond Management Area (SPMA), the introduction of storm drainage, surface and roof runoff into the Wetlands Protection Area (WPA) and the Sweek Pond Management Area (SPMA) shall only occur when such runoff is substantially free of silt, debris, oil or other materials injurious to plants or wildlife in the Wetlands Protected Area and the Sweek Pond Management Area (WPA and SPMA).

- (1) All apparent and potential sources of storm drainage and surface runoff contamination located within the Wetlands Fringe Area (WFA) and the Sweek Pond Management Area (SPMA) such as operating areas, and equipment cleaning and maintenance area, shall have curbs and be drained into impoundment areas or a waste treatment system in such a manner that no contaminated storm drainage or surface runoff originating in such areas will be discharged directly into the Wetlands Protected Area (WPA) or Sweek Pond Management Area (SPMA) without treatment that would render such drainage uncontaminated.
- (2) No solid wastes that are known to be toxic to vegetation or wildlife within the Wetlands Protected Area (WPA) and the Sweek Pond Management Area (SPMA) shall be permanently stored or disposed of within the Wetlands Fringe Area (WFA) or Sweek Pond Management Area (SPMA).
- (3) No pesticides shall be used in the Wetlands Protected District before the type, duration and manner of use have been approved by the Oregon Department of Environmental Quality.
- (4) To prevent soil movement into, or erosion within, the Wetlands Protected Area and the Sweek Pond Management Area (WPA and SPMA) as a result of drainage from adjacent upland areas within the Wetlands Fringe Area (WFA) and Sweek Pond Management Area (SPMA) during the course of development, site preparation, construction of improvements or use, a combination of filters or diversions or other appropriate means to be specified by an engineer shall be employed where necessary in order to supplement soils stabilization that will result from re-vegetation as otherwise provided for and described in TDC 71.062(2) and 71.064

Applicant's Finding: All standards required to prevent contamination or sedimentation in the WPA will be followed throughout construction of the development. No contamination or sedimentation is proposed or anticipated. This will be further reviewed with the grading and erosion control permit and inspections of the site throughout construction.

The requirements of this section have been satisfied.

SECTION 71.064 VEGETATION

- (1) Vegetation occurring within the Wet-lands Protected Area (WPA) and the Sweek Pond Management Area (SPMA) shall not be degraded or damaged except as a result of activities otherwise permitted by this chapter.

- (2) Vegetation occurring within the Wetlands Fringe Area (WFA) may be removed or altered at any time during the course of development, site preparation, construction of improvements or usage, when reasonably required for any of such purposes, subject to the following:
- (a) Areas where vegetation has been removed or altered incidental to construction or development of land areas within the Wetlands Fringe Area (WFA) lying outside the setback area, which are not otherwise committed and used as the location or site of surface improvements associated with the development or use of the property, shall be seeded or planted to reestablish a vegetation cover compatible with the adjacent wetland habitats insofar as practicable.
 - (b) Areas where vegetation has been removed or altered incidental to development or usage of land areas within the Wetlands Fringe Area (WFA) which occurs by reason of filling, excavation or other activities undertaken within the setback areas, shall be seeded or planted so as to effect eventual reestablishment of vegetation, if practicable, of the character, type and density that occurred in the areas affected prior to such removal or alteration.
 - (c) Owners and occupiers of land lying within the setback area upon which vegetation has been disturbed as a result of development, site preparation, construction of improvements or use shall permit access to such areas by public agencies, resource management groups and environmental interest groups approved by the City for purposes of entry and the conduct of activities designed or intended to effect the seeding, planting and maintenance of vegetation within the setback area in addition to, or in lieu of, the vegetation to be placed therein in accordance with TDC 71.064(2)(b) in the nature of trees, shrubs or other vegetation forms that will provide food, cover and nesting areas for wildlife and which may also provide a visual barrier or screen between the boundary of the Wetlands Protected Area (WPA) and adjacent upland areas. No such activity shall be authorized or permitted where the same or the effects thereof may materially impair or damage the structural integrity or usefulness of landfill occurring within such area, or which may enhance the area's susceptibility to erosion or damaging surface or subsurface water flow, or which may damage, or impair the usefulness of, utilities or other improvements lying within or adjacent to the area otherwise permitted under the terms of this chapter.
 - (d) Re-vegetation as required by the provisions of this section shall begin as soon as practicable, but in no event later than 60 days, after cessation of development, unless otherwise approved by the City. Such re-vegetation shall be deemed to comply with the requirements of this chapter if approved or recommended as to type, species and placement by either the U.S. Soil Conservation Service or the Oregon Department of Fish and Wildlife.
- (3) Land areas within the Wetlands Fringe Area (WFA) that lie outside the 40-foot setback area and which are not otherwise committed to development or use in connection with the intended development or use to be made of such areas by the owners, developers or occupiers thereof, shall be left, insofar as practicable, in their natural state for so long as such development or use does not require their alteration. Subject to the limitations set forth in TDC 71.064(2)(c), access shall be afforded to public agencies, resource management groups and environmental interest groups approved for purposes of planting and maintenance of vegetation within such areas that will afford food, cover and nesting areas for wildlife indigenous to the Wetlands Protected Area (WPA) except where such entry or activities are unsafe or may damage the property or security of adjacent developed areas. Any such vegetation shall be subject to removal at a later date, should such areas be required or involved in future development.
- (4) There shall be included in the statement of proposed construction methods and schedule required as part of the certification by TDC 71.040 of this chapter, a landscaping and re-vegetation plan and schedule, which shall set forth in reasonable detail the means by which the applicant(s) for any building permits, subdivision approvals or public works permits within the Wetlands Protection District (WPD) shall comply with the requirements of this section. [Ord. 800-90, 3/26/90]

Applicant's Finding: No degradation of vegetation in the WPA is proposed with this subdivision application and associated open space and future pedestrian path. Any vegetation removed to accommodate construction will be reseeded in the areas appropriate for final use of the site for a nature path. All landscaping and re-vegetation will be included with applications for permits for construction of the pedestrian path.

The requirements of this section have been satisfied.

SECTION 71.065 USES

Except as otherwise provided for, or permitted, by the provisions of this chapter, and subject to the provisions of the Resource Management Plan, no permanent use of the Wetlands Protected Area (WPA) will be allowed other than passive nature study, wildlife protection and enhancement, the north-south collector road (90th Avenue) and pedestrian bridge through the Zidell property (2S1--23/100), and other activities compatible with the intent, purposes and objectives of this chapter above set forth. The pedestrian bridge shall be located within 300 foot wide corridor west of the Pratt-Broome property (2S1--23/100).

Except as otherwise provided for, or permitted by the provisions of this chapter (and subject to the Resource Management Plan), no permanent use of the Sweek Pond Management Area (SPMA) will be allowed other than the following uses:***

All uses in the WPA and SPMA will be subject to the following provisions:

- (1) Such permitted uses shall be in all cases and at all times remain subject to the provisions of TDC 71.090(2) and (3) of this chapter and to such other or further restrictions or conditions as may be, or become, reasonably necessary to afford to the owner(s) or to others entitled to possession or control of the area reasonable assurance that they will suffer or incur no loss, damage, expense or liability of any kind by reason of such uses or any activities undertaken in connection therewith.
- (2) No discharge of firearms, trapping, poisoning, or intentional destruction of wildlife shall be permitted in the Wetlands Protection District (WPD).
- (3) Annual monitoring of the number of plant and animal species and the number within each species occurring within the Wetlands Protection Area (WPA) and 40-foot setback within the Wetlands Fringe Area (WFA) may be undertaken by conservation groups under the supervision, or with the approval, of the Oregon Department of Fish and Wildlife.
- (4) Uses occurring within the Wetlands Fringe Area (WFA) shall be restricted to those uses allowed by the primary planning district classifications and standards.
- (5) Structures and other permanent improvements to land lying adjacent to the boundary of the Wetlands Protected Area (WPA) and Sweek Pond Management Area (SPMA) shall be located as far removed from such boundary as is consistent with the development objectives and plans of the owners or developers of such adjacent property, subject in all cases to the provisions of TDC 71.061 of this chapter.
- (6) Where upland development occurs and immediately adjacent to the Wetlands Protected Area (WPA) and the 40-foot set-back provided for by TDC 71.061, such development and usages associated therewith shall be effected in such a manner as to minimize to the greatest extent practicable, consistent with full development and usage of the Wetlands Fringe Area (WFA), disturbance of recognized valuable wildlife forms within the Wetlands Protected Area (WPA) by automobile, truck and pedestrian traffic, shipping and receiving activities, trash and refuse pickup or disposal activities, and outdoor production or manufacturing operations.

Applicant's Finding: The only conceptual improvement adjacent to the WPA is a future pedestrian path, a use compatible with the intent, purpose, and objectives of this chapter.

The requirements of this section have been satisfied.

SECTION 71.066 EXCEPTIONS

If degradation of the wildlife habitat within the Wetlands Protected Area (WPA) occurs despite protective work accomplished complying with an approved certification statement pursuant to TDC 71.040, and such degradation is caused by an overburdening by an Act of God of the protective methods so approved; then the owners, occupiers, or users of the land where said degradation originated shall not be liable for such adverse effects on the Wetland Protected Area (WPA). After an Act of God, said owner, occupiers, or users shall immediately take steps to conform to the provisions of this chapter. An Act of God, for the purposes of this section, shall be extreme climatic conditions which include, but are not limited to, a rain storm in excess of the 25-year frequency storm, extremely long periods of drought or freezing weather, or damage caused by wildfires or unusual insect infestations.

Applicant's Finding: The Applicant notes this exception.

Finding:

The requirements of this section have been satisfied.

TDC CHAPTER 72: NATURAL RESOURCE PROTECTION OVERLAY DISTRICT (NRPO)

SECTION 72.011 CRITERIA FOR DETERMINING SIGNIFICANT NATURAL RESOURCES.

- (1) The Significant Resource Criteria in Subsections (2-3) must be considered when determining whether a natural resource site is a Significant Natural Resource or is not significant.
- (2) Significant Resource Criteria — Wetlands Not in Riparian Corridors.
 - (a) Exclusions. Wetland natural resources are not significant if they fall within any one of the following categories:
 - (i) Wetlands artificially created entirely from upland that are:
 - (A) created for the purpose of controlling, storing or maintaining stormwater; or
 - (B) active surface mining or active log ponds; or
 - (C) ditches without a free and open connection to natural waters of the state (as defined in OAR 141-85-010(9) and which do not contain food or game fish (as defined in ORS 496.009); or
 - (D) less than one acre in size and created unintentionally as the result of irrigation water overflow or construction activity not related to compensatory mitigation for permitted wetland impacts; or
 - (E) of any size and created for wastewater treatment, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.
 - (ii) Wetlands or portions of wetlands that are contaminated by hazardous substances, materials or wastes as per the following conditions:
 - (A) The wetland is documented as contaminated on either the U.S. Environmental Protection Agency's (EPA) National Priority List, or the Department of Environmental Quality's (DEQ) Inventory of Hazardous Substance Sites (ORS 465.225).
 - (B) Only the portion of the wetland affected by such hazardous substances shall be excluded from significance analysis.

- (b) A Wetland natural resource is a Significant Natural Resource if it meets one or more of the following criteria:
- (i) The site has a rating of "High" in at least one of the following environmental categories in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) Wetland and Natural Areas Inventory Environmental and Social Value Assessment:
 - (A) Fish Habitat Value. The assessment values use the low-medium-high rating for a site based on the modified fish habitat and wildlife habitat assessment methods used in the City of Tualatin Natural Resource Inventory. Fish habitat rates high if potential fish habitat exists.
 - (B) Wildlife Habitat Value. Evaluates habitat diversity. Areas with permanent or seasonal water, diverse vegetation and structure, and interspersed plant communities rate high. Wildlife habitat value also increases with the size of the site and linkage to open space habitat.
 - (C) Hydrologic Control, Water Quality Protection, and Water Quality Potential. Resource sites that provide or have the potential to provide water quality protection to receiving streams or storm-water detention within the watershed are important and are rated high.
 - (ii) The wetland or a portion of the wetland occurs within a horizontal distance of less than one-fourth mile from a water body listed by the Oregon Department of Environmental Quality (DEQ) as a water quality limited body [303(d) list] and the wetland's water quality protection or potential function is described as High or Medium in the Wetlands and Natural Areas Assessment.
 - (iii) The site has a presence of one or more rare or locally unique plant communities that are relatively undisturbed with few or no non-native plants.
 - (iv) The site has a presence of a plant or animal species that is state or federally listed as sensitive, rare, threatened or endangered, or is a critical habitat for such listed species, unless the appropriate state or federal agency indicates that the wetland is not important for the maintenance of the species.
- (3) Significant Resource Criteria — Streams, riparian corridors, forests, meadows and geologic features. A stream, riparian corridor, forest, meadow or geologic feature site is a significant resource site if it meets one or more of the following criteria:
- (a) The site has a presence of a plant or animal species that is state or federally listed as sensitive, rare, threatened or endangered, or is a critical habitat for such listed species;
 - (b) The site has a presence of a physical feature that is designated as a scenic river or natural or geologic resource by county or regional government, or state or federal agencies. This includes but is not limited to designation as a significant natural resource or geologic area. Physical features do not include buildings or other constructed features.
 - (c) The site has a presence of one or more relatively undisturbed native plant communities with few or no non-native plants.
 - (d) The site has a rating of "High" in at least one of the following environmental categories in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) Wetland and Natural Areas Inventory Environmental and Social Value Assessment:
 - (i) Fish Habitat Value. The assessment values use the low-medium-high rating for a site based on the modified fish habitat and wildlife habitat assessment methods used in the City of Tualatin Natural Resource Inventory. Fish habitat rates high if potential fish habitat exists.

- (ii) **Wildlife Habitat Value.** Evaluates habitat diversity. Areas with permanent or seasonal water, diverse vegetation and structure, and interspersed plant communities rate high. Wildlife habitat value also increases with the size of the site and linkage to open space habitat.
 - (iii) **Hydrologic Control, Water Quality Protection, and Water Quality Potential.** Resource sites that provide or have the potential to provide water quality protection to receiving streams or stormwater detention within the watershed are important and are rated high.
 - (iv) **Ecological Integrity.** Sites are rated high if they provide ecosystem linkage or continuity, allow wildlife passage between larger habitat units or genetic flow between plant populations, provide critical habitat for certain life history stages of sensitive fish and wildlife species, or other watershed or ecosystem functions. This criterion regards the both the ecological integrity and connectivity assessments of the site.
 - (v) **Uniqueness.** Site contains fish and wildlife species, wildlife habitat, plant communities or geologic features that are unique in the Tualatin area. Uniqueness is a consideration of the quantity and quality of a particular resource site relative to other resources in the Tualatin area.
- (e) A non-wetland site has a rating of "High" in at least two of the following social categories in the City of Tualatin Natural Resource Inventory (December, 1995) Wetland and Natural Areas Inventory Environmental and Social Value Assessment:
- (i) **Educational Value and Scientific Research.** Sites are rated high if they provide potential educational opportunities for local schools or parks and recreation programs or research opportunities for the scientific community. This value is dependent on access and distance from schools.
 - (ii) **Aesthetic or Scenic Qualities, or Visual or Noise Buffering Qualities.** Rating aesthetic or scenic quality is based on visual characteristics. Buffering qualities refer to the site's ability to serve as a buffer to unattractive or noisy areas such as the interstate freeways.
 - (iii) **Opportunity for Passive Recreation.** Rating for recreational opportunity is based on a combination of the availability of public access, environmental value, aesthetic and/or scenic value, and low probability for recreational uses that will adversely affect environmental, aesthetic or scenic values.
- (f) Meets the definition of a riparian corridor in OAR-660-090-5 and any other criteria in subsections (3)(a-e) and (3)(g).
- (g) In addition to (a)-(f) above, a final decision to determine whether a resource site is significant or not significant shall consider information about the resource site from all available sources, including but not limited to property owners and interested citizens, and may use factors not listed in criteria (a)-(f) above provided that it is shown the factor(s) address the issue of whether or not the site is significant.

Applicant's Finding:

A portion of the project site has been identified in the *City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) Wetland and Natural Areas Inventory Environmental and Social Value Assessment* as the location of a portion of Wetland W9. The wetland located on site is a Significant Natural Resource as it has been categorized as "high" in Fish Habitat Value, Hydrologic Control, and Water Quality.

The Wetland has been determined to be Significant.

SECTION 72.013 SIGNIFICANT NATURAL RESOURCES.

The following natural resource sites identified in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) are Significant Natural Resources:

Unit #	Resource #	Assessors Map and Tax Lot		
S	F9	Interstate 5 Hwy ROW		
S2	F5	21E30A01300 21E30B00200	21E30A01600 21E30B00600	21E30A01700 21E30B00100

Applicant's Finding: The project site, tax lot 21E30B00600, has been identified as a natural resource site in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory.

The requirements of this section have been satisfied.

SECTION 72.020 LOCATION OF GREENWAYS AND NATURAL AREAS.

- (1) The designated significant natural resources are the Greenways and Natural Areas on Map 72-1, which shows the general location of the NRPO District. The general locations of Other [n] Natural Areas are shown on the Recreation Resources Map (Figure 3-4) of the Parks and Recreation Master Plan.
- (2) Lands in the Wetland Protection District (WPD) are subject to Chapter 71, and other applicable regulations, but not Chapter 72.

Applicant's Finding: The southern portion of the project site has been identified on *Map 72-1: Natural Resource Protection Overlay District (NRPO) and Greenway Locations* as the location of the Saum Creek Greenway, a greenway protected in the NRPO.

The requirements of this section have been satisfied.

SECTION 72.030 GREENWAYS.

- (1) Greenways can exhibit diverse characteristics. Those along the Tualatin River and Hedges, Nyberg and Saum Creeks can be natural in some sections and have pedestrian and bike paths in other sections. Greenways in built-up areas such as in subdivisions are typically landscaped with lawn and often include concrete pedestrian/bike paths.
- (2) Riverbank Greenway (NRPO-GR).
 - (a) Except as provided in Subsection (b), the NRPO District along the south bank of the Tualatin River, beginning at the City's western Urban Growth Boundary (UGB) and extending to the City's eastern UGB, and along the north bank of the Tualatin River from the northwest corner of Tax Lot 1007 to the southeast corner of Tax Lot 1006, Washington County Tax Map 2S1 24B, shall have a width as measured from a line 40 feet inland from the top of the bank extending to the middle of the river. The top of the bank shall be where the landform called "the bank" changes from a generally up-slope feature to a generally flat feature. The NRPO District shall

automatically apply to property annexed to the City, except as provided for in Appendix G to the Parks and Recreation Master Plan.

- (b) For the area 300 feet east and west of the I-5 right-of-way as shown on Map 72-1, the NRPO District on the south bank of the Tualatin River shall have a width as measured from a line 75 feet in-land from the top of the bank extending to the middle of the river.
- (3) Creek Greenways (NRPO-GC).
- (a) Except as provided in Subsections (b-d), the NRPO-GC District shall have a width of 50 feet centered on the centerline of Hedges Creek from SW Ibach Street to the western boundary of the Wet-lands Protection District and from the eastern boundary of the Wetlands Protection District to the Tualatin River, and centered on Nyberg Creek from SW Tonka Street to the Tualatin River.
 - (b) The NRPO-GC District shall have a width of 30 feet centered on the centerline of Nyberg Creek from SW Boones Ferry Road to SW Tonka Street.
 - (c) Property owners on opposite sides of a creek may enter into a written agreement to allow the NRPO-GC District to be off-center, but in no case shall it be less than 15 feet on one side of the creek. Such agreement shall be binding on property owners, their heirs and assigns; shall be approved by City Council and shall be placed on permanent file with the City Recorder.
 - (d) The NRPO-GC District shall have a width of 50 feet extending out from the top of the stream bank or from the upland edge of wetlands within the stream riparian area on the following creek sections:
 - (i) Hedges Creek from SW 105th Avenue downstream to the private driveway culvert at the upper end of the fire pond at Tri-County Industrial Park,
 - (ii) Hedges Creek from the fire pond dam's outlet at Tri-County Industrial Park downstream to SW Tualatin-Sherwood Road, and
 - (iii) Saum Creek beginning east of I-5, just north of I-205 extending downstream to the Tualatin River, except:
 - (A) a width of 25 feet extending out from the upland edge of wet-lands in the stream riparian area for the severely constrained properties shown on Map 72-1, and
 - (B) to the upland edge of the wetland in the stream riparian area adjacent to existing developed residential properties west of Atfalati Park shown on Map 72-1.
- (4) Other Greenways (NRPO-OG). The greenways listed below are not within a riverbank or creek greenway. These areas are primarily drainage corridors for neighboring residential zones. The location and size of these greenways are shown on Map 72-1.
- (a) Chieftain/Dakota Greenway,
 - (b) Indian Meadows Greenway,
 - (c) Hi-West Estates Greenway,
 - (d) Shaniko Greenway,
 - (e) Nyberg Creek Greenway (south)

Applicant's Finding: This site contains a portion of the area designated as the Saum Creek Greenway.

The requirements of this section have been satisfied.

SECTION 72.060 DEVELOPMENT RESTRICTIONS IN GREENWAYS AND NATURAL AREAS.

- (1) Except as provided in Subsection (2), no building, structure, grading, excavation, placement of fill, vegetation removal, impervious surface, use, activity or other development shall occur within Riverbank, Creek and Other Greenways, and Wetland and Open Space Natural Areas.

- (2) The following uses, activities and types of development are permitted within Riverbank, Creek and Other Greenways, and Wetland and Open Space Natural Areas provided they are designed to minimize intrusion into riparian areas:
- (a) Public bicycle or pedestrian ways, subject to the provisions of TDC 72.070.
 - (b) Public streets, including bridges, when part of a City approved transportation plan, and public utility facilities, when part of a City approved plan and provided appropriate restoration is completed.
 - (c) Except in Wetland Natural Areas, private driveways and pedestrian ways when necessary to afford access between portions of private property that may be bisected by a Greenway or Open Space Natural Area.
 - (d) Except in Creek Greenways and Wetland Natural Areas, outdoor seating for a restaurant within the Central Urban Renewal District, but outside of any sensitive area or its vegetated corridor.
 - (e) Public parks and recreational facilities including, but not limited to, boat ramps, benches, interpretive stations, trash receptacles and directional signage, when part of a City-approved Greenway or Natural Area enhancement plan.
 - (f) Landscaping, when part of a landscape plan approved through the Architectural Review process. City initiated landscape projects are exempt from the Architectural Review process. Landscaping in Greenways and Natural Areas shall comply with the approved Plant List in the Parks and Recreation Master Plan. When appropriate, technical advice shall be obtained from the Oregon Department of Fish and Wildlife, U.S. Soil Conservation Service, or similar agency, to ensure the proposed landscaping will enhance the preservation of any existing fish or wildlife habitats in the vicinity.
 - (g) Wildlife protection and enhancement, including the removal of non-native vegetation and replacement with native plant species.
 - (h) Except in Wetland Natural Areas, public boating facilities, irrigation pumps, water-related and water-dependent uses including the removal of vegetation necessary for the development of water-related and water-dependent uses, and replacement of existing structures with structures in the same location that do not disturb additional riparian surface.
 - (i) In Wetland Natural Areas, perimeter mowing and other cutting necessary for hazard prevention.
- (3) The City may, through the subdivision, conditional use, architectural review, or other development approval process, attach appropriate conditions to approval of a development permit. Such conditions may include, but are not limited to:
- (a) Use of Greenways and Natural Areas for storm drainage purposes;
 - (b) Location of approved landscaping, pedestrian and bike access areas, and other non-building uses and activities in Greenways and Natural Areas;
 - (c) Setback of proposed buildings, parking lots, and loading areas away from the Greenway and Natural Area boundary.
- (4) Greenways and Natural Areas in which an access easement is owned by the City, but retained in private ownership, shall be maintained by the property owner in their natural state and may only be modified if a landscape and maintenance plan complies with the approved Plant List in the Parks and Recreation Master Plan, and has been approved through the Architectural Review process or by the Parks and Recreation Director when Architectural Review is not required.
- (5) The Parks and Recreation Director shall be included as a commentor when a development application proposes dedication of Greenway or Natural Area property to the City or when development is proposed on Greenway or Natural Areas property maintained by the Parks and Recreation Department.

Applicant's Finding: The Applicant is not proposing any buildings, structures, grading, excavation, placement of fill, vegetation removal, impervious surface, use, activity or other development within the Greenway and Wetland.

In order to minimize intrusion into the riparian area, the proposed pathway will be constructed as detailed in Section 72.070, below.

The requirements of this section have been satisfied.

**SECTION 72.065 HARDSHIP CREATED, MAP ERROR, PROPERTY NOT BUILDABLE.
[Details omitted for brevity]**

Applicant's Finding: The Applicant is not applying for any variances, therefore the standards of this section do not apply.

The requirements of this section have been satisfied.

SECTION 72.070 GENERAL GUIDELINES FOR PEDESTRIAN AND BIKE PATHS IN GREENWAYS.

To construct bike and pedestrian paths in greenways, the developer of the path shall adhere to the following guidelines, wherever practicable:

- (1) Incorporate trails into the surrounding topography.
- (2) Provide viewing opportunities for special vistas, wetlands, and unique natural features.
- (3) Protect existing vegetation to the greatest extent possible. In wooded areas meander paths through the woods to avoid significant trees. An arborist should be consulted to determine methods for minimizing impact of construction of paths near trees greater than 5 inch caliper as measured 4 feet above-grade.
- (4) Replant trees in the vicinity where they were removed. Use native species as outlined in the approved plant list incorporated in the Parks and Recreation Master Plan.
- (5) Minimize impact on wetland environments. Build paths above wetlands wherever possible. Use boardwalks, bridges or other elevated structures when passing through a wetland. Direct trails away from sensitive habitat areas such as nesting or breeding grounds.
- (6) Provide interpretive opportunities along the trail. Use interpretive signage and displays to describe plant and animal species, nesting areas, wildlife food sources, and geologic, cultural and historic features.
- (7) Provide amenities along the trail. Place benches, picnic tables, trash receptacles and interpretive signage where appropriate.
- (8) Where paths are placed in utility corridors, path design should be coordinated with the City's Engineering and Building Department and Operations Department to allow utility maintenance.
- (9) Mitigate surface water drainage near wetlands and streams. Where hard surface trails occur adjacent to wetlands or creeks, provide, when appropriate, an open water system through swales, trench percolation, or on-site detention ponds to prevent erosion and negative impacts.
- (10) Incorporate signage. Place properly scaled and sited regulatory and guide signs to instruct users on accessibility, local conditions, safety concerns and mileage information.

Applicant's Finding: The City's Parks and Transportation System plans indicate that an extension of the Saum Creek trail will ultimately be constructed adjacent to Saum Creek, along the Southern boundary of the property. The Applicant has created a tract on the preliminary plat which would provide a location and alignment for the extension of the trail and may

work with the City to construct the pathway. Discussions regarding the construction of the pathway will be ongoing during the construction planning process.

The requirements of this section have been satisfied.

SECTION 72.080 SHIFT OF DENSITY FOR RESIDENTIAL DEVELOPMENT ADJACENT TO GREENWAYS OR NATURAL AREAS.

- (1) A shift of density may be allowed in accordance with TDC 41.150 (RML District), 42.150 (RMH District), 43.180 (RH District) and 44.160 (RH/HR District).
- (2) Small lots may be allowed in subdivisions and partitions in accordance with TDC 40.055 (RL District).

Applicant's Finding: The Applicant has provided responses for Section 40.055 (RL District) as a part of this narrative. Sixteen (16) small lots are proposed in accordance with Section 40.055.

The requirements of this section have been satisfied.

SECTION 72.100 PARKS SYSTEMS DEVELOPMENT CHARGE (SDC) CREDIT.

Ordinance 833-91 establishes a System Development Charge for Parks in residential planning districts. The ordinance contains provisions for credits against the Parks SDC, subject to certain limitations and procedures. Credit may be received up to the full amount of the Parks SDC fee. Dedication of NRPO District Areas, Other Natural Areas or vegetated corridors located within or adjacent to the NRPO District listed in the SDC capital improvement list are eligible for a SDC credit. Dedication and improvement of bicycle and pedestrian paths may also be eligible for a SDC credit.

Applicant's Finding: The Applicant may seek Parks SDC credits if required to construct a portion of the proposed Saum Creek Greenway pedestrian path.

The requirements of this section have been satisfied.

SECTION 72.110 EASEMENTS FOR PEDESTRIAN AND BICYCLE ACCESS.

In any portion of the NRPO District, the City may, through the subdivision, partition, conditional use, architectural review, or other applicable development approval process, require that easements for pedestrian and bicycle access and maintenance uses be granted as a condition of approval when said easements are necessary to achieve the purposes of the Parks and Recreation Master Plan, Greenways Development Plan, or Bikeways Plan.

Applicant's Finding: As the NRPO is within a designated tract, further easements are unnecessary to achieve the purposes of the Parks and Recreation Master Plan, Greenways Development Plan and Bikeways Plan.

The requirements of this section have been satisfied.

SECTION 72.120 WETLANDS PROTECTION DISTRICT.

In cases where land within the NRPO District is also within the Wetlands Protection District, Chapter 71, any development permitted by TDC 72.060 shall be subject to the provisions of Chapter 71.

Applicant's Finding: The requirements of Chapter 71 are discussed previously in this report.

The requirements of this section have been satisfied.

TDC CHAPTER 73: COMMUNITY DESIGN STANDARDS

SECTION 73.040 ARCHITECTURAL REVIEW PLAN APPROVAL REQUIRED.

- (1)** Except for an addition or alteration to an existing single-family dwelling when it results in less than a 35% expansion of the structure's existing footprint or less than a 35% alteration of an existing wall plane or only affects the wall plane of the side of the dwelling located in a side yard where the side yard of the dwelling abuts the side yard of an adjacent dwelling, as permitted by these standards, no new building, condominium, townhouse, single family dwelling, addition or alteration to an existing single-family dwelling when it results in a 35% or more expansion of the structure's existing footprint or a new second or higher story or a 35% or more alteration of an existing wall plane (except for the wall plane of a side of the dwelling located in a side yard where the side yard of the dwelling abuts the side yard of an adjacent dwelling), manufactured dwelling park, small-lot subdivision, landscape improvement (excluding greenways, parks and other Parks and Recreation Department road side improvements), parking lot improvement or expansion, above ground public utility facility (sewer or water pump stations, pressure reading stations and water reservoir), electrical substation, above ground natural gas pumping station, installation of decorative lighting (e.g. neon), exterior painting, awnings, murals, wireless communication facility, attached wireless communication facility or exterior major remodeling shall occur until the architectural review plan required under TDC 31.071 has been reviewed and approved by the Community Development Director and City Engineer or their designees, or by the Architectural Review Board or City Council for conformity with applicable standards or criteria.
- (2)** No new single-family dwelling or addition or alteration to an existing single-family dwelling when it results in a 35% or more expansion of the structure's existing footprint or a new second or higher story or a 35% or more alteration of an existing wall plane (except for the wall plane of a side of the dwelling located in a side yard where the side yard of the dwelling abuts the side yard of an adjacent dwelling), as permitted by these standards, shall occur until the architectural review application under TDC 31.071(7) has been reviewed and approved by the Community Development Director or their designee for conformity with the applicable standards or criteria.

Applicant's Finding: This section is not directly applicable to this application because it does not include plans for construction of a dwelling. This section will apply to request to construct homes on the lots to be created by this proposed subdivision

The requirements of this section have been satisfied.

SECTION 73.400 ACCESS.

- (1)** The provision and maintenance of vehicular and pedestrian ingress and egress from private property to the public streets as stipulated in this Code are continuing requirements for the use of any structure or parcel of real property in the City of Tualatin. Access management and spacing standards are provided in this section of the TDC and TDC Chapter 75. No building or other permit shall be issued until scale plans are presented that show how the ingress and egress requirement is to be fulfilled. If the owner or occupant of a lot or building changes the use to which the lot or building is put, thereby increasing

ingress and egress requirements, it shall be unlawful and a violation of this code to begin or maintain such altered use until the required increase in ingress and egress is provided.

Applicant's Finding: The Applicant is proposing a shared access drive between Lot 1 and Lot 2, which will be located within a private easement.

The requirements of this section have been satisfied.

(2) Owners of two or more uses, structures, or parcels of land may agree to utilize jointly the same ingress and egress when the combined ingress and egress of both uses, structures, or parcels of land satisfies their combined requirements as designated in this code; provided that satisfactory legal evidence is presented to the City Attorney in the form of deeds, easements, leases or contracts to establish joint use. Copies of said deeds, easements, leases or contracts shall be placed on permanent file with the City Recorder.

Applicant's Finding: The Applicant is proposing a shared access drive between Lot 1 and Lot 2, which will be located within a private easement. The Applicant will provide a copy of any deed documents and shared access agreements for the proposed shared access drive prior to the recordation of the final plat.

The requirements of this section have been satisfied.

(3) Joint and Cross Access.

(a) Adjacent commercial uses may be required to provide cross access drive and pedestrian access to allow circulation between sites.

Applicant's Finding: The Applicant is not proposing commercial use as a part of this development.

The requirements of this section are not applicable.

(b) A system of joint use driveways and cross access easements may be required and may incorporate the following:

- (i) a continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards.**
- (ii) a design speed of 10 mph and a maximum width of 24 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;**
- (iii) stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross access via a service drive;**
- (iv) a unified access and circulation system plan for coordinated or shared parking areas.**

Applicant's Finding: The proposed shared access drive will be for the sole purpose of providing residential access to Lot 1 and Lot 2, therefore a system of joint use driveways and cross access easements is not applicable.

The requirements of this section are not applicable.

- (c) Pursuant to this section, property owners may be required to:
- (i) Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;
 - (ii) Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the city and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;
 - (iii) Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners;
 - (iv) If (i-iii) above involve access to the state highway system or county road system, ODOT or the county shall be contacted and shall approve changes to (i-iii) above prior to any changes.

Applicant's Finding: The proposed shared access drive will be located entirely within a private easement with a joint maintenance agreement between Lot 1 and Lot 2. The proposed access drive will not provide access to any additional properties.

The proposed access drive does not involve access to the state highway system or county road system, therefore subsection (iv) is not applicable.

The requirements of this section have been satisfied.

(4) Requirements for Development on Less than the Entire Site.

- (a) To promote unified access and circulation systems, lots and parcels under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as one unit in relation to the access standards. The number of access points permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations shall be met. This shall also apply to phased development plans. The owner and all lessees within the affected area shall comply with the access requirements.
- (b) All access must be internalized using the shared circulation system of the principal commercial development or retail center. Driveways should be designed to avoid queuing across surrounding parking and driving aisles.

Applicant's Finding: The Applicant is proposing development on the entire site.

The standards of this section are not applicable.

(5) Lots that front on more than one street may be required to locate motor vehicle accesses on the street with the lower functional classification as determined by the City Engineer.

Applicant's Finding: Lot 1 and Lot 2 will have frontage on SW Borland Road, a minor arterial. Motor vehicle access will be provided via a shared access drive located off of SW 61st Terrace, a proposed local road.

The requirements of this section have been satisfied.

- (6) **Except as provided in TDC 53.100, all ingress and egress shall connect directly with public streets. [Ord. 882-92, § 24,12/14/92]**

Applicant's Finding: The proposed shared access drive will connect directly to SW 61st Terrace, a public street.

The requirements of this section have been satisfied.

- (7) **Vehicular access for residential uses shall be brought to within 50 feet of the ground floor entrances or the ground floor landing of a stairway, ramp or elevator leading to dwelling units.**

Applicant's Finding: The proposed shared access drive will provide for access within 50 feet of the ground floor entrance of the proposed dwelling units, which will be confirmed at the time of building permit submittal.

The requirements of this section have been satisfied.

- (8) **To afford safe pedestrian access and egress for properties within the City, a sidewalk shall be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section shall be constructed to City standards, except in the case of streets with inadequate right-of-way width or where the final street design and grade have not been established, in which case the sidewalks shall be constructed to a design and in a manner approved by the City Engineer. Sidewalks approved by the City Engineer may include temporary sidewalks and sidewalks constructed on private property; provided, however, that such sidewalks shall provide continuity with sidewalks of adjoining commercial developments existing or proposed. When a sidewalk is to adjoin a future street improvement, the sidewalk construction shall include construction of the curb and gutter section to grades and alignment established by the City Engineer.**

Applicant's Finding: The proposed development will provide sidewalks along all street frontages, as shown on the attached Site Plan (Sheet C200). All proposed sidewalks will be constructed to City Standards.

The requirements of this section have been satisfied.

- (9) **The standards set forth in this Code are minimum standards for access and egress, and may be increased through the Architectural Review process in any particular instance where the standards provided herein are deemed insufficient to protect the public health, safety, and general welfare.**

Applicant's Finding: The Applicant understands and acknowledges that the standards in this code are minimum standards for access and egress and they may be increased through the Architectural Review process.

The requirements of this section have been satisfied.

- (10) **Minimum access requirements for residential uses:**
(a) **Ingress and egress for single-family residential uses, including townhouses, shall be paved to a minimum width of 10 feet. Maximum driveway widths shall not exceed 26 feet for one and**

two car garages, and 37 feet for three or more car garages. For the purposes of this section, driveway widths shall be measured at the property line.

Applicant's Finding: The ingress and egress for the proposed development will meet these standards at the time of building permit submittal.

The requirements of this section have been satisfied.

(16) Vision Clearance Area.

- (a) **Local Streets** - A vision clearance area for all local street intersections, local street and driveway intersections, and local street or driveway and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 10 feet from the intersection point of the right-of-way lines, as measured along such lines (see Figure 73-2 for illustration).
- (b) **Collector Streets** - A vision clearance area for all collector/arterial street intersections, collector/arterial street and local street intersections, and collector/arterial street and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 25 feet from the intersection point of the right-of-way lines, as measured along such lines. Where a driveway intersects with a collector/arterial street, the distance measured along the driveway line for the triangular area shall be 10 feet (see Figure 73-2 for illustration).
- (c) **Vertical Height Restriction** - Except for items associated with utilities or publicly owned structures such as poles and signs and existing street trees, no vehicular parking, hedge, planting, fence, wall structure, or temporary or permanent physical obstruction shall be permitted between 30 inches and 8 feet above the established height of the curb in the clear vision area (see Figure 73-2 for illustration).

Applicant's Finding: The Applicant has illustrated the required vision clearance area triangle for each proposed intersection on the submitted plans and Figure 1 and Figure 2 submitted under Appendix F. All required vision clearance areas will be maintained.

The requirements of this section have been satisfied.

(17) Major driveways, as defined in 31.060, in new residential and mixed-use areas are required to connect with existing or planned streets except where prevented by topography, rail lines, freeways, pre-existing development or leases, easements or covenants, or other barriers.

Applicant's Finding: The Applicant is not proposing major driveways as a part of this development.

The requirements of this section are not applicable.

TDC CHAPTER 74: PUBLIC IMPROVEMENT REQUIREMENTS

IMPROVEMENTS

SECTION 74.110 PHASING OF IMPROVEMENTS.

SECTION 74.120 PUBLIC IMPROVEMENTS.

- (1) Except as specially provided, all public improvements shall be installed at the expense of the applicant. All public improvements installed by the applicant shall be constructed and guaranteed as to workmanship and material as required by the Public Works Construction Code prior to acceptance by the City. No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.
- (2) In accordance with the Tualatin Basin Program for fish and wildlife habitat the City intends to minimize or eliminate the negative affects of public streets by modifying right-of-way widths and street improvements when appropriate. The City Engineer is authorized to modify right-of-way widths and street improvements to address the negative affects on fish and wildlife habitat.

Applicant's Finding: A conceptual land use plan set has been submitted to show the proposed public water, sanitary sewer, and storm drainage facilities meeting City requirements to serve the proposed development.

The requirements of this section have been satisfied.

SECTION 74.130 PRIVATE IMPROVEMENTS.

All private improvements shall be in-stalled at the expense of the applicant. The property owner shall retain maintenance responsibilities over all private improvements.

Applicant's Finding: The Applicant is not proposing any private improvements as a part of this subdivision application.

The requirements of this section have been satisfied.

Section 74.140 Construction Timing.

- (1) All the public improvements required under this chapter shall be completed and accepted by the City prior to the issuance of a Certificate of Occupancy; or, for subdivision and partition applications, in accordance with the requirements of the Subdivision regulations.
- (2) All private improvements required under this chapter shall be approved by the City prior to the issuance of a Certificate of Occupancy; or for subdivision and partition applications, in accordance with the requirements of the Subdivision regulations.

Applicant's Finding: The Applicant acknowledges the procedural guidance of this section.

The requirements of this section have been satisfied.

RIGHT-OF-WAY

SECTION 74.210 MINIMUM STREET RIGHT-OF-WAY WIDTHS.

The width of streets in feet shall not be less than the width required to accommodate a street improvement needed to mitigate the impact of a proposed development. In cases where a street is required to be improved according to the standards of the TDC, the width of the right-of-way shall not be less than the minimums indicated in TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G.

- (1) For subdivision and partition applications, wherever existing or future streets adjacent to property proposed for development are of inadequate right-of-way width the additional right-of-way necessary to comply with TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G shall be shown on the final subdivision or partition plat prior to approval of the plat by the City. This right-of-way dedication shall be for the full width of the property abutting the roadway and, if required by the City Engineer, additional dedications shall be provided for slope and utility easements if deemed necessary.
- (2) For development applications other than subdivisions and partitions, wherever existing or future streets adjacent to property proposed for development are of inadequate right-of-way width, the additional right-of-way necessary to comply with TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G of the Tualatin Community Plan shall be dedicated to the City for use by the public prior to issuance of any building permit for the proposed development. This right-of-way dedication shall be for the full width of the property abutting the roadway and, if required by the City Engineer, additional dedications shall be provided for slope and utility easements if deemed necessary.
- (3) For development applications that will impact existing streets not adjacent to the applicant's property, and to construct necessary street improvements to mitigate those impacts would require additional right-of-way, the applicant shall be responsible for obtaining the necessary right-of-way from the property owner. A right-of-way dedication deed form shall be obtained from the City Engineer and upon completion returned to the City Engineer for acceptance by the City. On subdivision and partition plats the right-of-way dedication shall be accepted by the City prior to acceptance of the final plat by the City. On other development applications the right-of-way dedication shall be accepted by the City prior to issuance of building permits. The City may elect to exercise eminent domain and condemn necessary off-site right-of-way at the applicant's request and expense. The City Council shall determine when condemnation proceedings are to be used.
- (4) If the City Engineer deems that it is impractical to acquire the additional right-of-way as required in subsections (1)-(3) of this section from both sides of the center-line in equal amounts, the City Engineer may require that the right-of-way be dedicated in a manner that would result in unequal dedication from each side of the road. This requirement will also apply to slope and utility easements as discussed in TDC 74.320 and 74.330. The City Engineer's recommendation shall be presented to the City Council in the preliminary plat approval for subdivisions and partitions, and in the recommended decision on all other development applications, prior to finalization of the right-of-way dedication requirements.
- (5) Whenever a proposed development is bisected by an existing or future road or street that is of inadequate right-of-way width according to TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G, additional right-of-way shall be dedicated from both sides or from one side only as determined by the City Engineer to bring the road right-of-way in compliance with this section.
- (6) When a proposed development is adjacent to or bisected by a street proposed in TDC Chapter 11, Transportation Plan (Figure 11-3) and no street right-of-way exists at the time the development is proposed, the entire right-of-way as shown in TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G shall be dedicated by the applicant. The dedication of right-of-way required in this subsection shall be along the route of the road as determined by the City.

Applicant's Finding: The 2013 Tualatin Transportation System Plan designates SW Sagert Street as a "Minor Arterial" west SW 65th Avenue and as a "Minor Collector" where it extends through the property. According to the TSP Figure 2 and Table 3, the preferred width for a Collector Street is a 76-foot wide right-of-way.

The existing ROW of Sagert Street between SW 65th Avenue and SW Wampanoag Drive is 78 feet in width. As shown on the submitted plans, proposed improvements between SW 65th Avenue and Wampanog Drive include widening the center turn lane to 12 feet, providing a 12 foot travel lanes in each direction, a 5 foot bike lane on the south side and a 4.9 foot wide bike lane on the north side, a 5.5 foot sidewalk on both sides of the street, 3.5 feet of landscaping on the south side and 17.5 feet of landscaping on the north side.

The Tualatin TSP designates the necessity to extend Sagert Street through the proposed development from SW 65th Avenue to the Sequoia Ridge subdivision to the east.

As shown on the submitted plans, the roadway improvements for SW Sagert Street between SW 65th Avenue and the proposed SW 63rd Terrace include a 12 foot center turn lane, 12 foot travel lanes in either direction, 6 foot bike lanes in either direction, 6 foot planter strip and 5 foot sidewalks in either direction. Right-of-way width varies due to existing development constraints north of the proposed development from 70.5 feet to 75 feet.

The submitted plans show a modified arterial section for SW Sagert Street between SW 63rd Avenue and the Sequoia Ridge including 32 feet of paved width, 6 foot planter strip and 5 foot sidewalks in either direction. The modified arterial section is designed to transition SW Sagert Street to the residential uses found within the proposed development and within Sequoia Ridge to the east. The right-of-way width is 54 feet.

The Tualatin TSP designates SW 65th Avenue as a Major Arterial. The City has expressed a preferred right-of-way width of 74 feet.

The submitted plans show a 29 foot ROW dedication along 65th, for a total half-street width of 47 feet. Proposed improvements include construction of a 12 foot center turn lane, as well as improving the east side of the street by widening the travel lane to 12 feet, constructing a 6 foot bike lane, a 7 foot planter strip, a 12 foot sidewalk and a 6 foot shoulder.

The Tualatin TSP designates SW Borland Street as a Major Arterial. The City has expressed a preferred right-of-way width of 74 feet.

The submitted plans show a 24 foot right-of-way dedication along Borland, for a total half-street width of 40.9 feet. Proposed improvements include widening the center turn lane to 11.7 feet, as well as improving the south side of the street by maintaining a 10 foot travel lane, constructing a 4.2 foot bike lane, 5 foot planter strip, 5 foot sidewalk and 14.7 foot landscaping area.

New public streets within the development will have a 50-foot right-of-way with 32 feet of improvements from curb to curb. A 5 foot sidewalk and a 4 foot wide planter strip will be provided from the edge of the curb.

The requirements of this section have been satisfied.

EASEMENTS AND TRACTS

SECTION 74.310 GREENWAY, NATURAL AREA, BIKE, AND PEDESTRIAN PATH DEDICATIONS AND EASEMENTS.

- (1) Areas dedicated to the City for Greenway or Natural Area purposes or easements or dedications for bike and pedestrian facilities during the development application process shall be surveyed, staked and marked with a City approved boundary marker prior to acceptance by the City.
- (2) For subdivision and partition applications, the Greenway, Natural Area, bike, and pedestrian path dedication and easement areas shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; or
- (3) For all other development applications, Greenway, Natural Area, bike, and pedestrian path dedications and easements shall be submitted to the City Engineer; building permits shall not be issued for the development prior to acceptance of the dedication or easement by the City.

Applicant's Finding: The areas proposed as dedication to the City for Greenway or Natural Area purposes have been surveyed, and will be staked and marked with a City approved boundary marker, per the requirements of subsection (1).

The areas proposed as dedication to the City for Greenway, Natural Area, bike and pedestrian path dedication and easement areas have been shown to be dedicated to the City on the final subdivision plat, per the requirements of subsection (2).

The requirements of this section have been satisfied.

SECTION 74.320 SLOPE EASEMENTS.

- (1) The applicant shall obtain and convey to the City any slope easements determined by the City Engineer to be necessary adjacent to the proposed development site to support the street improvements in the public right-of-way or accessway or utility improvements required to be constructed by the applicant.
- (2) For subdivision and partition applications, the slope easement dedication area shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; or
- (3) For all other development applications, a slope easement dedication shall be submitted to the City Engineer; building permits shall not be issued for the development prior to acceptance of the easement by the City.

Applicant's Finding: The requirements of this section are not applicable as the site's topography and relationship to the abutting streets does not warrant slope easements for the proposed improvements.

The requirements of this section have been satisfied.

SECTION 74.330 UTILITY EASEMENTS.

- (1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.
- (2) For subdivision and partition applications, the on-site public utility easement dedication area shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; and

- (3) For subdivision and partition applications which require off-site public utility easements to serve the proposed development, a utility easement shall be granted to the City prior to approval of the final plat by the City. The City may elect to exercise eminent domain and condemn necessary off-site public utility easements at the applicant's request and expense. The City Council shall determine when condemnation proceedings are to be used.
- (4) For development applications other than subdivisions and partitions, and for both on-site and off-site easement areas, a utility easement shall be granted to the City; building permits shall not be issued for the development prior to acceptance of the easement by the City. The City may elect to exercise eminent domain and condemn necessary off-site public utility easements at the applicant's request and expense. The City Council shall determine when condemnation proceedings are to be used.
- (5) The width of the public utility easement shall meet the requirements of the Public Works Construction Code. All subdivisions and partitions shall have a 6-foot public utility easement adjacent to the street and a 5-foot public utility easement adjacent to all side and rear lot lines.

Applicant's Finding: A public utility easement (PUE) is indicated on the submitted plat along the frontage of each lot. A utility easement is shown between lots 69 and 70 to provide access to an existing sanitary manhole. In addition, an access and utility easement is shown over lots 2 and 3 to provide access and utility service for lots 1 and 2. All easements will meet city dimensional requirements and be shown on the final recorded plat.

The requirements of this section have been satisfied.

SECTION 74.340 WATERCOURSE EASEMENTS.

- (1) Where a proposed development site is traversed by or adjacent to a watercourse, drainage way, channel or stream, the applicant shall provide a storm water easement, drainage right-of-way, or other means of preservation approved by the City Engineer, conforming substantially with the lines of the watercourse. The City Engineer shall determine the width of the easement, or other means of preservation, required to accommodate all the requirements of the Surface Water Management Ordinance, existing and future storm drainage needs and access for operation and maintenance.
- (2) For subdivision and partition applications, any watercourse easement dedication area shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; or
- (3) For all other development applications, any watercourse easement shall be executed on a dedication form submitted to the City Engineer; building permits shall not be issued for the development prior to acceptance of the easement by the City.
- (4) The storm water easement shall be sized to accommodate the existing water course and all future improvements in the drainage basin. There may be additional requirements as set forth in TDC Chapter 72, Greenway and Riverbank Protection District, and the Surface Water Management Ordinance. Water quality facilities may require additional easements as described in the Surface Water Management Ordinance.

Applicant's Finding: Tracts are provided which contain a portion of Saum Creek, as well as the associated buffer area and future pedestrian path. Easements are not necessary as the tracts provide the necessary protection and preservation of the watercourse.

The requirements of this section have been satisfied.

SECTION 74.350 TRACTS.

A dedicated tract or easement will be required when access to public improvements for operation and maintenance is required, as determined by the City Engineer. Access for maintenance vehicles shall be constructed of an all-weather driving surface capable of carrying a 50,000-pound vehicle. The width of the tract or easement shall be 15-feet in order to accommodate City maintenance vehicles. In subdivisions and partitions, the tract shall be dedicated to the City on the final plat. In any other development, an access easement shall be granted to the City and recorded prior to issuance of a building permit.

Applicant's Finding: A proposed Water Quality Tract is located adjacent to SW 65th Avenue, in the southwest corner of the Subject Property. Because it can be accessed directly from multiple public streets, no special easement is required to allow access for operation and maintenance.

The requirements of this section have been satisfied.

TRANSPORTATION

SECTION 74.410 FUTURE STREET EXTENSIONS.

- (1) Streets shall be extended to the proposed development site boundary where necessary to:
- (a) give access to, or permit future development of adjoining land;
 - (b) provide additional access for emergency vehicles;
 - (c) provide for additional direct and convenient pedestrian, bicycle and vehicle circulation;
 - (d) eliminate the use of cul-de-sacs except where topography, barriers such as railroads or freeways, existing development, or environmental constraints such as major streams and rivers prevent street extension.
 - (e) eliminate circuitous routes. The resulting dead end streets may be approved without a turnaround. A reserve strip may be required to preserve the objectives of future street extensions.

Applicant's Finding: The Applicant proposes an east-west extension of SW Sagert Street that will extend between SW 65th Avenue and the Sequoia Ridge neighborhood to the east to provide connectivity. The Applicant also proposes the creation of a new north-south connection that will extend onto Borland Road to provide additional connectivity.

A traffic study is included with this application detailing the proposed street extensions.

The requirements of this section have been satisfied.

- (2) Proposed streets shall comply with the general location, orientation and spacing identified in the Functional Classification Plan (Figure 11-1), Local Streets Plan (TDC 11.630 and Figure 11-3) and the Street Design Standards (Figures 74-2A through 74-2G).
- (a) Streets and major driveways, as defined in TDC 31.060, proposed as part of new residential or mixed residential/commercial developments shall comply with the following standards:
 - (i) full street connections with spacing of no more than 530 feet between connections, except where prevented by barriers;
 - (ii) bicycle and pedestrian accessway easements where full street connections are not possible, with spacing of no more than 330 feet, except where prevented by barriers;

- (iii) limiting cul-de-sacs and other closed-end street systems to situations where barriers prevent full street extensions; and
- (iv) allowing cul-de-sacs and closed-end streets to be no longer than 200 feet or with more than 25 dwelling units, except for streets stubbed to future developable areas.

Applicant's Finding: The proposed streets all comply with the general location, orientation and spacing identified in the Functional Classification Plan, Local Streets Plan and Street Design Standards.

The requirements of this section have been satisfied.

SECTION 74.420 STREET IMPROVEMENTS.

When an applicant proposes to develop land adjacent to an existing or proposed street, including land which has been excluded under TDC 74.220, the applicant should be responsible for the improvements to the adjacent existing or proposed street that will bring the improvement of the street into conformance with the Transportation Plan (TDC Chapter 11), TDC 74.425 (Street Design Standards), and the City' s Public Works Construction Code, subject to the following provisions:

- (1) For any development proposed within the City, roadway facilities within the right-of-way described in TDC 74.210 shall be improved to standards as set out in the Public Works Construction Code.
- (2) The required improvements may include the rebuilding or the reconstruction of any existing facilities located within the right-of-way adjacent to the proposed development to bring the facilities into compliance with the Public Works Construction Code.
- (3) The required improvements may include the construction or rebuilding of off-site improvements which are identified to mitigate the impact of the development.
- (4) Where development abuts an existing street, the improvement required shall apply only to that portion of the street right-of-way located between the property line of the parcel proposed for development and the centerline of the right-of-way, plus any additional pavement beyond the centerline deemed necessary by the City Engineer to ensure a smooth transition between a new improvement and the existing roadway (half-street improvement). Additional right-of-way and street improvements and off-site right-of-way and street improvements may be required by the City to mitigate the impact of the development. The new pavement shall connect to the existing pavement at the ends of the section being improved by tapering in accordance with the Public Works Construction Code.
- (5) If additional improvements are required as part of the Access Management Plan of the City, TDC Chapter 75, the improvements shall be required in the same manner as the half-street improvement requirements.
- (6) All required street improvements shall include curbs, sidewalks with appropriate buffering, storm drainage, street lights, street signs, street trees, and, where designated, bikeways and transit facilities.
- (7) For subdivision and partition applications, the street improvements required by TDC Chapter 74 shall be completed and accepted by the City prior to signing the final subdivision or partition plat, or prior to releasing the security pro-vided by the applicant to assure completion of such improvements or as otherwise specified in the development application approval.
- (8) For development applications other than subdivisions and partitions, all street improvements required by this section shall be completed and accepted by the City prior to the issuance of a Certificate of Occupancy.
- (9) In addition to land adjacent to an existing or proposed street, the requirements of this section shall apply to land separated from such a street only by a railroad right-of-way.

- (10) Streets within, or partially within, a proposed development site shall be graded for the entire right-of-way width and constructed and surfaced in accordance with the Public Works Construction Code.
- (11) Existing streets which abut the proposed development site shall be graded, constructed, reconstructed, surfaced or repaired as necessary in accordance with the Public Works Construction Code and TDC Chapter 11, Transportation Plan, and TDC 74.425 (Street Design Standards).
- (12) Sidewalks with appropriate buffering shall be constructed along both sides of each internal street and at a minimum along the development side of each external street in accordance with the Public Works Construction Code.
- (13) The applicant shall comply with the requirements of the Oregon Department of Transportation (ODOT), Tri-Met, Washington County and Clackamas County when a proposed development site is adjacent to a roadway under any of their jurisdictions, in addition to the requirements of this chapter.
- (14) The applicant shall construct any required street improvements adjacent to parcels excluded from development, as set forth in TDC 74.220 of this chapter.
- (15) Except as provided in TDC 74.430, whenever an applicant proposes to develop land with frontage on certain arterial streets and, due to the access management provisions of TDC Chapter 75, is not allowed direct access onto the arterial, but instead must take access from another existing or future public street thereby providing an alternate to direct arterial access, the applicant shall be required to construct and place at a minimum street signage, a sidewalk, street trees and street lights along that portion of the arterial street adjacent to the applicant's property. The three certain arterial streets are S.W. Tualatin-Sherwood Road, S.W. Pacific Highway (99W) and S.W. 124th Avenue. In addition, the applicant may be required to construct and place on the arterial at the intersection of the arterial and an existing or future public non-arterial street warranted traffic control devices (in accordance with the Manual on Uniform Traffic Control Devices, latest edition), pavement markings, street tapers and turning lanes, in accordance with the Public Works Construction Code.
- (16) The City Engineer may determine that, although concurrent construction and placement of the improvements in (14) and (15) of this section, either individually or collectively, are impractical at the time of development, the improvements will be necessary at some future date. In such a case, the applicant shall sign a written agreement guaranteeing future performance by the applicant and any successors in interest of the property being developed. The agreement shall be subject to the City's approval.
- (17) Intersections should be improved to operate at a level of service of at least D and E for signalized and unsignalized intersections, respectively.
- (18) Pursuant to requirements for off-site improvements as conditions of development approval in TDC 73.055(2)(e) and TDC 36.160(8), proposed multi-family residential, commercial, or institutional uses that are adjacent to a major transit stop will be required to comply with the City's Mid-Block Crossing Policy.

Applicant's Finding: The Applicant's submitted plans show public street, storm drainage and sidewalk improvements in the SW 65th Avenue right-of-way, in compliance with these requirements.

SW Sagert Street will be fully constructed to meet applicable City street standards, extending east from the existing intersection and terminated at the existing stub that connects with SW Sequoia Drive.

SW Borland Road will be constructed in accordance with city standards.

All street improvements are detailed in the plan sheets submitted with this subdivision

application.

The requirements of this section have been satisfied.

SECTION 74.425 STREET DESIGN STANDARDS.

- (1) Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.
- (2) The proposed street design standards are shown in Figures 72A through 72G. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, and other amenities such as landscape strips. These figures are intended for planning purposes for new road construction, as well as for those locations where it is physically and economically feasible to improve existing streets.
- (3) In accordance with the Tualatin Basin Program for fish and wildlife habitat it is the intent of Figures 74-2A through 74-2G to allow for modifications to the standards when deemed appropriate by the City Engineer to address fish and wildlife habitat.
- (4) All streets shall be designed and constructed according to the preferred standard. The City Engineer may reduce the requirements of the preferred standard based on specific site conditions, but in no event will the requirement be less than the minimum standard. The City Engineer shall take into consideration the following factors when deciding whether the site conditions warrant a reduction of the preferred standard:
 - (a) Arterials:
 - (i) Whether adequate right-of-way exists
 - (ii) Impacts to properties adjacent to right-of-way
 - (iii) Current and future vehicle traffic at the location
 - (iv) Amount of heavy vehicles (buses and trucks).
 - (b) Collectors:
 - (i) Whether adequate right-of-way exists
 - (ii) Impacts to properties adjacent to right-of-way
 - (iii) Amount of heavy vehicles (buses and trucks)
 - (iv) Proximity to property zoned manufacturing or industrial.
 - (c) Local Streets:
 - (i) Local streets proposed within areas which have environmental constraints and/or sensitive areas and will not have direct residential access may utilize the minimum design standard. When the minimum design standard is allowed, the City Engineer may determine that no parking signs are required on one or both sides of the street.

Applicant's Finding: All street construction is proposed according to the street design standards for the functional classification of the street. Right-of-way dedication and construction of improvements is proposed per the required standards.

The requirements of this section have been satisfied.

SECTION 74.430 STREETS, MODIFICATIONS OF REQUIREMENTS IN CASES OF UNUSUAL CONDITIONS.

- (1) When, in the opinion of the City Engineer, the construction of street improvements in accordance with TDC 74.420 would result in the creation of a hazard, or would be impractical, or would be

detrimental to the City, the City Engineer may modify the scope of the required improvement to eliminate such hazardous, impractical, or detrimental results. Examples of conditions requiring modifications to improvement requirements include but are not limited to horizontal alignment, vertical alignment, significant stands of trees, fish and wildlife habitat areas, the amount of traffic generated by the proposed development, timing of the development or other conditions creating hazards for pedestrian, bicycle or motor vehicle traffic. The City Engineer may determine that, although an improvement may be impractical at the time of development, it will be necessary at some future date. In such cases, a written agreement guaranteeing future performance by the applicant in installing the required improvements must be signed by the applicant and approved by the City.

- (2) When the City Engineer determines that modification of the street improvement requirements in TDC 74.420 is warranted pursuant to subsection (1) of this section, the City Engineer shall prepare written findings of modification. The City Engineer shall forward a copy of said findings and description of modification to the applicant, or his authorized agent, as part of the Utility Facilities Review for the proposed development, as provided by TDC 31.072. The decision of the City Engineer may be appealed to the City Council in accordance with TDC 31.076 and 31.077.
- (3) To accommodate bicyclists on streets prior to those streets being upgraded to the full standards, an interim standard may be implemented by the City. These interim standards include reduction in motor vehicle lane width to 10 feet [the minimum specified in AASHTO's A Policy on Geo-metric Design of Highways and Streets (1990)], a reduction of bike lane width to 4-feet (as measured from the longitudinal gutter joint to the centerline of the bike lane stripe), and a paint-striped separation 2 to 4 feet wide in lieu of a center turn lane. Where available roadway width does not provide for these minimums, the roadway can be signed for shared use by bicycle and motor vehicle travel. When width constraints occur at an intersection, bike lanes should terminate 50 feet from the intersection with appropriate signing.

Applicant's Finding: The Applicant has submitted a design modification request to Clackamas County regarding the proposed access of a local street on SW Borland Road, an arterial. The Applicant has also submitted a design modification request to Clackamas County regarding the sidewalk at the intersection of SW Sagert Street and SW 65th Avenue. The proposed modifications have been submitted under Appendix F of this land use application.

The requirements of this section have been satisfied.

SECTION 74.440 STREETS, TRAFFIC STUDY REQUIRED.

- (1) The City Engineer may require a traffic study to be provided by the applicant and furnished to the City as part of the development approval process as provided by this Code, when the City Engineer determines that such a study is necessary in connection with a proposed development project in order to:
 - (a) Assure that the existing or proposed transportation facilities in the vicinity of the proposed development are capable of accommodating the amount of traffic that is expected to be generated by the proposed development, and/or
 - (b) Assure that the internal traffic circulation of the proposed development will not result in conflicts between on-site parking movements and/or on-site loading movements and/or on-site traffic movements, or impact traffic on the adjacent streets.
- (2) The required traffic study shall be completed prior to the approval of the development application.
- (3) The traffic study shall include, at a minimum:

- (a) an analysis of the existing situation, including the level of service on adjacent and impacted facilities.
 - (b) an analysis of any existing safety deficiencies.
 - (c) proposed trip generation and distribution for the proposed development.
 - (d) projected levels of service on adjacent and impacted facilities.
 - (e) recommendation of necessary improvements to ensure an acceptable level of service for roadways and a level of service of at least D and E for signalized and unsignalized intersections respectively, after the future traffic impacts are considered.
 - (f) The City Engineer will determine which facilities are impacted and need to be included in the study.
 - (g) The study shall be conducted by a registered engineer.
- (4) The applicant shall implement all or a portion of the improvements called for in the traffic study as determined by the City Engineer.

Applicant's Finding: A traffic study conducted by Kittleson and Associates, Inc. has been provided as a part of this Subdivision Application, per the requirements of this section.

The requirements of this section have been satisfied.

SECTION 74.450 BIKEWAYS AND PEDESTRIAN PATHS.

- (1) Where proposed development abuts or contains an existing or proposed bikeway, pedestrian path, or multi-use path, as set forth in TDC Chapter 11, Transportation Figure 11-4, the City may require that a bikeway, pedestrian path, or multi-use path be constructed, and an easement or dedication provided to the City.
- (2) Where required, bikeways and pedestrian paths shall be provided as follows:
 - (a) Bike and pedestrian paths shall be constructed and surfaced in accordance with the Public Works Construction Code.
 - (b) The applicant shall install the striping and signing of the bike lanes and shared roadway facilities, where designated.

Applicant's Finding: The site includes a tract which will be created to contain a public pathway along the Saum Creek Greenway. The Applicant will work with the City to provide a tract to contain the proposed pedestrian pathway. The Applicant may also work with the City regarding the construction of the proposed pathway, subject to the availability of credits for System Development Charges.

The requirements of this section have been satisfied.

SECTION 74.460 ACCESSWAYS IN RESIDENTIAL, COMMERCIAL AND INDUSTRIAL SUBDIVISIONS AND PARTITIONS.

- (1) Accessways shall be constructed by the applicant, dedicated to the City on the final residential, commercial or industrial subdivision or partition plat, and accepted by the City.
- (2) Accessways shall be located between the proposed subdivision or partition and all of the following locations that apply:
 - (a) adjoining publicly-owned land intended for public use, including schools and parks. Where a bridge or culvert would be necessary to span a designated greenway or wetland to provide a connection, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland;

- (b) adjoining arterial or collector streets upon which transit stops or bike lanes are provided or designated;
 - (c) adjoining undeveloped residential, commercial or industrial properties;
 - (d) adjoining developed sites where an accessway is planned or provided.
- [additional subsections (3) through (13) omitted for brevity]

Applicant's Finding: Tract D is shown in the location that the access is provided for the residents of the subdivision and the public to access the future public path along Saum Creek. Accessways have been planned for and will be located according to the standards of this section. The Applicant intends to work with the City regarding the construction of the trail through the construction documentation process.

The requirements of this section have been satisfied.

SECTION 74.470 STREET LIGHTS.

- (1) Street light poles and luminaries shall be installed in accordance with the Public Works Construction Code.
- (2) The applicant shall submit a street lighting plan for all interior and exterior streets on the proposed development site prior to issuance of a Public Works Permit.

Applicant's Finding: The Applicant recognizes that street lighting is an essential component of the streetscape and will comply with the applicable Public Works standards.

The requirements of this section have been satisfied.

SECTION 74.475 STREET NAMES.

- (1) No street name shall be used which will duplicate or be confused with the names of existing streets in the Counties of Washington or Clackamas, except for extensions of existing streets. Street names and numbers shall conform to the established pattern in the surrounding area.
- (2) The City Engineer shall maintain the approved list of street names from which the applicant may choose. Prior to the creation of any street, the street name shall be approved by the City Engineer.

Applicant's Finding: Proposed street names, as shown on the plat, will not duplicate or be confused with the names of existing streets, except for the extension of existing streets. The street names and numbers conform to the established pattern in the surrounding area.

The requirements of this section have been satisfied.

SECTION 74.480 STREET SIGNS.

- (1) Street name signs shall be installed at all street intersections in accordance with standards adopted by the City.
- (2) Stop signs and other traffic control signs (speed limit, dead-end, etc.) may be required by the City.
- (3) Prior to approval of the final subdivision or partition plat, the applicant shall pay the City a non-refundable fee equal to the cost of the purchase and installation of street signs, traffic control signs and street name signs. The location, placement, and cost of the signs shall be determined by the City.

Applicant's Finding: The Applicant has provided a street tree planting plan along with the proposed development plans. The Applicant will provide appropriate funds for street signs in accordance with this Section.

The requirements of this section have been satisfied.

SECTION 74.485 STREET TREES.

- (1) Prior to approval of a residential subdivision or partition final plat, the applicant shall pay the City a non-refundable fee equal to the cost of the purchase and installation of street trees. The location, placement, and cost of the trees shall be determined by the City. This sum shall be calculated on the interior and exterior streets as indicated on the final subdivision or partition plat.
- (2) In nonresidential subdivisions and partitions street trees shall be planted by the owners of the individual lots as development occurs.
- (3) The Street Tree Ordinance specifies the species of tree which is to be planted and the spacing between trees.

Applicant's Finding: The Applicant has provided a street tree planting plan along with the proposed development plans. The Applicant will provide appropriate funds for street trees in accordance with this Section.

The requirements of this section have been satisfied.

UTILITIES

SECTION 74.610 WATER SERVICE.

- (1) Water lines shall be installed to serve each property in accordance with the Public Works Construction Code. Water line construction plans shall be submitted to the City Engineer for review and approval prior to construction.
- (2) If there are undeveloped properties adjacent to the subject site, public water lines shall be extended by the applicant to the common boundary line of these properties. The lines shall be sized to provide service to future development, in accordance with the City's Water System Master Plan, TDC Chapter 12.
- (3) As set forth in TDC Chapter 12, Water Service, the City has three water service levels. All development applicants shall be required to connect the proposed development site to the service level in which the development site is located. If the development site is located on a boundary line between two service levels the applicant shall be required to connect to the service level with the higher reservoir elevation. The applicant may also be required to install or provide pressure reducing valves to supply appropriate water pressure to the properties in the proposed development site.

Applicant's Finding: The Applicant has submitted a Sanitary Sewer and Water Plan (Sheet Set C400-C404) showing how water lines will be installed to serve the proposed lots. Detailed plans will be submitted for review and approval prior to construction, in accordance with subsection (1). Water service connections will be made as directed by the City Engineer, in accordance with subsection (3). Extension of the water service to undeveloped properties is not proposed, per subsection (2).

The requirements of this section have been satisfied.

SECTION 74.620 SANITARY SEWER SERVICE.

- (1) Sanitary sewer lines shall be installed to serve each property in accordance with the Public Works Construction Code. Sanitary sewer construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.
- (2) If there are undeveloped properties adjacent to the proposed development site which can be served by the gravity sewer system on the proposed development site, the applicant shall extend public sanitary sewer lines to the common boundary line with these properties. The lines shall be sized to convey flows to include all future development from all up stream areas that can be expected to drain through the lines on the site, in accordance with the City's Sanitary Sewer System Master Plan, TDC Chapter 13.

Applicant's Finding: The applicant has submitted a Sanitary Sewer and Water Plan (Sheet Set C400-C404) showing how sanitary sewer lines will be installed to serve the proposed lots. Detailed plans will be submitted for review and approval prior to construction, in accordance with subsection (1). Extension of the sanitary sewer service to undeveloped properties is not proposed, per subsection (2).

The requirements of this section have been satisfied.

SECTION 74.630 STORM DRAINAGE SYSTEM.

- (1) Storm drainage lines shall be installed to serve each property in accordance with City standards. Storm drainage construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.
- (2) The storm drainage calculations shall confirm that adequate capacity exists to serve the site. The discharge from the development shall be analyzed in accordance with the City's Storm and Surface Water Regulations.
- (3) If there are undeveloped properties adjacent to the proposed development site which can be served by the storm drainage system on the proposed development site, the applicant shall extend storm drainage lines to the common boundary line with these properties. The lines shall be sized to convey expected flows to include all future development from all up stream areas that will drain through the lines on the site, in accordance with the Tualatin Drainage Plan in TDC Chapter 14.

Applicant's Finding: The Applicant has submitted a Street and Storm Plan (Sheet Set C210-C214) showing how storm drainage lines and a storm water management facility will be installed to serve the proposed lots. Detailed plans will be submitted for review and approval prior to construction, in accordance with subsection (1).

The Applicant has provided a detailed stormwater management report (see Appendix D) detailing the preliminary design for the system which will serve this site in accordance with subsection (2). The stormwater management plan and report has been designed to meet the requirements of this section.

Extension of the storm sewer system is not proposed, per subsection (3).

The requirements of this section have been satisfied.

SECTION 74.640 GRADING.

- (1) Development sites shall be graded to minimize the impact of storm water runoff onto adjacent properties and to allow adjacent properties to drain as they did before the new development.
- (2) A development applicant shall submit a grading plan showing that all lots in all portions of the development will be served by gravity drainage from the building crawl spaces; and that this development will not affect the drainage on adjacent properties. The City Engineer may require the applicant to remove all excess material from the development site.

Applicant's Finding: The Applicant has prepared a site plan which illustrates the extent of the proposed development over the site. The proposed footprint of the development has been minimized to the greatest extent possible to provide access and utility services to the proposed lots and to avoid disturbances to natural topography and vegetation in accordance with subsection (1).

The Applicant has submitted a Grading and Erosion Control Plan (Sheet Set C115-119 and Sheet Set C120-C124) showing the proposed grading which will be primarily limited to street construction and the water quality facility. Grading on individual lots will be minimal. Drainage for new structures will be routed to the street with connections to the storm drainage system.

The requirements of this section have been satisfied.

SECTION 74.650 WATER QUALITY, STORM WATER DETENTION AND EROSION CONTROL.

The applicant shall comply with the water quality, storm water detention and erosion control requirements in the Surface Water Management Ordinance. If required:

- (1) On subdivision and partition development applications, prior to approval of the final plat, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be satisfied and obtain a Stormwater Connection Permit from Clean Water Services; or
- (2) On all other development applications, prior to issuance of any building permit, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be met and obtain a Stormwater Connection Permit from Clean Water Services.
- (3) For on-site private and regional non-residential public facilities, the applicant shall submit a stormwater facility agreement, which will include an operation and maintenance plan provided by the City, for the water quality facility for the City's review and approval. The applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City.

Applicant's Finding: The Applicant has provided a Storm Drainage Report to demonstrate the feasibility of constructing a storm water quality treatment and detention pond within the Water Quality Tract, as indicated in the submitted plans.

The requirements of this section have been satisfied.

SECTION 74.660 UNDERGROUND.

- (1) All utility lines including, but not limited to, those required for gas, electric, communication, lighting and cable television services and related facilities shall be placed underground. Surface-mounted transformers, surface-mounted connection boxes and meter cabinets may be placed above ground. Temporary utility service facilities, high capacity electric and communication feeder lines, and utility transmission lines operating at 50,000 volts or above may be placed above ground. The applicant shall make all necessary arrangements with all utility companies to provide the underground services. The City reserves the right to approve the location of all surface-mounted transformers.
- (2) Any existing overhead utilities may not be upgraded to serve any proposed development. If existing overhead utilities are not adequate to serve the proposed development, the applicant shall, at their own expense, provide an underground system. The applicant shall be responsible for obtaining any off-site deeds and/or easements necessary to provide utility service to this site; the deeds and/or easements shall be submitted to the City Engineer for acceptance by the City prior to issuance of the Public Works Permit.

Applicant's Finding: The Applicant acknowledges and will comply with the underground requirements of the Development Code and Public Works Code in constructing improvements for the proposed subdivision.

The requirements of this section have been satisfied.

SECTION 74.670 EXISTING STRUCTURES.

- (1) Any existing structures requested to be retained by the applicant on a proposed development site shall be connected to all available City utilities at the expense of the applicant.
- (2) The applicant shall convert any existing overhead utilities serving existing structures to underground utilities, at the expense of the applicant.
- (3) The applicant shall be responsible for continuing all required street improvements adjacent to the existing structure, within the boundaries of the proposed development site.

Applicant's Finding: The Applicant is not proposing to retain any existing structures currently located on the site, therefore the standards of this section do not apply.

The requirements of this section have been satisfied.

SECTION 74.700 REMOVAL, DESTRUCTION OR INJURY OF TREES.

It is unlawful for a person, without a written permit from the Operations Director, to remove, destroy, break or injure a tree, plant or shrub, that is planted or growing in or upon a public right-of-way within the City, or cause, authorize, or procure a person to do so, authorize or procure a person to injure, misuse or remove a device set for the protection of any tree, in or upon a public right-of-way.

Applicant's Finding: The Applicant will obtain any necessary Tree Removal Permits per City requirements and provide fees to the City for planting of street trees pursuant to Section 74.485

The requirements of this section have been satisfied.

- SECTION 74.705 STREET TREE REMOVAL PERMIT.
- SECTION 74.706 STREET TREE FEES.
- SECTION 74.707 STREET TREE VOLUNTARY PLANTING.
- SECTION 74.708 STREET TREE EMERGENCIES.
- SECTION 74.710 OPEN GROUND.
- SECTION 74.715 ATTACHMENTS TO TREES.
- SECTION 74.720 PROTECTION OF TREES DURING CONSTRUCTION.

Applicant's Finding: The Applicant is not proposing to remove any existing street trees.

The requirements of this section have been satisfied.

SECTION 74.725 PROTECTION OF TREES DURING CONSTRUCTION.

Trees, shrubs or plants standing in or upon a public right-of-way, on public or private grounds that have branches projecting into the public street or sidewalk shall be kept trimmed by the owner of the property adjacent to or in front of where such trees, shrubs or plants are growing so that:

- (1) The lowest branches are not less than 12 feet above the surface of the street, and are not be less than 14 feet above the surface of streets designated as state highways.
- (2) The lowest branches are not less than eight feet above the surface of a sidewalk or footpath.
- (3) No plant, tree, bush or shrub shall be more than 24 inches in height in the triangular area at the street or highway corner of a corner lot, or the alley-street intersection of a lot, such an area defined by a line across the corner between the points on the street right-of-way line measured 10 feet back from the corner, and extending the line to the street curbs or, if there are no curbs, then to that portion of the street or alley used for vehicular traffic.
- (4) Newly planted trees may remain untrimmed if they do not interfere with street traffic or persons using the sidewalk or obstruct the light of a street electric lamp.
- (5) Maintenance responsibilities of the property owner include repair and upkeep of the sidewalk in accordance with the City Sidewalk Maintenance Ordinance.

- SECTION 74.730 NOTICE OF VIOLATION.
- SECTION 74.735 TRIMMING BY CITY.
- SECTION 74.740 PROHIBITED TREES
- SECTION 74.745 CUTTING AND PLANTING SPECIFICATIONS.

- SECTION 74.750 REMOVAL OR TREATMENT BY CITY.
- SECTION 74.755 APPEAL OF PERMIT DENIAL.
- SECTION 74.760 PENALTIES.

[DETAILED PROVISIONS OMITTED FOR BREVITY]

Applicant's Finding: The above provisions will apply to ongoing care and maintenance of street trees following final plat recording and planting of street trees by the City of Tualatin.

The requirements of this section have been satisfied.

SUMMARY AND CONCLUSION

Based on the above findings and the submitted plans and documentation, the Applicant has demonstrated compliance with the requirements of the relevant sections of the Tualatin Development Code. Therefore, the Applicant requests approval of this application of a 79-lot single-family residential subdivision on a 20.9 acre site in the RL zone.



First American

First American Title Company of Oregon

121 SW Morrison St, FL 3
Portland, OR 97204
Phn - (503)222-3651 (800)929-3651
Fax - (877)242-3513

Order No.: 7000-2224211
March 15, 2014

FOR QUESTIONS REGARDING YOUR CLOSING, PLEASE CONTACT:

GLORIA MILLER, Escrow Officer/Closer

Phone: (503)350-5005 - Fax: (866)656-1602- Email:gmiller@firstam.com
First American Title Company of Oregon
5335 SW Meadows Rd #100, Lake Oswego, OR 97035

FOR ALL QUESTIONS REGARDING THIS PRELIMINARY REPORT, PLEASE CONTACT:

Sarah Walters, Title Officer

Toll Free: (800)929-3651 - Direct: (503)790-7857 - Email: sawalters@firstam.com

Preliminary Title Report

County Tax Roll Situs Address: 20130 SW 65th Avenue, Tualatin, OR 97062

Proposed Insured Lender: TBD

Proposed Borrower: **Lennar Northwest Inc**

2006 ALTA Owners Standard Coverage	Liability \$	5,000,000.00	Premium \$	8,100.00
2006 ALTA Owners Extended Coverage	Liability \$		Premium \$	
2006 ALTA Lenders Standard Coverage	Liability \$		Premium \$	
2006 ALTA Lenders Extended Coverage	Liability \$		Premium \$	
Endorsement			Premium \$	
Govt Service Charge			Cost \$	50.00
City Lien/Service District Search			Cost \$	
Other			Cost \$	

We are prepared to issue Title Insurance Policy or Policies of First American Title Insurance Company, a California Corporation in the form and amount shown above, insuring title to the following described land:

The land referred to in this report is described in Exhibit A attached hereto.

and as of March 12, 2014 at 8:00 a.m., title to the fee simple estate is vested in:

Sagert Family, LLC, an Oregon limited liability company

Subject to the exceptions, exclusions, and stipulations which are ordinarily part of such Policy form and the following:

This report is for the exclusive use of the parties herein shown and is preliminary to the issuance of a title insurance policy and shall become void unless a policy is issued, and the full premium paid.

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.
5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

The exceptions to coverage 1-5 inclusive as set forth above will remain on any subsequently issued Standard Coverage Title Insurance Policy.

In order to remove these exceptions to coverage in the issuance of an Extended Coverage Policy the following items are required to be furnished to the Company; additional exceptions to coverage may be added upon review of such information:

- A. Survey or alternative acceptable to the company
 - B. Affidavit regarding possession
 - C. Proof that there is no new construction or remodeling of any improvement located on the premises. In the event of new construction or remodeling the following is required:
 - i. Satisfactory evidence that no construction liens will be filed; or
 - ii. Adequate security to protect against actual or potential construction liens;
 - iii. Payment of additional premiums as required by the Industry Rate Filing approved by the Insurance Division of the State of Oregon
6. The assessment roll and the tax roll disclose that the within described premises were specially zoned or classified for Farm use. If the land has become or becomes disqualified for such use under the statute, an additional tax or penalty may be imposed.
7. City liens, if any, of the City of Tualatin.
- Note: There are no liens as of March 14, 2014. All outstanding utility and user fees are not liens and therefore are excluded from coverage.
8. Statutory powers and assessments of Clean Water Services.
9. The rights of the public in and to that portion of the premises herein described lying within the limits of streets, roads and highways.

10. Rights of the public and of governmental bodies in and to that portion of the premises herein described lying below the high water mark of Saum Creek.
(Affects Parcel I)
11. Easement, including terms and provisions contained therein:
Recording Information: September 24, 1968 as Fee No. 68019724
In Favor of: Portland General Electric Company, an Oregon Corporation
For: electric transmission line
(Affects Parcel I)
12. Easement, including terms and provisions contained therein:
Recording Information: August 05, 1975 as Fee No. 75021439
In Favor of: Portland General Electric Company
(Affects Parcel I)
13. Easement, including terms and provisions contained therein:
Recording Information: February 03, 1995 as Fee No. 95006448
In Favor of: The City of Tualatin, a municipal corporation and political subdivision of the State of Oregon
For: utility
(Affects Parcel I)
14. Easement, including terms and provisions contained therein:
Recording Information: February 03, 1995 as Fee No. 95006449
In Favor of: The City of Tualatin, a political subdivision of the State of Oregon
For: slope
(Affects Parcel I)
15. Any conveyance or encumbrance by Sagert Family, LLC, an Oregon limited liability company should be executed pursuant to their Operating Agreement , a copy of which should be submitted to this office for inspection.
16. Unrecorded leases or periodic tenancies, if any.

- END OF EXCEPTIONS -

NOTE: We find no matters of public record against Lennar Northwest Inc that will take priority over any trust deed, mortgage or other security instrument given to purchase the subject real property as established by ORS 18.165.

NOTE: Taxes for the year 2013-2014 PAID IN FULL

Tax Amount: \$2,478.62
Map No.: 21E30B 00600
Property ID: 00396299
Tax Code No.: 304-004
(Affects Parcel I)

NOTE: Taxes for the year 2013-2014 PAID IN FULL

Tax Amount: \$31.68
Map No.: 21E30B 00300
Property ID: 00396262
Tax Code No.: 304-004

(Affects Parcel II)

NOTE: This Preliminary Title Report does not include a search for Financing Statements filed in the Office of the Secretary of State, or in a county other than the county wherein the premises are situated, and no liability is assumed if a Financing Statement is filed in the Office of the County Clerk covering Crops on the premises wherein the lands are described other than by metes and bounds or under the rectangular survey system or by recorded lot and block.

NOTE: According to the public record, the following deed(s) affecting the property herein described have been recorded within 24 months of the effective date of this report: NONE

**THANK YOU FOR CHOOSING FIRST AMERICAN TITLE!
WE KNOW YOU HAVE A CHOICE!**

RECORDING INFORMATION

Filing Address: **Clackamas County**
1710 Red Soil Ct, Suite 110
Oregon City, OR 97045

Recording Fees: \$ **53.00 First Page**
(Comprised of:
\$ 5.00 per page
\$ 5.00 per document - GIS Fee
\$10.00 per document - Public Land Corner Preservation Fund
\$11.00 per document - OLIS Assessment & Taxation Fee
\$22.00 per document - Oregon Housing Alliance Fee)
\$ 5.00 E-Recording fee per document
\$ 5.00 for each additional page
\$ 5.00 for each additional document title, if applicable
\$ 20.00 Non-Standard Document fee, if applicable



First American Title Insurance Company

SCHEDULE OF EXCLUSIONS FROM COVERAGE

ALTA LOAN POLICY (06/17/06)

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
 - (i) the occupancy, use, or enjoyment of the Land;
 - (ii) the character, dimensions, or location of any improvement erected on the Land;
 - (iii) the subdivision of land; or
 - (iv) environmental protection;
 or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
 - (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
 - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
 - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
 - (c) resulting in no loss or damage to the Insured Claimant;
 - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
 - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
 - (a) a fraudulent conveyance or fraudulent transfer, or
 - (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

ALTA OWNER'S POLICY (06/17/06)

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
 - (i) the occupancy, use, or enjoyment of the Land;
 - (ii) the character, dimensions, or location of any improvement erected on the Land;
 - (iii) the subdivision of land; or
 - (iv) environmental protection;
 or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
 - (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
 - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
 - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
 - (c) resulting in no loss or damage to the Insured Claimant;
 - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risks 9 and 10); or
 - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
 - (a) a fraudulent conveyance or fraudulent transfer; or
 - (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

SCHEDULE OF STANDARD EXCEPTIONS

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.
5. Any lien or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

NOTE: A SPECIMEN COPY OF THE POLICY FORM (OR FORMS) WILL BE FURNISHED UPON REQUEST

TI 149 Rev. 7-22-08



First American Title

Privacy Information

We Are Committed to Safeguarding Customer Information

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our subsidiaries we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

This Privacy Policy governs our use of the information that you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values.

Types of Information

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

Information Obtained Through Our Web Site

First American Financial Corporation is sensitive to privacy issues on the Internet. We believe it is important you know how we treat the information about you we receive on the Internet.

In general, you can visit First American or its affiliates' Web sites on the World Wide Web without telling us who you are or revealing any information about yourself. Our Web servers collect the domain names, not the e-mail addresses, of visitors. This information is aggregated to measure the number of visits, average time spent on the site, pages viewed and similar information. First American uses this information to measure the use of our site and to develop ideas to improve the content of our site.

There are times, however, when we may need information from you, such as your name and email address. When information is needed, we will use our best efforts to let you know at the time of collection how we will use the personal information. Usually, the personal information we collect is used only by us to respond to your inquiry, process an order or allow you to access specific account/profile information. If you choose to share any personal information with us, we will only use it in accordance with the policies outlined above.

Business Relationships

First American Financial Corporation's site and its affiliates' sites may contain links to other Web sites. While we try to link only to sites that share our high standards and respect for privacy, we are not responsible for the content or the privacy practices employed by other sites.

Cookies

Some of First American's Web sites may make use of "cookie" technology to measure site activity and to customize information to your personal tastes. A cookie is an element of data that a Web site can send to your browser, which may then store the cookie on your hard drive.

FirstAm.com uses stored cookies. The goal of this technology is to better serve you when visiting our site, save you time when you are here and to provide you with a more meaningful and productive Web site experience.

Fair Information Values

Fairness We consider consumer expectations about their privacy in all our businesses. We only offer products and services that assure a favorable balance between consumer benefits and consumer privacy.

Public Record We believe that an open public record creates significant value for society, enhances consumer choice and creates consumer opportunity. We actively support an open public record and emphasize its importance and contribution to our economy.

Use We believe we should behave responsibly when we use information about a consumer in our business. We will obey the laws governing the collection, use and dissemination of data.

Accuracy We will take reasonable steps to help assure the accuracy of the data we collect, use and disseminate. Where possible, we will take reasonable steps to correct inaccurate information. When, as with the public record, we cannot correct inaccurate information, we will take all reasonable steps to assist consumers in identifying the source of the erroneous data so that the consumer can secure the required corrections.

Education We endeavor to educate the users of our products and services, our employees and others in our industry about the importance of consumer privacy. We will instruct our employees on our fair information values and on the responsible collection and use of data. We will encourage others in our industry to collect and use information in a responsible manner.

Security We will maintain appropriate facilities and systems to protect against unauthorized access to and corruption of the data we maintain.

Exhibit "A"

Real property in the County of Clackamas, State of Oregon, described as follows:

PARCEL I:

Part of the Northwest quarter of the Northwest quarter of Section 30, Township 2 South, Range 1 East of Willamette Meridian.

Beginning at the Northwest corner of Section 30, in Township 2 South, Range 1 East of Willamette Meridian, thence South on Section line 700.00 feet to an iron pipe; thence East 351.3 feet to the Northeast corner of a 21.3 foot strip of land conveyed to Peter J. Hillesland and Etna H. Hillesland, his wife, by deed recorded March 12, 1945, in book 340 of deeds page 396, records of Clackamas County, Oregon; thence south along the east side of said land 620.00 feet to the southeast corner thereof on the 1/16th section line; thence East on 1/16th section line 696.7 feet to an iron pipe at the southwest corner of a tract of land conveyed to R.A. Lee, by deed recorded Oct. 27, 1936 in book 234 page 293, Clackamas County records; thence North along the West line of the said Lee tract 1320.00 feet to an iron pipe on the section line; thence West on Section line 1048.00 feet to the place of beginning.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE OF OREGON, BY AND THROUGH ITS HIGHWAY DIVISIONS, BY DECREE FILED IN CIRCUIT COURT SUIT #68-213;

FURTHER EXCEPTING THEREFROM THAT PORTION CONVEYED TO PORTLAND GENERAL ELECTRIC COMPANY, an Oregon corporation, BY deed recorded 9-24-68, Fee No. 68 19723, Deed Records;

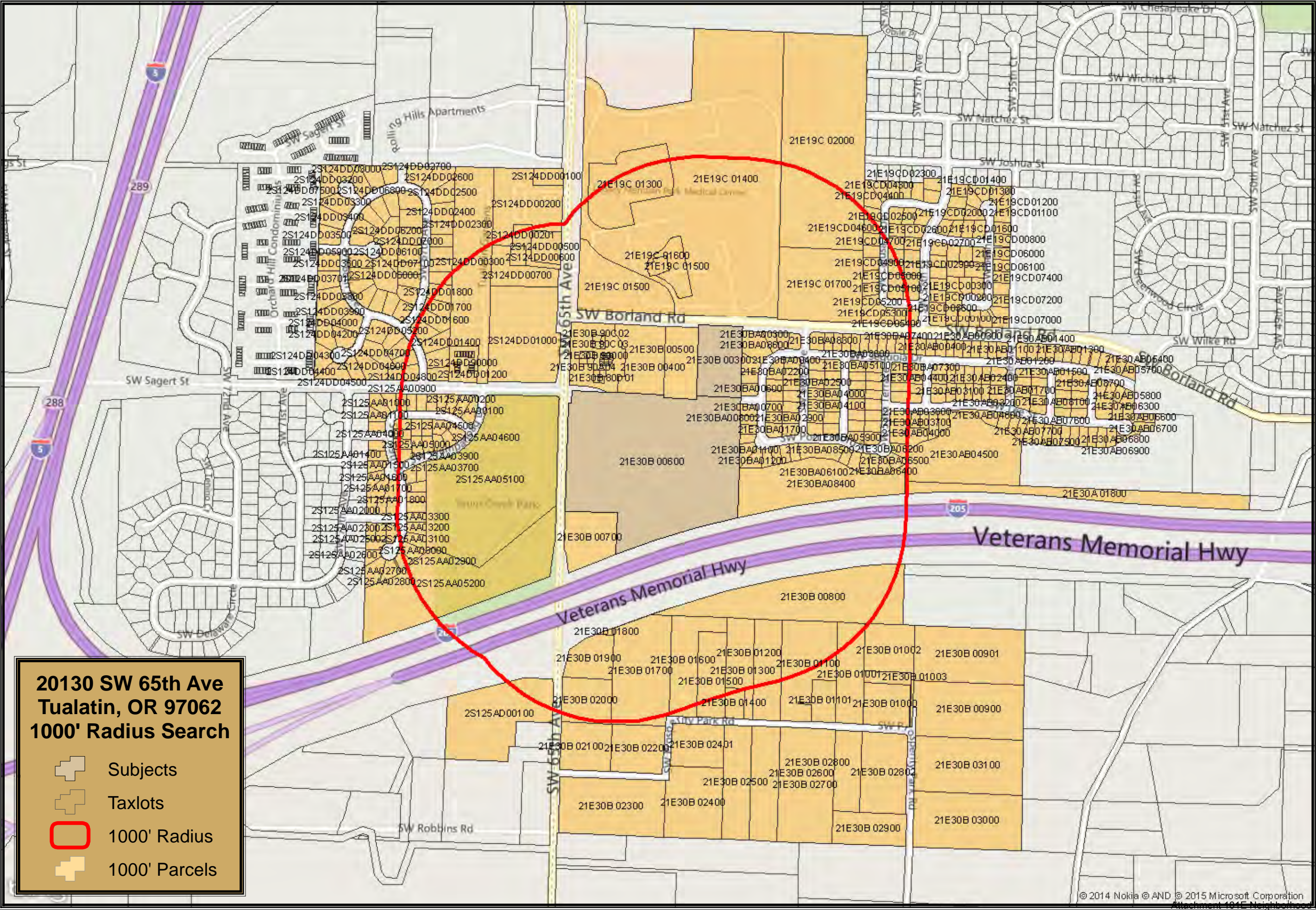
FURTHER EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE PUBLIC FOR ROADWAY PURPOSES IN DEED RECORDED 02-03-95, Fee No. 95-006447, Deed Records.

PARCEL II:





Part of the Southwest quarter of the southwest quarter of Section 19 in Township 2 South, Range 1 East of the Willamette Meridian, described as:

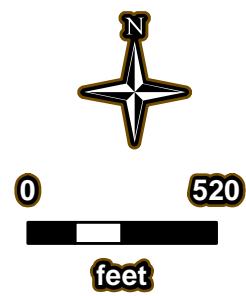
Beginning at an iron pipe which is East 788.00 feet from the Northwest corner of Section 30, in Township 2 South, Range 1 East of the Willamette Meridian, thence North 441 feet to an iron pipe in the center of a road; thence East 260.00 feet to an iron pipe; thence South 441.00 feet to an iron pipe; thence west 260.00 feet to the place of beginning.

NOTE: This legal description was created prior to January 1, 2008.



**20130 SW 65th Ave
 Tualatin, OR 97062
 1000' Radius Search**

-  Subjects
-  Taxlots
-  1000' Radius
-  1000' Parcels





First American

Date of Production: Thursday, January 29, 2015

The ownership information enclosed is time sensitive and should be utilized as soon as possible.

This mailing list was produced with the use of tax assessor maps available online from OR Maps (www.ormap.org/maps/index.cfm) as well as data purchased from the Portland Metro regional government and Real Estate Solutions Inc.

We assume no liability in connection with this service.

Thank you for your business and for using First American Title.



**First American
Title Company of Oregon**

Customer Service Department
121 SW Morrison Street Suite 300 - Portland, OR 97204
Phone: 503.219.TRIO (8746) Fax: 503.790.7872
Email: cs.portland@firstam.com
Today's Date : 1/29/2015

OWNERSHIP INFORMATION

Owner	: Sagert Family LLC	Ref Parcel Number	: 21E30B 00300
Co Owner	:	Parcel Number	: 00396262
Site Address	: 21030 SW 65th Ave Tualatin 97062	T: 02S R: 01E S: 30 Q: NW QQ:	
Mail Address	: 23187 Corral Gulch Rd Canyon City Or 97820	County	: Clackamas (OR)
Taxpayer	: Sagert Family LLC	Telephone	:

PROPERTY DESCRIPTION

Map Page & Grid : 685 H6
Census Tract : 227.02 Block: 2
Improvement Type : *unknown Improvement Code*
Subdivision/Plat : Township Village 08
Neighborhood : West Linn/Lake Oswego Rural
Land Use : 540 Vacant,Farm Land,Unzoned
Legal : SECTION 30 TOWNSHIP 2S RANGE 1E
: QUARTER B TAX LOT 00300
:

ASSESSMENT AND TAX INFORMATION

Mkt Land : \$249,271
Mkt Structure :
Mkt Total : \$249,271
% Improved :
14-15 Taxes : \$32.64
Exempt Amount :
Exempt Type :
Levy Code : 304004
Millage Rate : 16.5514
M50AssdValue : \$1,972

PROPERTY CHARACTERISTICS

Bedrooms	:	Building SF	:	BldgTotSqFt	:
Bathrooms	:	1st Floor SF	:	Lot Acres	: 2.51
Full Baths	:	Upper Finished SF	:	Lot SqFt	: 109,336
Half Baths	:	Finished SF	:	Garage SF	:
Fireplace	:	Above Ground SF	:	Year Built	:
Heat Type	:	Upper Total SF	:	School Dist	: 304
Floor Cover	:	UnFinUpperStorySF	:	Foundation	:
Stories	:	Basement Fin SF	:	Roof Type	:
Int Finish	:	Basement Unfin SF	:	Roof Shape	:
Ext Finsh	:	Basement Total SF	:		

TRANSFER INFORMATION

Owner Name(s)	Sale Date	Doc#	Sale Price	Deed Type	Loan Amount	Loan Type
:Sagert Family LLC	:12/27/2011	011-074586J	:	:Warranty	:	:
:Sagert Family LLC	:12/28/2005	005-129083	:	:Warranty	:	:
:Sagert Earl R Trustee	:02/01/1997	0097-13478	:	:Warranty	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. Indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report.



OWNERSHIP INFORMATION

Owner	: Sagert Family LLC	Ref Parcel Number	: 21E30B 00600
Co Owner	:	Parcel Number	: 00396299
Site Address	: 20130 SW 65th Ave Tualatin 97062	T: 02S	R: 01E S: 30 Q: NW QQ:
Mail Address	: 23187 Corral Gulch Rd Canyon City Or 97820	County	: Clackamas (OR)
Taxpayer	: Sagert Family LLC	Telephone	:

PROPERTY DESCRIPTION

Map Page & Grid : 685 H5
 Census Tract : 227.02 Block: 1
 Improvement Type : 131 Sgl Family,R1-3,1-Story
 Subdivision/Plat : Township Village 08
 Neighborhood : West Linn/Lake Oswego Rural
 Land Use : 541 Agr,Farm Land,Improved,Unzoned
 Legal : SECTION 30 TOWNSHIP 2S RANGE 1E
 : QUARTER B TAX LOT 00600
 :

ASSESSMENT AND TAX INFORMATION

Mkt Land : \$641,847
 Mkt Structure : \$115,820
 Mkt Total : \$757,667
 % Improved : 15
 14-15 Taxes : \$2,643.96
 Exempt Amount :
 Exempt Type :
 Levy Code : 304004
 Millage Rate : 16.5514
 M50AssdValue : \$159,742

PROPERTY CHARACTERISTICS

Bedrooms	: 3	Building SF	: 1,584	BldgTotSqFt	:
Bathrooms	: 1.00	1st Floor SF	: 1,116	Lot Acres	: 18.22
Full Baths	: 1	Upper Finished SF	: 468	Lot SqFt	: 793,663
Half Baths	:	Finished SF	: 1,584	Garage SF	:
Fireplace	:	Above Ground SF	: 1,584	Year Built	: 1900
Heat Type	: Stove	Upper Total SF	: 468	School Dist	: 304
Floor Cover	: Tile	UnFinUpperStorySF	:	Foundation	: Post Pier
Stories	: 1	Basement Fin SF	:	Roof Type	: Composition
Int Finish	: Cld/paper	Basement Unfin SF	:	Roof Shape	: Gable
Ext Finsh	: Shake	Basement Total SF	:		

TRANSFER INFORMATION

Owner Name(s)	Sale Date	Doc#	Sale Price	Deed Type	Loan Amount	Loan Type
:Sagert Family LLC	:12/27/2011	011-074586J	:	:Warranty	:	:
:Sagert Gerald E	:11/14/2005	005-129083	:	:	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. Indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report.

21E19C 01400
Meridian Park Hospital
1919 NW Lovejoy St
Portland, OR 97209

21E19C 01600
Legacy Health System
6489 SW Borland Rd
Tualatin, OR 97062

21E30BA01800
Joseph Robert Waldron
6070 SW Sequoia Dr
Tualatin, OR 97062

21E19CD00100
Michael Corbett
15200 Bangy Rd
Lake Oswego, OR 97035

21E19CD00200
Mary Martin
19776 SW 57th Ave
Tualatin, OR 97062

21E19CD00300
Mark & Mary Mehall
19752 SW 57th Ave
Tualatin, OR 97062

21E19CD00400
Christopher & Lisa Aarseth
19724 SW 57th Ave
Tualatin, OR 97062

21E19CD00500
Carol Deve
19700 SW 57th Ave
Tualatin, OR 97062

21E19CD00600
Joe & Beverley Lambert
19678 SW 57th Ave
Tualatin, OR 97062

21E19CD00700
Kevin Ray Cook
19656 SW 57th Ave
Tualatin, OR 97062

21E19CD00800
James & Karol Giorvas
Po Box 4610
Tualatin, OR 97062

21E19CD00900
Jeffrey & Dona Yarnall
19634 SW 56th Ct
Tualatin, OR 97062

21E19CD01000
Kenneth & Joy Burchett
9700 SW Iowa Dr
Tualatin, OR 97062

21E19CD01100
Steven Burgess
19580 SW 56th Ct
Tualatin, OR 97062

21E19CD01200
Kevin Otoole
5195 SW Greenwood Cir
Tualatin, OR 97062

21E19CD01300
Laurence & Robin Malony
19551 SW 56th Ct
Tualatin, OR 97062

21E19CD01400
Gary & Janet Buskuhl
19577 SW 56th Ct
Tualatin, OR 97062

21E19CD01500
Tyrus & Andrea Hebert
19607 SW 56th Ct
Tualatin, OR 97062

21E19CD01600
Kristina Roberts
5623 SW Powhatan Ave
Tualatin, OR 97062

21E19CD01700
Sandra Lee Tosti
5641 SW Powhatan Ave
Tualatin, OR 97062

21E19CD01800
Shawna Saxton
5663 SW Powhatan Ave
Tualatin, OR 97062

21E19CD01900
Carolyn Smith
5681 SW Powhatan Ave
Tualatin, OR 97062

21E19CD02000
Daniel & Miriam Lacy
19600 SW 57th Ave
Tualatin, OR 97062

21E19CD02100
Martha Tapp
19576 SW 57th Ave
Tualatin, OR 97062

21E19CD02200
Steven & Janet Olson
19552 SW 57th Ave
Tualatin, OR 97062

21E19CD02300
Tallie & Ryan Steele
19539 SW 57th Ave
Tualatin, OR 97062

21E19CD02400
Edward & Carol Andersen
19565 SW 57th Ave
Tualatin, OR 97062

21E19CD02500
Paul & Patricia Hennon
5796 SW Calusa Loop
Tualatin, OR 97062

21E19CD02600
Michael & Kathleen Bies
19631 SW 57th Ave
Tualatin, OR 97062

21E19CD02700
John Karpowicz
19645 SW 57th Ave
Tualatin, OR 97062

21E19CD02800
Paul & Tamara Eulberg
19669 SW 57th Ave
Tualatin, OR 97062

21E19CD02900
Nancy Cooper
19683 SW 57th Ave
Tualatin, OR 97062

21E19CD03000
John & Kimberly Grimes
19717 SW 57th Ave
Tualatin, OR 97062

21E19CD03100
Michael Griffy
5703 SW Calusa Loop
Tualatin, OR 97062

21E19CD03200
Ken Wong
5709 SW Calusa Loop
Tualatin, OR 97062

21E19CD03300
Carolyn Audrey Grassman
Po Box 371
West Linn, OR 97068

21E19CD03400
Shannon Reed
5734 SW Calusa Loop
Tualatin, OR 97062

21E19CD03500
David & Ricky Looper
5740 SW Calusa Loop
Tualatin, OR 97062

21E19CD03600
Ryan & Angela Cain
5746 SW Calusa Loop
Tualatin, OR 97062

21E19CD03700
Michael & Kathy Fladland
5758 SW Calusa Loop
Tualatin, OR 97062

21E19CD03800
Patricia Ford Shangraw
5776 SW Calusa Loop
Tualatin, OR 97062

21E19CD03900
James & Patricia Gingo
5790 SW Calusa Loop
Tualatin, OR 97062

21E19CD04000
Michael Russell
5793 SW Calusa Loop
Tualatin, OR 97062

21E19CD04100
Arthur & Bonnie McGee
5789 SW Calusa Loop
Tualatin, OR 97062

21E19CD04200
Richard & Nola Ackerman
5785 SW Calusa Loop
Tualatin, OR 97062

21E19CD04300
Thomas Magee
5783 SW Calusa Loop
Tualatin, OR 97062

21E19CD04400
Eric & Barbara Weaver
5777 SW Calusa Loop
Tualatin, OR 97062

21E19CD04500
Matt & Allison Obrien
5773 SW Calusa Loop
Tualatin, OR 97062

21E19CD04600
Sarah & Russell Parks
5763 SW Calusa Loop
Tualatin, OR 97062

21E19CD04700
Behnaz Sadeghy
6 Oak Ct
Sunnyvale, CA 94086

21E19CD04800
Michael Leo Monahan
5743 SW Calusa Loop
Tualatin, OR 97062

21E19CD04900
Sara Digiorgio
5737 SW Calusa Loop
Tualatin, OR 97062

21E19CD05000
Bryan Rehm
5731 SW Calusa Loop
Tualatin, OR 97062

21E19CD05100
Marylee Tolley
5725 SW Calusa Loop
Tualatin, OR 97062

21E19CD05200
Jeff & Took Smoot
5719 SW Calusa Loop
Tualatin, OR 97062

21E19CD05300
David & Paige Cummings
5716 SW Calusa Loop
Tualatin, OR 97062

21E19CD05400
Laurie Ryan-Day
5712 SW Calusa Loop
Tualatin, OR 97062

21E19CD05500
Kathleen Kimmy
Po Box 1874
Lake Oswego, OR 97035

21E19CD05600
Ryan Hampson
5702 SW Calusa Loop
Tualatin, OR 97062

21E30A 01800
State Of Oregon
355 Capitol St NE
Salem, OR 97310

21E30B 00300
Sagert LLC
23187 Corral Gulch Rd
Canyon City, OR 97820

21E30B 00400
Gen Elec Co Portland
121 SW Salmon St
Portland, OR 97204

21E30B 00500
Mei Holding LLC
6370 SW Borland Rd #204
Tualatin, OR 97062

21E30B 00700
Anne Leiser
6009 SW Pendleton Ct
Portland, OR 97221

21E30B 00900
Carolla Fritzier
6061 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01000
Kaycee Macleod
6071 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01001
Scott & Jennifer Hawkins
6121 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01003
Randall & Ulrike Woltjer
6067 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01100
Gordon & Beulah Jones
Po Box 3015
Tualatin, OR 97062

21E30B 01200
Opal Paukner
6251 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01300
Norma Grogg
6215 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01500
Steven & Marta Farris
6275 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01600
Kim & Teresa Swartz
6285 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 01700
Thomas & Gloria Kreher
Po Box 908
Tualatin, OR 97062

21E30B 01900
Michael Basye
20590 SW 65th Ave
Tualatin, OR 97062

21E30B 02000
Traci Palelek
20670 SW 65th Ave
Tualatin, OR 97062

21E30B 02100
James & Karen Orr
6465 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02200
Richard Dee Smith
Po Box 276
Tualatin, OR 97062

21E30B 02300
Vivian Crawford
6424 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02400
Alice Schaler
6362 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02500
Erich Wilhelm
6250 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02600
Shane Graves
6212 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02700
James & Rachel Stevenson
6180 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02800
Melody Dancel Shade
6160 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 02900
Jackie Wall
5950 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 03000
Theobelle Peterson
6021 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 80B01
Gorin Plastic Surgery Investments LLC
6464 SW Borland Rd #B1
Tualatin, OR 97062

21E30B 80B02
Ajr Real Estate Holdings LLC
6464 SW Borland Rd #B2
Tualatin, OR 97062

21E30B 80B03
Hamid & Azadeh Arabshahi
Po Box 23846
Tigard, OR 97281

21E30B 80B05
Cheryl and Gary Owings
5780 SW Homesteader Rd
Wilsonville, OR 97070

21E30B 80B06
Theresa Nogeire
525 W 133rd St #6D
New York, NY 10027

21E30B 80B10
John Sandilands
5038 Foothills Rd #C
Lake Oswego, OR 97034

21E30B 80D01
Rincon Partners LLC
23232 SW Stafford Rd
Tualatin, OR 97062

21E30B 80D03
David Tenhulzen
6464 SW Borland Rd #D2
Tualatin, OR 97062

21E30B 80D04
Oregon City Medical Northwest
728 Molalla Ave #A
Oregon City, OR 97045

21E30B 90A01
Rowin Properties LLC
6464 SW Borland Rd #C1
Tualatin, OR 97062

21E30B 90C01
Dean & Marcia Delavan
985 SW Long Farm Rd
West Linn, OR 97068

21E30B 90C03
Borland Property LLC
6464 SW Borland Rd #C3
Tualatin, OR 97062

21E30B 02401
Patrick & Joanne Holly
6290 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 00901
Steven & Lavis Arnold
6065 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 00901
Steven & Lavis Arnold
6065 SW Prosperity Park Rd
Tualatin, OR 97062

21E30B 80B20
Paul Ash
19260 SW 65th Ave #280
Tualatin, OR 97062

21E30B 90000
Tualatin Prof Center Condo
6464 SW Borland Rd
Tualatin, OR 97062

21E30BA00100
Larry & Anita Matlock
6005 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00200
Todd & Judith Miller
6015 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00300
Kathe Monroe
6025 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00400
Katherine Nelson
6035 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00500
Jeremy Charles Nelson
6045 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00600
Wilson Smith III
6055 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00700
Gregory Knakal
6065 SW Sequoia Dr
Tualatin, OR 97062

21E30BA00800
Nancy Falconer
Po Box 832
Tualatin, OR 97062

21E30BA00900
Chereen Nichole Crockett
6083 SW Sequoia Dr
Tualatin, OR 97062

21E30BA01000
Mark & Janelle Thompson
6085 SW Sequoia Dr
Tualatin, OR 97062

21E30BA01100
Michael Hodge
6095 SW Sequoia Dr
Tualatin, OR 97062

21E30BA01200
Kimberly Ann Karnes
6090 SW Port Orford St
Tualatin, OR 97062

21E30BA01300
Reid Mitsuyoshi
6070 SW Port Orford St
Tualatin, OR 97062

21E30BA01400
Jon & Wendi Barber
6050 SW Port Orford St
Tualatin, OR 97062

21E30BA01500
Keith & Christina Hancock
6030 SW Port Orford St
Tualatin, OR 97062

21E30BA01600
Gary & Tonya Tomono
6010 SW Port Orford St
Tualatin, OR 97062

21E30BA01700
Jeffrey & Amara Hjelte
6080 SW Sequoia Dr
Tualatin, OR 97062

21E30BA01900
Brett & Beth Slater
6060 SW Sequoia Dr
Tualatin, OR 97062

21E30BA02000
Preston Watts
6058 SW Sequoia Dr
Tualatin, OR 97062

21E30BA02100
Trina & Trevor Owens
6050 SW Sequoia Dr
Tualatin, OR 97062

21E30BA02200
Joann Miller
6030 SW Sequoia Dr
Tualatin, OR 97062

21E30BA02300
Timothy Sullivan
19925 SW 60th Ave
Tualatin, OR 97062

21E30BA02400
Nona Henderson
19955 SW 60th Ave
Tualatin, OR 97062

21E30BA02500
Roger & Vicki Speigle
19975 SW 60th Ave
Tualatin, OR 97062

21E30BA02600
Robert & Lesley Zimkas
19985 SW 60th Ave
Tualatin, OR 97062

21E30BA02700
Stanley & Geraldene Reeves
20035 SW 60th Ave
Tualatin, OR 97062

21E30BA02800
Paul & Allison Tropio
20065 SW 60th Ave
Tualatin, OR 97062

21E30BA02900
Anthony & Michelle Harmsen
20095 SW 60th Ave
Tualatin, OR 97062

21E30BA03000
Wesley Goode
20080 SW 60th Ave
Tualatin, OR 97062

21E30BA03100
Douglas Bigham
20050 SW 60th Ave
Tualatin, OR 97062

21E30BA03200
Christine Struckman
20010 SW 60th Ave
Tualatin, OR 97062

21E30BA03300
Dennis & Heather Frisbee II
19980 SW 60th Ave
Tualatin, OR 97062

21E30BA03400
Steven & Cassandra Rentfrow
19970 SW 60th Ave
Tualatin, OR 97062

21E30BA03500
Jeffrey & Rosannalyn Howard
19960 SW 60th Ave
Tualatin, OR 97062

21E30BA03600
Cooper Maixner
5980 SW Sequoia Dr
Tualatin, OR 97062

21E30BA03700
Gregory & Cecile Rife
5940 SW Sequoia Dr
Tualatin, OR 97062

21E30BA03800
Nancy & Matthew Jasper
19945 SW 59th Ter
Tualatin, OR 97062

21E30BA03900
Lucila & Felino Flores
19975 SW 59th Ter
Tualatin, OR 97062

21E30BA04000
Carlos Rasch
19995 SW 59th Ter
Tualatin, OR 97062

21E30BA04100
Laurie Balke
20015 SW 59th Ter
Tualatin, OR 97062

21E30BA04200
Katherine Johnson
20035 SW 59th Ter
Tualatin, OR 97062

21E30BA04300
Gema Hernandez
20055 SW 59th Ter
Tualatin, OR 97062

21E30BA04400
Juan Miguel & Lauren Sanmateo
20070 SW 59th Ter
Tualatin, OR 97062

21E30BA04500
Brent & Michele Kleven
20040 SW 59th Ter
Tualatin, OR 97062

21E30BA04600
Nanette Wilkins
20020 SW 59th Ter
Tualatin, OR 97062

21E30BA04700
Michael & Shawnee Halligan
20000 SW 59th Ter
Tualatin, OR 97062

21E30BA04800
Brent & Kristen Jorgensen
19990 SW 59th Ter
Tualatin, OR 97062

21E30BA04900
Curtis Smith
15220 Boones Way
Lake Oswego, OR 97035

21E30BA05000
Karen Johnson
19930 SW 59th Ter
Tualatin, OR 97062

21E30BA05100
Kyle Hefley
19910 SW 59th Ter
Tualatin, OR 97062

21E30BA05200
Ha Tran
19905 SW 58th Ter
Tualatin, OR 97062

21E30BA05300
Joshua Truini
19935 SW 58th Ter
Tualatin, OR 97062

21E30BA05400
Lisa & Kevin Sienkiewicz
19955 SW 58th Ter
Tualatin, OR 97062

21E30BA05500
James & Gina Myers
19965 SW 58th Ter
Tualatin, OR 97062

21E30BA05600
Uyen Phuong Nguyen
2423 Robeson St
Fayetteville, NC 28305

21E30BA05700
Scot & Adeline McAdams
20025 SW 58th Ter
Tualatin, OR 97062

21E30BA05800
John & Melissa Froman
20045 SW 58th Ter
Tualatin, OR 97062

21E30BA05900
Tin & Amanda Kha
20075 SW 58th Ter
Tualatin, OR 97062

21E30BA06000
Edward Tojong
9549 SW Iowa Dr
Tualatin, OR 97062

21E30BA06100
Ebenezer & Alberta Graham
8920 SW Sagert St
Tualatin, OR 97062

21E30BA06200
Rebecca Alexander
5840 SW Port Orford St
Tualatin, OR 97062

21E30BA06300
Robert & Diane Leveton
5820 SW Port Orford St
Tualatin, OR 97062

21E30BA06400
Timothy Scott Teel
5800 SW Port Orford St
Tualatin, OR 97062

21E30BA06500
Dennis Bissonnette
20160 SW 58th Ter
Tualatin, OR 97062

21E30BA06600
Peter Kwong
20130 SW 58th Ter
Tualatin, OR 97062

21E30BA06700
Rex Lindaman
20080 SW 58th Ter
Tualatin, OR 97062

21E30BA06800
Patricia Chick
20050 SW 58th Ter
Tualatin, OR 97062

21E30BA06900
Andrew & Wendy Dillree
20030 SW 58th Ter
Tualatin, OR 97062

21E30BA07000
Susan Gage Jr.
19980 SW 58th Ter
Tualatin, OR 97062

21E30BA07100
Ryan & Shane Fuller
19960 SW 58th Ter
Tualatin, OR 97062

21E30BA07200
Jeffrey & Mendi Sakamoto
19940 SW 58th Ter
Tualatin, OR 97062

21E30BA07300
Carl & Carol Wojciechowski
1826 SW Dickinson Ln
Portland, OR 97219

21E30BA07400
Donald Dechaine
5775 SW Sequoia Dr
Tualatin, OR 97062

21E30BA07500
Coleen Davis
5795 SW Sequoia Dr
Tualatin, OR 97062

21E30BA07600
Brandon & Rebekah Bell
5805 SW Sequoia Dr
Tualatin, OR 97062

21E30BA07700
Douglas Jahnke
5825 SW Sequoia Dr
Tualatin, OR 97062

21E30BA07800
Bing Wang
2334 NW Woodrose Dr
Portland, OR 97229

21E30BA07900
David & Christina Stamey
5865 SW Sequoia Dr
Tualatin, OR 97062

21E30BA08000
Martin Cavassa
5885 SW Sequoia Dr
Tualatin, OR 97062

21E30BA08100
Cheri & Charles Benson
5915 SW Sequoia Dr
Tualatin, OR 97062

21E30BA08200
Jill Annette Engle
5955 SW Sequoia Dr
Tualatin, OR 97062

21E30BA08300
Matthew & Sunnie Majewski
5995 SW Sequoia Dr
Tualatin, OR 97062

21E30BA08400
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

21E30BA08500
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

21E30BA08600
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

21E30BA08700
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

21E30AB00100
Debra Kemp Lowe
5741 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00200
Steven Colcord
5707 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00300
Natalie Shell Whitney
5693 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00400
Douglas & Marjene Freiley
5689 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00500
Rebecca Renaldo
5671 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00600
Alexander & Natasha Stern
6030 Frost Ln
Lake Oswego, OR 97035

21E30AB00700
Stephen & Bonnie Pfeuffer
5657 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00800
Abhijit Banerjee
5643 SW Sequoia Dr
Tualatin, OR 97062

21E30AB00900
Jared Ryan & Heidi Dyer
5639 SW Sequoia Dr
Tualatin, OR 97062

21E30AB01000
Hirdesh & Surita Lal
5621 SW Sequoia Dr
Tualatin, OR 97062

21E30AB01100
Khanh Trieu
5605 SW Sequoia Dr
Tualatin, OR 97062

21E30AB01200
Ghias & Shamshad Din
6643 38th Ln E
Sarasota, FL 34243

21E30AB01300
Shandin Jones
5559 SW Sequoia Dr
Tualatin, OR 97062

21E30AB01400
Charles & Patricia Bragg
5523 SW Sequoia Dr
Tualatin, OR 97062

21E30AB01500
Ahmad & Mary Ghods
20048 SW 56th Ave
Tualatin, OR 97062

21E30AB01600
Bic Luther
20062 SW 56th Ave
Tualatin, OR 97062

21E30AB01700
Michael & Rachelle Callaway
20086 SW 56th Ave
Tualatin, OR 97062

21E30AB01800
Lani Parr
20099 SW 56th Ave
Tualatin, OR 97062

21E30AB01900
Shawn & Kristen Overstreet
1021 SW 4th Ave #800
Portland, OR 97204

21E30AB02000
Jennifer & Bryan Gores
20051 SW 56th Ave
Tualatin, OR 97062

21E30AB02100
David & Carrie Wagner
20037 SW 56th Ave
Tualatin, OR 97062

21E30AB02200
Curtis Sams
5630 SW Sequoia Dr
Tualatin, OR 97062

21E30AB02300
Brian Jepperson
5642 SW Sequoia Dr
Tualatin, OR 97062

21E30AB02400
Lori Mitchell
5656 SW Sequoia Dr
Tualatin, OR 97062

21E30AB02500
Scott & Patricia Kirkland
5664 SW Sequoia Dr
Tualatin, OR 97062

21E30AB02600
Kevin & Cathy Stewart
5670 SW Sequoia Dr
Tualatin, OR 97062

21E30AB02700
Sean Kelley
20036 SW 57th Ter
Tualatin, OR 97062

21E30AB02800
Albert & Michelle Rhee
20054 SW 57th Ter
Tualatin, OR 97062

21E30AB02900
Sang Nguyen
20078 SW 57th Ter
Tualatin, OR 97062

21E30AB03000
Jesse & Leanne Gann
20090 SW 57th Ter
Tualatin, OR 97062

21E30AB03100
Michael John Wilson
5675 SW Lee St
Tualatin, OR 97062

21E30AB03200
Whitney Lane
5661 SW Lee St
Tualatin, OR 97062

21E30AB03300
Michael & Caroline Field
5653 SW Lee St
Tualatin, OR 97062

21E30AB03400
Jeffrey Unruh
5649 SW Lee St
Tualatin, OR 97062

21E30AB03500
lahui Wang
2 Porch St
Galveston, TX 77554

21E30AB03600
Grace & Bo Yoon
5682 SW Lee St
Tualatin, OR 97062

21E30AB03700
Judy Ann Miller
5696 SW Lee St
Tualatin, OR 97062

21E30AB03800
Erica Drake
5700 SW Lee St
Tualatin, OR 97062

21E30AB03900
Mary & Ralph Neal
5734 SW Lee St
Tualatin, OR 97062

21E30AB04000
Kia & Kristy Kamali
5758 SW Lee St
Tualatin, OR 97062

21E30AB04100
Kelley Kwong
4590 Jackson Dr
San Jose, CA 95124

21E30AB04200
Kevin Winborne
20067 SW 57th Ter
Tualatin, OR 97062

21E30AB04300
David Kilfoil
20041 SW 57th Ter
Tualatin, OR 97062

21E30AB04400
Robert Sean Grace
20029 SW 57th Ter
Tualatin, OR 97062

21E30AB04500
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

21E30AB04600
City Of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

2S124DD 00100
Edward Hobbs
19725 SW 65th Ave
Tualatin, OR 97062

2S124DD 00200
Cic Meridian Village LLC
621 SW Morrison #800
Portland, OR 97215

2S124DD 00300
Terrace View Tualatin Inc
Po Box 648
Orinda, CA 94563

2S124DD 00500
Bruce Sinkey
19705 SW 65th Ave
Tualatin, OR 97062

2S124DD 00600
Wachenberg Investments LLC
3902 Edens Edge Dr
Lake Oswego, OR 97034

2S124DD 00600
Wachenberg Investments LLC
3902 Edens Edge Dr
Lake Oswego, OR 97034

2S124DD 00700
Meridian Park Apartments LLC
12488 SW Autumn View St
Tigard, OR 97224

2S124DD 07500
Washington County
169 N 1st Ave #42
Hillsboro, OR 97124

2S124DD 01200
Alvin Li
12820 SW Trigger Dr
Beaverton, OR 97008

2S124DD 01300
Manuel Cruzio
19872 SW 68th Ave
Tualatin, OR 97062

2S124DD 01400
Wesley Smith Jr.
6516 Hogan Dr N
Keizer, OR 97303

2S124DD 01500
Francis Reasoner
17971 SE River Rd #413
Milwaukie, OR 97267

2S124DD 01600
James Schlatter
3201 NE 135th Ave
Portland, OR 97230

2S124DD 90013
Pedro Tovar-Zacarias
19909 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 01700
Fernando Mendoza Sanchez
9323 San Vincente Ave
South Gate, CA 90280

2S124DD 01800
Lou Zimel
16390 SW Langer Dr
Sherwood, OR 97140

2S124DD 90012
Richard Olson
19907 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 01900
Maurilio Hernandez
19702 SW 67th Ave
Tualatin, OR 97062

2S124DD 02000
Luis Millan
19670 SW 67th Ave
Tualatin, OR 97062

2S124DD 02100
Gillingham
17704 SW Nels Dr
Sherwood, OR 97140

2S124DD 02200
Dennis Sandum
19616 SW 67th Ave
Tualatin, OR 97062

2S124DD 02300
Brian Dupuis
8325 SW Mohawk St #84
Tualatin, OR 97062

2S124DD 02400
Robert McCullough
19558 SW 67th Ave
Tualatin, OR 97062

2S124DD 02400
Robert McCullough
19558 SW 67th Ave
Tualatin, OR 97062

2S124DD 02500
Stephen Rissberger
7733 SW 174th Pl
Beaverton, OR 97007

2S124DD 90015
Elizabeth Thoenes
19913 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 02600
Wahriss Holdings LLC
19720 SW 48th Ave
Tualatin, OR 97062

2S124DD 03200
Charles Bee
840 SE 142nd Ave
Portland, OR 97233

2S124DD 02700
Cheryl Larson
145 NE 37th Ave
Hillsboro, OR 97124

2S124DD 90014
Mike Dye
6385 Shooting Iron Way
Colorado Springs, CO 80923

2S124DD 02900
Kenneth Burchett
9700 SW Iowa Dr
Tualatin, OR 97062

2S124DD 03000
Andrew Link
P.O. Box 2032
Beaverton, OR 97075

2S124DD 03400
Nicholas Jacobsen
3700 SW Trail Rd
Tualatin, OR 97062

2S124DD 03500
Jessica Chou
10646 NW Jordan Ln
Portland, OR 97229

2S124DD 03300
Qianyue Yang
5698 NE Davenport St
Hillsboro, OR 97124

2S124DD 03600
Dan Long
12020 SW Tooze Rd
Sherwood, OR 97140

2S124DD 03800
Daibuc Properties LLC
2610 Hillcrest Dr
West Linn, OR 97068

2S124DD 03900
Sungwon Chang
7050 Childs Rd
Lake Oswego, OR 97035

2S124DD 04100
Derek Meyer
12607 SW 64th Ave
Portland, OR 97219

2S124DD 04200
William Devenport
19815 SW Santee Ct
Tualatin, OR 97062

2S124DD 04300
Gary Bozin
1689 Higgins Way
Pacifica, CA 94044

2S124DD 04400
Dann Black
14920 SW Peachtree Dr
Tigard, OR 97224

2S124DD 04500
Paul Stewart
19856-19858 SW Santee Ct
Tualatin, OR 97062

2S124DD 04600
Daniel Hoffman
Po Box 2464
Estacada, OR 97023

2S124DD 04800
Charles Kornahrens
4120 SW Dogwood Ln
Portland, OR 97225

2S124DD 04900
Dees Biz LLC
8694 SW Muledeer Dr
Beaverton, OR 97007

2S124DD 05000
Mackie Props LLC
116 Laidley St
San Francisco, CA 94131

2S124DD 05100
Victor Ruiz
19803 SW 68th Ave
Tualatin, OR 97062

2S124DD 05400
Two Properties LLC
Po Box 484
Lake Oswego, OR 97034

2S124DD 05500
Cascade Investment Properties LI
2743 SW 28th Dr
Portland, OR 97219

2S124DD 05600
Dianes Rentals LLC
8318 NW Cresap Ln
Portland, OR 97229

2S124DD 05700
Marcello & Rose Sound
19712 SW 68th Ave
Tualatin, OR 97062

2S124DD 05800
Drk LLC
Po Box 141
Clackamas, OR 97015

2S124DD 05900
Fumie Falconeri
Po Box 574
West Linn, OR 97068

2S124DD 06000
Pk Investments LLC
17072 Chapin Way
Lake Oswego, OR 97034

2S124DD 06100
John Berger
Po Box 470
Silverton, OR 97381

2S124DD 06300
Marta Szoboszlay
13215 SE Mill Plain Blvd #C8403
Vancouver, WA 98684

2S124DD 06400
Dawn Carter
6420 SW Parkhill Way
Portland, OR 97239

2S124DD 06500
Patricia Evans
Po Box 25422
Portland, OR 97298

2S124DD 06600
Patricia Tardy
8152 SW Hall Blvd #303
Beaverton, OR 97008

2S124DD 06700
Limited Liability Company For
19534 SW 68th Ave
Tualatin, OR 97062

2S124DD 06800
Colmette Holdings LLC
20908 SW Winema Ct
Tualatin, OR 97062

2S124DD 07000
Ritary Real Estate
10333 SE Crescent Ridge Loop
Happy Valley, OR 97086

2S124DD 07000
Ritary Real Estate
10333 SE Crescent Ridge Loop
Happy Valley, OR 97086

2S124DD 07100
Kevin Moench
10460 NE 29th St #31
Bellevue, WA 98004

2S124DD 07200
Scott Davis
617 Donald Ct
Newberg, OR 97132

2S124DD 07300
Rubisel Gonzalez
19711 SW 67th Ave
Tualatin, OR 97062

2S124DD 07400
Leatham
5217 SE Aldercrest Rd
Milwaukie, OR 97222

2S125AB 00100
Elizabeth Leahy
20022 SW 71st Ave
Tualatin, OR 97062

2S124DD 00201
Donald Steury Jr.
19735 SW 65th Ave
Tualatin, OR 97062

2S124DD 03701
2 G Holdings LLC
501 4th St #484
Lake Oswego, OR 97034

2S125AA 00100
Milan Ganzar
6753 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 00200
Maria Simpson
20013 SW 69th St
Tualatin, OR 97062

2S125AA 00300
Mason
16966 Canyon Crest Dr #112
Sisters, OR 97759

2S125AA 00400
Maria Sandoval
20029 SW 69th St
Tualatin, OR 97062

2S124DD 90008
Carla Clay
19900 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90009
Omar Salomon
19901 SW Poplarwood Pl
Tualatin, OR 97062

2S125AA 00500
Barry Buchanan
20031 SW 69th St
Tualatin, OR 97062

2S125AA 00600
Derick Cain
20045 SW 69th St
Tualatin, OR 97062

2S125AA 00700
Catherine Herbert
20057 SW 69th St
Tualatin, OR 97062

2S125AA 00800
Gerald Laird
4640 SW Chunut Ct
Tualatin, OR 97062

2S125AA 00900
Karen Fort
20069 SW 69th St
Tualatin, OR 97062

2S125AA 01000
Jeremy Turner
20075 SW 69th St
Tualatin, OR 97062

2S125AA 01100
Aaron Steven Palmquist
20081 SW 69th St
Tualatin, OR 97062

2S125AA 01200
Stephanie Fox
6937 SW Ottawa St
Tualatin, OR 97062

2S125AA 01300
James Ohrtman
20093 SW 69th St
Tualatin, OR 97062

2S125AA 01400
Steven Stanley
20153 SW 69th St
Tualatin, OR 97062

2S125AA 01500
Dennis Maloney
6280 Club House Cir
West Linn, OR 97068

2S125AA 01600
Patricia Green
9500 NE Meadow Loop
Newberg, OR 97132

2S125AA 01700
Eric Berg
20215 SW 69th St
Tualatin, OR 97062

2S125AA 01800
Marc Wade
20239 SW 69th St
Tualatin, OR 97062

2S125AA 01900
Daniel Johnson
6919 SW Potomac St
Tualatin, OR 97062

2S125AA 02000
Kimberly Baugh
6955 SW Potomac St
Tualatin, OR 97062

2S125AA 02100
Benonaih Jumbo
6983 SW Potomac St
Tualatin, OR 97062

2S125AA 02200
Jerry Gawrylow
6968 SW Potomac St
Tualatin, OR 97062

2S125AA 02300
Cheryl Williams
6932 SW Potomac St
Tualatin, OR 97062

2S125AA 02400
John Packer
6910 SW Potomac St
Tualatin, OR 97062

2S125AA 02500
Lonn Aldridge
20455 SW 69th St
Tualatin, OR 97062

2S125AA 02600
Susan Snell
20487 SW 69th St
Tualatin, OR 97062

2S125AA 02700
Rodney Cottis
20500 SW 69th St
Tualatin, OR 97062

2S125AA 02800
Thelma Jean Kemper
20444 SW 69th St
Tualatin, OR 97062

2S125AA 02900
Kelly Ann Severson
20426 SW 69th St
Tualatin, OR 97062

2S125AA 03000
William Smiley
20402 SW 69th St
Tualatin, OR 97062

2S125AA 03100
Adam Hutchinson
20398 SW 69th St
Tualatin, OR 97062

2S125AA 03200
Robert Valdez
20374 SW 69th St
Tualatin, OR 97062

2S125AA 03300
Get Lim
15551 Tanager Dr
Lake Oswego, OR 97035

2S125AA 03400
Diana Kent
20322 SW 69th St
Tualatin, OR 97062

2S125AA 03500
Marilyn Hall
20304 SW 69th St
Tualatin, OR 97062

2S125AA 03600
Vlastimil Lebeda
15607 SW Highpoint Dr
Sherwood, OR 97140

2S125AA 03700
Steve Knox
6878 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 03800
Jason Graham
20244 SW 69th St
Tualatin, OR 97062

2S125AA 03900
Jeffrey Walker
20124 SW 69th St
Tualatin, OR 97062

2S125AA 04000
Gordon-Forbes
17111 S Seal Ct
Oregon City, OR 97045

2S125AA 04100
Anthony Warren
20054 SW 69th St
Tualatin, OR 97062

2S125AA 04200
Konst
20046 SW 69th St
Tualatin, OR 97062

2S125AA 04300
Lea Sheldahl
20038 SW 69th St
Tualatin, OR 97062

2S125AA 04400
Gary Stutzman
20022 SW 69th St
Tualatin, OR 97062

2S125AA 04500
Trent Laymon
20016 SW 69th St
Tualatin, OR 97062

2S125AA 04600
Kristi Banks
6787 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 04700
Alan McIvor
6803 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 04800
Mark Franklin
22209 SW Bar None Rd
Tualatin, OR 97062

2S125AA 04900
Rodney Friesen
6857 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 05000
Craig Burgess
6875 SW Wampanoag Dr
Tualatin, OR 97062

2S125AA 05100
Tualatin City
18880 SW Martinazzi Ave
Tualatin, OR 97062

2S124DD 90000
Meridian Park Condo
19902 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90001
Richard Hyder
19914 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90002
Jay Bodenhausen
19912 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90003
Joseph Brecheen
19910 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90004
Jennifer Kwon
19908 SW Poplarwood Pl
Tualatin, OR 97062

2S124DD 90005
James Smith
19906 SW Poplarwood Pl #5
Tualatin, OR 97062

2S124DD 90006
Matthew Nunogawa
1673 Haleloke St
Hilo, HI 96720

2S124DD 90007
Patricia Whalen
19902 SW Poplarwood Pl
Tualatin, OR 97062



May 1, 2014

Land Use Application for Sagert Farms Property

Dear Property Owner/Neighborhood Representative:

You are cordially invited to attend a meeting on **Tuesday, May 20, 2014 at 6:00 p.m.** at the Legacy Meridian Park Hospital Education Building, Room 104 located at 19300 SW 65th Avenue in Tualatin. This meeting shall be held to discuss a proposed land use application for a project located at 20130 SW 65th Avenue (Tax Lots 21E30B00300 and 21E30B00600) in Tualatin.

Lennar Homes is currently considering the submission of an application for a Comprehensive Plan Map Amendment to change the zoning for the site from Low Density Residential (RL) to Medium Low Density Residential (RML). The Developers of the property are seeking this change to allow for a slightly different lot size mix than what is currently permitted within the RL zoning district. Under the current subdivision proposal, the proposed plan amendment would result in the addition of six to ten additional lots for single family homes.

Please note this will be an informational meeting on preliminary plans with the developer and representatives only and is not intended to take the place of a public hearing before the Planning Commission or the City Council. You will have an opportunity to present testimony to these bodies when an application is submitted to the City for review.

We look forward to meeting you at the meeting and hearing your thoughts on the proposed project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Andrew Tull', with a small blue dot at the end of the signature.

Andrew Tull
Senior Planner
3J Consulting, Inc.

MEMORANDUM

To: Tualatin CIO 2 and our Neighbors

From: Andrew Tull
Principal Planner

Date: May 20, 2014

Project Name: Sagert Property
RE: Neighborhood Meeting Agenda

1. Introductions
2. Lennar is proposing a Comprehensive Plan change from RL to RML.
 - a. Previously, 75 homes were proposed under RL zoning.
 - b. RML would allow Lennar between 85 to 88 single-family detached homes.
 - c. Previously 25 units were permitted to be less than 6,500 SF under the RL zone.
 - d. Under the RML district, 48-52 units will be less than 6,500 sf.
3. Proposed Development Controls:
 - a. No Condominiums proposed
 - b. No Townhomes proposed
 - c. No Chickens allowed
4. Mitigation Measures
 - a. In order to provide some certainty, Lennar is volunteering several conditions of approval for the zone change:
 - i. 6,500 sf lots along the eastern boundary
 - ii. Time limit upon zone change - if not developed within 3 years, automatic conversion back to RL
 - iii. No further condominium plats or further subdivision of any lots created as part of the subdivision.
 - b. Responding to the neighbor's comments, Lennar will pursue a curvilinear roadway configuration to reduce cut through traffic.
 - i. Lennar is willing to attempt to amend the Transportation System Plan to remove the planned extension of SW Sagert as a Minor Collector into the site.
 - ii. If not supported by the City, Lennar will install traffic calming devices along the extension of Sagert, as permitted by the City.
5. Summary
 - a. Lennar is proposing to rezone the site to achieve a slightly higher density.
 - b. Lennar is willing to pursue an alternative to the TSP's road alignment to help reduce opportunities for cut-through traffic.
 - c. No condominiums or townhomes are being contemplated or will be permitted.



Meeting Minutes – Sagert Property – Tualatin

Date: May 20, 2014
 Meeting No: Neighborhood Meeting
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Legacy Meridian Park Hospital Education Building – Tualatin

Presenters	Company
Andrew Tull	3J
John Howorth	3J
Michael Anders	Lennar Northwest
Matt Hughart	Kittelson

In preparation for the submission of an application for a Transportation System Plan (TSP) Amendment and Comprehensive Plan Map Amendment to change the zoning of the subject property from Low Density Residential to Medium Low Density Residential, the applicant conducted a neighborhood meeting with the East Tualatin Citizen’s Involvement Organization and neighboring properties.

The meeting began with a presentation of the proposed development by Andrew Tull. A description of the existing conditions of the property as well as the proposed development, including proposed access and lot configuration was given. The general timeframe for the land use application and the development of the site was described.

Following the introduction of the project, neighbors and attendees openly asked questions of the project team. The following is a record of the questions and the project teams' responses.

Item	Question	Response
1	Will the streets be public or private?	All streets will be public.
2	Would a traffic circle help with the issues concerning the light on 65 th ?	A traffic circle is meant for an area where there is a steady flow of traffic. The existing light on 65 th would slow and stop the flow of traffic, which would stop the flow through the traffic circle. A light that is able to be programmed to correspond with the existing light is the best option.
3	Will there be parking on the site?	Each lot will have at least two parking spaces, as well as on street parking.
4	Why does the City not support the TSP and Comprehensive Plan Map Amendment?	The City is working within the current systems that are in place. The burden of proof falls on the Applicant to prove that the TSP and Comprehensive Plan Map Amendment will meet the needs of the community.
5	If the Comprehensive Plan Map Amendment were to be approved, how can the neighborhood be sure that the Applicant will not try to achieve a higher density than the single family subdivision that is being proposed?	There are two mechanisms for approval that can be used in order to insure that the development will be built with clear expectations. The Applicant is proposing either Conditions of Approval or a Development Agreement.

6	Will the electrical transformers cause an issue for the houses located along the border of the PGE property?	Currently there are no known restrictions for located lots along the edge of the property owned by PGE.
7	What traffic measures will be used to help with the current traffic issues, as well as the new traffic loads created by the development?	<ul style="list-style-type: none"> • A traffic signal will be used at the intersection of Sagert and 65th Avenue, as per the TSP. • The applicant is also hoping to amend the TSP so that Sagert will no longer be a straight shot through the development and into the neighboring subdivision, in order to reduce the amount of through traffic cutting through the site. • The access along Borland Drive will be a limited access, allowing only right – in and right – out traffic. • The applicant will do full frontage improvements along the property which will allow for safe pedestrian travel across the development.
8	What will the impact be on the schools if a new development were to be created, as the number of students is already very high in the district?	Schools are required to create a Capital Facilities Plan, which is an analysis of the developable land in the district, and they are required to plan for this land being developed. Moving forward with the development application will require coordination with the school district, as well as other public services to insure that the needs of the community can be met.
9	Will the two land bridge south of the property be improved?	Under the previous proposal the analysis of this bridge was not required in the scope of this project, it will be up to the city to determine whether the zone change will warrant analysis of this bridge.
10	Under the zone change the maximum density of the site will actually be 117-127 dwelling units, what will prevent the Applicant from building the maximum density on the site.	The developer's intent is to work with the City to control density through conditions of approval or through a development agreement. Should the application be approved, the conditions of approval will determine the number of lots and the size of the lots allowed for the site. Any changes to the conditions of approval would have to be brought to the neighborhood and city council for approval.
11	Will there be any widening 65 th Avenue north of the site?	Any widening north of the property would affect existing businesses and properties so it is not likely to be widened.
12	Will the site be able to be served by police and fire service?	We'll need to check in with the Police Department to see if there are any capacity issues.
13	If a proposal for 85 lots were to be approved, what would prevent the Applicant from changing the proposal to create a higher density?	If a development agreement were to be reached with the neighbors, the Applicant would only be able to change the density with the approval of all parties that entered into the development agreement. If the Applicant violated this development agreement, the parties involved would be able to take legal

		action against the development. Should no development agreement be reached with the neighborhood, and the proposal is approved with conditions of approval, the Applicant would be required to get the approval of the City Council to change the proposal.
14	Should the Applicant choose to sell this property instead of developing it, what would prevent the new owner from developing at a higher density than proposed with the zone change?	The Applicant is proposing that if the project should not be developed by the Applicant in a proposed time frame the site would revert back to the previous zoning per the conditions of approval.
15	Why should the public be interested in a rezone of the site?	The Applicant is looking to amend the TSP to create a safer and more desirable connection to the neighborhood. In order to account for this change, and the loss of lots, the Applicant is looking to rezone the property to allow for lots within the 4,500 – 6,500 SF range, rather than the 5,000SF – 6,500 SF range that is allowed outright by the current zoning.
16	What size homes will be built, and what will be the price range?	The houses will likely fall within the 2,200 – 3,000 SF range and a price range of \$375,000-\$450,000, consistent with the neighborhood. The product that will be used is likely to be similar to the community of Churchill Forest in Beaverton.
17	A comment was made that with the zone change, the lot coverage percentage also changes from 35% to 45%.	The developer is aware of the change.
18	A comment was made that this property will be developed, by Lennar or by another developer as it is a large property that is zoned outright for residential development. The commenter expressed an interest in working with the developer to create a quality development that fits within the neighborhood.	The developer agrees.
19	The site is primarily land locked. Will connectivity be an issue?	As a part of the application, the Applicant will be required to submit a full traffic analysis and report, by a licensed traffic engineer that will address issues with connectivity, and how these issues should be addressed.
20	What will the impact on the Hospital be?	We cannot answer this question as we're not sure what the Hospital has planned.
21	What finishes will be used on the homes?	The product will be very similar to the homes at Churchill Forest in Beaverton.

The meeting concluded at 7:10 pm.



November 19, 2013

Land Use Application for Sagert Farms Property

Dear Property Owner/Neighborhood Representative:

You are cordially invited to attend a meeting on **Thursday, December 5, 2013 at 6:00 p.m.** at the Legacy Meridian Park Hospital Education Building, Room 104 located at 19300 SW 65th Avenue in Tualatin. This meeting shall be held to discuss a proposed land use application for a project located at 20130 SW 65th Avenue (Tax Lots 21E30B00300 and 21E30B00600) in Tualatin. The property owner will be discussing the potential subdivision of the property and the potential removal of a historic structure.

Please note this will be an informational meeting on preliminary plans with the developer and representatives only and is not intended to take the place of a public hearing before the Planning Commission. You will have an opportunity to present testimony to these bodies when an application is submitted to the City for review.

We look forward to meeting you at the December meeting and hearing your thoughts on the proposed project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Andrew Tull', is positioned above the typed name.

Andrew Tull
Senior Planner
3J Consulting, Inc.



SITE STATISTICS	
Property:	21e30b 00300/00600
Size:	21.11 Acres
Jurisdiction:	City of Tualatin
Address:	20130 SW 65th Ave
Dimensional Requirements:	
Zoning:	RL
Minimum Lot Size:	6,500 SF
Setbacks:	
Front:	15'
Side:	5'
Street Side:	10'
Rear:	15'

SITE NOTE

Site map has been prepared using data from existing tax maps and Metro's RLIS GIS Data. This map has been prepared for illustrative purposes only. All boundary and dimensional information should be verified by a professional land surveyor.



Sagert Property - Option 1
Preliminary Subdivision Concept

November 2013



SITE STATISTICS	
Property:	21e30b 00300/00600
Size:	21.11 Acres
Jurisdiction:	City of Tualatin
Address:	20130 SW 65th Ave
Dimensional Requirements:	
Zoning:	RL
Minimum Lot Size:	6,500 SF
Setbacks:	
Front:	15'
Side:	5'
Street Side:	10'
Rear:	15'

SITE NOTE

Site map has been prepared using data from existing tax maps and Metro's RLIS GIS Data. This map has been prepared for illustrative purposes only. All boundary and dimensional information should be verified by a professional land surveyor.



Sagert Property - Option 2
Preliminary Subdivision Concept

November 2013



Meeting Minutes – Sagert Property – Tualatin

Date: December 5, 2013
 Meeting No: Neighborhood Meeting
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Legacy Meridian Park Hospital Education Building – Tualatin

Presenters	Company
Andrew Tull	3J
Jesse Nemec	JT Smith Companies
John Howorth	3J

In preparation for the submission of a land use application for the subdivision or partitioning of the subject property, the applicant conducted a neighborhood meeting with the East Tualatin Citizen’s Involvement Organization.

The meeting began with a presentation of the proposed development by Andrew Tull and Jesse Nemec. A description of the existing conditions of the property as well as the proposed development, including proposed access and lot configuration was given. The Applicant also discussed the historic structure located on the property – going through the history of the building and its designation on the City’s landmark register. The general timeframe for the land use application and the development of the site was described.

Following the introduction of the project, neighbors and attendees openly asked questions of the project team. The following is a record of the questions and the project teams’ responses.

Item	Question	Response
1	A comment was made about the site appearing to be denser than the neighboring subdivision.	The applicant explained that the site was impacted by a Significant Natural Resource Area, which allowed for a density transfer and a number of smaller lots.
2	How large are the lots?	The lots are expected to fall within a range of 5,000SF-7,000SF.
3	What is the expected home square footage and price range?	The applicant explained that it was hoping for a house range within 2000-2400 SF with a price range of \$350,000-\$400,000
4	What will be done with the historic barn on the site?	The applicant explained that the barn will be offered for public sale and relocation. If the barn will not be relocated the applicant will apply for the demolition of the barn, per the City’s development code.
5	The barn will be missed – we’ve gotten used to looking at the barn from our office complex	The barn had a professional evaluation completed to look at relocation. Currently, it looks like retention of the barn is going to be cost prohibitive. The structure was never constructed to be used for anything other than agricultural purposes. The Applicant indicated that they would be meeting with the Tualatin

		Historic Society and the City to discuss the structure.
6	Will fencing and screening be provided for the property?	Each lot will likely have a perimeter fence that will either tie into existing fences, per an agreement with the neighboring property, or will have a fence set in 6 inches from the property line.
7	Will the significant trees on the site be preserved?	An inventory of all significant trees on the site will be done to determine the condition and significance of each tree. The applicant will attempt to retain significant trees on the site, within reason. Many of the significant trees within the northeast corner of the property are located within a city owned protection easement.
8	A number of comments were made about the issues that may arise should Sagert Street be constructed as a collector through across the property.	The applicant explained that the City has proposed the road connections through the site, but that the applicant hopes to work with the City to create a layout that minimizes cut through traffic on the property
9	A comment was made about the potential for speed bumps.	The applicant fully supports the addition of speed bumps to the property, and will work with the City to see if they are applicable to the site.
10	What will the width of the lots and the houses be?	The lots will be no smaller than 50 feet in width a, with the proposed homes having a 40 foot frontage.
11	What will the style of the homes be?	The applicant explained that all homes will be built by Lennar Homes, and will be similar in character to other projects they have completed.
12	When will construction begin?	Preliminary construction on the site will likely begin in the summer of 2014, with home construction likely beginning in the fall.
13	Where will the path connections be?	A 6 foot gravel path will run the perimeter of the stream located at the southern end of the property and will connect with the proposed sidewalk along 65 th avenue.

The meeting concluded at 7:00 pm.



January 28, 2015

**Sagert Farms
Proposed Residential Subdivision**

Dear Property Owner/Neighborhood Representative:

You are cordially invited to attend a meeting on **Wednesday February 18th at 6:00 p.m.** at the Legacy Meridian Park Hospital Education Building, Room 104 located at 19300 SW 65th Avenue in Tualatin. This meeting shall be held to discuss the subdivision of the Sagert Farms property located at 20130 SW 65th Avenue (Tax Lots 21E30B00300 and 21E30B00600) in Tualatin. Lennar Homes is currently considering the submission of an application for a subdivision consistent with the Low Density Residential (RL) zoning on the property.

Before finalizing an application to the City's Planning Department for the proposed subdivision, we would like to take the opportunity to discuss this proposal with the adjacent property owners.

The purpose of this meeting will be to provide a forum for surrounding property owners and residents to review the proposal and to identify issues so they can be given property consideration. This meeting will provide the opportunity for the public to share with the project team any special information about the property involved. The project team will try to answer questions related to how the project meets the relevant development standards consistent with Tualatin's land use regulations.

Please note that this will be an informational meeting based on preliminary development plans and that these plans may change before the application is submitted to the City.

We look forward to discussing this proposal with you. Please feel free to contact us by emailing andrew.tull@3j-consulting.com if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Andrew Tull', is positioned above the typed name.

Andrew Tull
Senior Planner
3J Consulting, Inc.

MEETING AGENDA

Date: February 18, 2015
Project: 13159 – Sagert Farms Subdivision

1. Introductions
 - a. Lennar Homes
 - b. 3J Consulting
 - c. Kittleson
 - d. Elected Officials
2. Overview of Subdivision Plans
 - a. Zoning – LDR
 - b. Lot size and count – consistent with the zoning district
 - c. New extension of Saum Creek Pathway
 - d. New Enhanced Pedestrian Walkway along SW 65th
 - e. Barn Demolition Application
3. Sagert Road Extension and New Signals
4. Timing
 - a. Land Use Application submitted this Spring
 - b. Hoping to start construction this summer
5. Questions from the Audience



Meeting Minutes – Sagert Property – Tualatin

Date: February 18, 2015
 Meeting No: Neighborhood Meeting
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Legacy Meridian Park Hospital Education Building – Tualatin

Presenters	Company
Andrew Tull	3J
John Howorth	3J
Michael Anders	Lennar Northwest
Michael Loomis	Lennar Northwest
Matt Hughart	Kittelson

In preparation for the submission of a land use application for the subdivision or partitioning of the subject property, the applicant conducted a neighborhood meeting with the East Tualatin Citizen’s Involvement Organization and neighboring properties.

The meeting began with a presentation of the proposed development by Andrew Tull. A description of the existing conditions of the property as well as the proposed development, including proposed access and lot configuration was given. A description of the traffic impact analysis and road configuration was given by Matt Hughart. The general timeframe for the land use application and the development of the site was described.

Following the introduction of the project, neighbors and attendees openly asked questions of the project team. The following is a record of the questions and the project teams’ responses.

Item	Question	Response
1	Will the condition of approval placed on the May Building requiring that access be closed on Borland and redirected to Sagert be beneficial to lower traffic impact in the area?	A traffic impact study was done showing a scenario where access to the May Building remains as it currently exists off of Borland road and a scenario where access closed on Borland and is taken from Sagert Road. While the traffic study doesn’t address whether it will be beneficial, it does show that this change in access can be accommodated by the proposed traffic signal at Sagert and 65 th . City Staff will look at the analysis and make a determination off of the relevant information.
2	Can traffic from driveways be limited to keep the users of the medical offices from turning towards the residential areas?	The logistics of where driveways are allowed to go can be very specific in this situation. As a part of the traffic study a recommendation can be made on whether it should be an open or limited access.
3	Is there an estimate on the number of cars that will be rerouted into the Sequoia Ridge Subdivision?	While exact numbers cannot be estimated, it is the best approximation that most new cars will use the new connection on Sagert and 65 th and along Borland and not reroute through

		Sequoia Ridge.
4	Will the meetings that the project team are holding with the medical building owners be open to residents?	These meetings will not be open to residents.
5	Are speed bumps being proposed	Traffic calming measures like speed bumps can be recommended as a part of the traffic study, but it is up to the City Staff to make the decision that speed bumps are warranted.
6	A comment was made regarding the likelihood that the proposed subdivision as well as Sequoia Ridge will be used as a cut through from 65 th in order to avoid the intersection lights on 65 th , especially for parents cutting through to Bridgeport elementary.	While it is possible that traffic will use the existing local street network as a cut through, it is more likely that they will use the higher designated roads, as they will likely have higher speed limits and the new signal will correlate with the existing signal at Borland and 65 th .
7	A comment was made that the extension of Sagert is not supported by members of the Sequoia Ridge neighborhood.	
8	The houses located along the eastern edge of the proposed subdivision are lower in elevation than the existing farmland. How will drainage issues be handled for the new subdivision?	All stormwater on site will be collected and treated on site. Grading will be done on the property in order for the extension of Sagert to meet the existing grades.
9	A comment was made about creating a parkway along the eastern boundary of the property between the existing houses and the proposed subdivision.	
10	Will the recommended right-in/right-out restricted access within the proposed development onto Borland Road require all traffic from the east to enter the subdivision either from Sagert or from the Sequoia Ridge neighborhood?	Vehicles coming from the east on Borland would be required to enter the proposed subdivision from either Sagert or 60 th avenue. In the traffic study it is shown that most of the commuting traffic in the existing neighborhood heads west, with only some heading east. It is not estimated that a significant amount of traffic would cut through Sequoia Ridge. The location of the mature Sequoia trees along Borland Road restrict the location and width of the proposed road exiting onto Borland Road.
11	Could it be proposed that both the new road along Borland Road and 60 th be restricted right-in/right-out access to reduce the number of people short-cutting through the neighborhoods?	A restricted access along both roads could be recommended but it will be up to the city to make the final determination.
12	A comment was raised about traffic from Oregon City and West Linn cutting through Sequoia Ridge.	While it cannot be determined what traffic will actually do, it can be reasonably estimated that most traffic will not use the lower designation roads, as they will have lower speeds and waiting times to make a left hand-turn onto 65 th would not make this an advantageous route. Traffic lights along 65 th will be correlated to reduce queue spill back.
13	Sagert will be designed as a collector from 65 th , is there a way to reduce the number of people who may use the road, not	A stop sign along Sagert may be an option, if it were determined to be warranted by the City Staff.

	knowing that it terminates in a residential neighborhood, possibly with a stop sign?	
14	At Fox Hill an entry monument was used as a median to indicate the transition into a residential neighborhood. Would it be possible to propose a wider section of Sagert Road, but provide a monument median at the entry into Sequoia Ridge?	The applicant can explore this idea.
15	Can the schools within the area handle the increased capacity? Specifically Bridgeport Elementary?	As a part of the zone change that was previously explored the applicant contacted the school district, who was in support of any increased growth within the area, as they are estimating the district may age out over time.
16	What is the proposed timeline for the project?	The applicant is hoping to submit for land use in the spring, and begin construction in late summer on the roads and utilities. Home construction will likely be phased over two years, starting in January 2016
17	What will be the average size of the homes and the price point?	There will be variation in the home sizes and design. Some will be single story, some may be masters on main. The houses will average around 2800-2900 square feet and the price point will fall around \$400,000+.
18	Will setbacks be maximized?	The applicant does not always maximize setbacks. Houses and yards are generally sized to fit the market. Larger rear yards are generally desirable.
19	Will fencing be constructed at the time of construction?	Lennar has an "everything is included" building standard including fencing and landscaping.

The meeting concluded at 7:40 pm.



Meeting Minutes – TPC Meeting

Meeting Date: February 20, 2015
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Tualatin Professional Center

Attendee	Company	Phone
James Marlow	TPC	503-544-9776
Dean Delavan	TPC	503-860-2091
Cindy Walker	TPC	
Jim Walker	TPC	
Anjali Rosenbloom	TPC	503-784-9724
Cheryl Owens	TPC	503-680-1206
David TenHulzen	TPC	503-692-5654
Gary Owings	TPC	
Mike Loomis	Lennar	360-258-7900
Mike Anders	Lennar	360-258-7900
John Howorth	3J	503-946-9365 x201
Dave Rouse	City of Tualatin – City Engineer	503-691-3026
Tony Doran	City of Tualatin – Engineering Associate	503-691-3035
Clare Fuchs	City of Tualatin – Senior Planner	503-691-3027

The following is a record of the meeting between the Sagert Development Team and the Tualatin Professional Center owners on February 20, 2015.

Topic	Comment
Sagert Street Extension Alignment	<ul style="list-style-type: none"> Overview of the alignment of the Sagert Street extension was discussed. Existing right-of-way dedicated by the TPC development in 1983 was 30-ft with a 250-ft centerline radius required by the City. Improvements are within the existing dedicated right-of-way.
Design Alternatives for Access to Sagert	<ul style="list-style-type: none"> Owners concerned about access to the east and west lots if Sagert removes the circulation capability on site. Owners would like to push the road onto Lennar's side to avoid disruption to their site. Owners would like to maintain a left turn movement into the western lot. Owners would like to maintain full access into the eastern lot.
Design Alternatives for maintaining parking count and circulation	<ul style="list-style-type: none"> Any design that minimizes the loss of parking is desirable. Parking close to the individual medical offices is a desire as well since patients are typically under sedation after treatments. Circulation around the south side of the buildings is desirable to maintain.
Future Considerations along	<ul style="list-style-type: none"> It was pointed out that any future site improvement may trigger the north access driveways to be closed off due the proximity to the

Borland	intersection and the classification of Borland Road. <ul style="list-style-type: none">• Design team pointed out opportunities that may be beneficial to explore now that the neighbor to the east is under a condition to close off their access to Borland as well.• Option onsite may include removing the 10-ft wall along the north end of the site. Further investigation may show that the cost of this revision to the site may not impact the existing building foundation and be less expensive than anticipated.• The Mei Medical Building owner may be interested in discussing a cross access and cross parking agreement.
Items for Follow-up	<ul style="list-style-type: none">• City and Lennar to review options for maintaining more access for the westerly parking lot within City codes and standards. This may require a closer review of the traffic analysis prepared by Lennar's design team.• Lennar to work with City on final alignment of Sagert.

- - - END OF DOCUMENT - - -



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AGREEMENT

H-21

THIS AGREEMENT, made and entered into this 14th day of May, 1984, by and between CITY OF TUALATIN, a municipal corporation in Washington County, Oregon, hereinafter referred to as "CITY," and CONSOLIDATED ASSET GROUP, INC., hereinafter referred to as "DEVELOPER,"

WITNESSETH:

WHEREAS, the DEVELOPER received approval for a development from the CITY; and

WHEREAS, Land Partition (LP-83-01), approved by the City Council of Tualatin on March 28, 1983, contains certain conditions relative to half-street improvements in S.W. 65th Avenue and S.W. Sagert Street, and

IN CONSIDERATION of the mutual promises, covenants and undertakings, IT IS AGREED:

Section 1: The DEVELOPER agrees to deposit with the CITY the sum of \$15,613.95. This amount is equal to the cost of construction that would have been incurred by the DEVELOPER had the improvements to S.W. 65th Avenue and S.W. Sagert Street been constructed at the time the project was developed. The improvements required to be constructed in S.W. 65th Avenue and S.W. Sagert Street are adjacent to the Tualatin Professional Center are as follows:

- Widening of the pavement to provide a 20-foot half-street improvement along S.W. Sagert Street and 22-foot half-street improvement along S.W. 65th Avenue from the centerline of the road, installation of curbs

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and gutters and sidewalks, street trees and street lights along S.W. 65th Avenue and S.W. Sagert Street, reconstruction of portions of S.W. 65th Avenue deemed to be of inadequate structural section to handle the projected traffic loads on S.W. 65th Avenue, and to make adjustments in the horizontal and vertical alignment as necessary to construct S.W. 65th Avenue in a safe manner.

Section 2: The funds deposited with the CITY shall be retained by the CITY and all interest earned on this money shall be used for the construction of the improvements described in this agreement.

Section 3: CITY agrees to use the funds deposited by DEVELOPER and all interest accrued on said funds in the following manner:

1. CITY may construct a half-street improvement required of DEVELOPER using the funds deposited and interest accrued thereon.
2. CITY may combine the funds deposited and interest accrued thereon from DEVELOPER with other funds available to the CITY for construction of a City sponsored project.
3. CITY may combine the funds deposited and interest accrued thereon with funds derived from a local improvement district for the improvement of S.W. 65th Avenue and S.W. Sagert Street.

Section 4: If the CITY constructs a half-street improvement as discussed above in Section #1 above, the CITY will keep a detailed cost accounting of the project, the excess funds upon completion of the project, and these funds

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PAGE TWO

will be returned to the DEVELOPER. If the total construction costs exceed the amount deposited by the DEVELOPER, the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

Section 5: If the CITY combines funds with other funds for City projects as in 2(2) above, CITY will determine an appropriate assessment method for properties that would be included in a local improvement district had one been formed. If the amount that would be assessed to DEVELOPER is less than the amount deposited by DEVELOPER and interest accrued on said deposit and the CITY will refund the difference back to DEVELOPER. If the total cost exceeds the amount deposited by the DEVELOPER the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

The CITY and DEVELOPER agree that the maximum obligation of the DEVELOPER under Sections 4 and 5 is 10% more than the amount deposited plus interest earned under Section 2 of this agreement.

Section 6: If the City forms a Local Improvement District to construct the improvements covered by this agreement and if assessment against this property is less than the total of the funds deposited by DEVELOPER, and interest accrued thereon, the CITY will refund to DEVELOPER the difference. If the assessment determined by the CITY is greater than the funds deposited and interest accrued thereon by DEVELOPER, DEVELOPER will pay the additional amount over the amount deposited and interest accrued thereon. This additional amount will be eligible for Bancroft Bond financing. If the CITY forms a Local Improvement District to construct the improvements covered by this agreement, the DEVELOPER may elect to Bancroft the entire assessment and receive a refund of the amount deposited in Section 1 of this agreement with the interest accrued in Section 2.

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Section 7: The DEVELOPER agrees that by execution of this agreement, he will not remonstrate against the formation of a local improvement district to construct improvements to S.W. 65th Avenue and S.W. Sagert Street.

Section 8: This agreement shall be in effect for a period of five (5) years from its enactment. If at the end of five (5) years the CITY has not used funds deposited and interest accrued by DEVELOPER for the improvement of S.W. 65th Avenue and S.W. Sagert Street, then the funds and interest shall be returned to DEVELOPER.

Section 9: It is intended by the parties that all promises to be performed by DEVELOPER shall be covenants, conditions and restrictions running with the title to the property and shall be binding upon DEVELOPERS, their successors in interest and assigns.

Section 10: Promptly after its execution by the parties, this agreement shall be recorded in the records of Washington County to provide public notice of the conditions, covenants and restrictions against the title to the property imposed by this agreement.

Section 11: The DEVELOPER agrees that the driveway improvements to S.W. Sagert Street are temporary in nature and agrees to maintain said driveway improvements at his expense.

Section 12: Land Partition (LP-83-01) contains certain conditions relative to half-street improvements along S.W. Borland Road.

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1. Said improvements have been completed to the satisfaction of the CITY.
2. DEVELOPER is required to submit to the CITY a maintenance bond in the amount of 15% of the cost of said half-street improvements as guarantee against any defects in materials and workmanship for a period of (1) year from the date of this agreement, DEVELOPER agrees to deposit the sum of \$3750.00 in substitution for said maintenance bond.
3. CITY agrees to use said deposit to correct any defects in materials and workmanship for a period of (1) year from the date of this agreement.
4. CITY agrees to refund the balance of the deposit plus any interest accrued on the initial deposit to the DEVELOPER at the end of the (1) year period.

IN WITNESS WHEREOF, the parties have executed this agreement to be effective on the date first above mentioned.

CITY OF TUALATIN, OREGON

BY [Signature]
Mayor

ATTEST:

BY Stephen A. Rhodes
City Recorder

DEVELOPERS:

[Signature]

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PAGE FIVE

SUBSCRIBED AND SWORN to before me this 29th day of March, 1983. H-2C

Mary A. Wood
Notary Public for Washington

My commission expires: 6-1-86



STATE OF OREGON,
County of Clackamas. I, _____
Notary Public, do hereby certify that _____
of the County of Clackamas, do hereby certify that _____
has the instrument of writing hereinafter described for
recording in the records of said County at _____

1983 MAY 17 PM 1:56

Witness my hand and seal, affixed
Juanita M. Olin
JUANITA M. OLIN
County Clerk
Recorder Certificate
CCP 64 S-4 16657

6

PAGE SIX

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5-56

H-20

RESOLUTION NO. 1408-84

A RESOLUTION AUTHORIZING THE MAYOR AND CITY RECORDER
TO EXECUTE AN AGREEMENT WITH CONSOLIDATED ASSET GROUP

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON,
that:

Section 1: That the agreement (attached hereto) between the Consolidated
Asset Group and the City of Tualatin is for the purpose of half-street
improvements in S.W. 65th Avenue and S.W. Sagert Street adjacent to the
Tualatin Professional Center Development.

Section 2: That the Mayor and City Recorder are authorized to execute
the attached agreement and record said agreement on the Clackamas County
Book of Records.

INTRODUCED AND ADOPTED this 9th day of April, 1984.

CITY OF TUALATIN, OREGON

BY [Signature]
Mayor

ATTEST:

BY [Signature]
City Recorder



STATE OF OREGON)
County of Clackamas)
I, Juanita N. Orr, County Clerk, Ex-Officio
Recorder of Conveyances of the State of Oregon,
for the County of Clackamas, do hereby certify
that the instrument of writing was received for
recording in the records of said County at

1984 MAY 17 PM 1:56



Resolution No. 1408-84

84 16656

Meeting Minutes – Mei Medical Building Meeting

Meeting Date: February 20, 2015
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Mei Medical Building

Attendee	Company	Phone
Dr. David Kao	Mei Medical Building – Owner	503-691-1122
Stacey Humphreys	Mei Medical Building – Building Manager	503-691-1122
Mike Anders	Lennar	360-258-7900
John Howorth	3J Consulting	503-946-9365 x201
Dave Rouse	City of Tualatin – City Engineer	503-691-3026
Tony Doran	City of Tualatin – Engineering Associate	503-691-3035
Clare Fuchs	City of Tualatin – Senior Planner	503-691-3027

The following is a record of the meeting between the Sagert Development Team and the Mei Medical Building owner and building manager on February 20, 2015.

Topic	Comment
Sagert Street Extension Alignment	<ul style="list-style-type: none"> • Provided an overview of the current alignment of the Sagert Road extension that is a part of the proposed subdivision.
Former ARB Decision Affecting Mei Medical Building Property	<ul style="list-style-type: none"> • Reviewed the ARB condition and why it was applied to the project.
Design Alternatives for Access to Sagert	<ul style="list-style-type: none"> • Reviewed alternative driveway locations along Sagert. <ul style="list-style-type: none"> ○ Lined up with the east drive aisle on site. ○ Lined up with the west drive aisle on site. ○ Lined up with the proposed intersection of the subdivision.
Design Alternatives for Parking	<ul style="list-style-type: none"> • The change to the access would eliminate some parking stalls. Discussed alternatives to gain back the lost stalls. Also discussed options that would include the neighbors to the west to provide both access to their parcel as well as a shared parking agreement. • City discussed the ability to get the Mei Medical Building property to eliminate the existing infiltration bed on the north side of the property with the extension of the storm system from the south from the subdivision. This may allow the opportunity to utilize the north portion of the site for additional parking and or shared access. • Discussed the potential for the Mei Medical Building to possibly argue to keep the access to Borland by partnering with the adjacent parcel to the west (TPC) by closing their two access points as a bargaining chip and providing access across the Mei property. The other strong argument would be the emergency access to the hospital. This would most likely require a traffic study to supplement the plans. This would necessitate an Architectural Review by the City and discussions with the County as well.

	<ul style="list-style-type: none">In summary, there are several options worth exploring and the City is available for further discussion.
Applicant's Responsibilities	What will the City require for the application to be deemed complete? <ul style="list-style-type: none">Lennar will need to show a driveway apron on the north side of Sagert Street along the frontage of the Mei Medical Building property. No additional work would be necessary for the subdivision application to be deemed complete.
City's Responsibilities	<ul style="list-style-type: none">City will work with the Dr. Kao on options related to the access drive closure and revisions to th site on the south side if that option is to move forward. Other options may exist and the City will assist in any way possible.
Mei building owner's Responsibilities	<ul style="list-style-type: none">Decision needs to be made on the direction to proceed. Coordination with Lennar and 3J Consulting is recommended to stay up on the development of the subdivision.

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Meeting Minutes – PGE Meeting

Meeting Date: January 12, 2015
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Portland General Electric

Attendee	Company	Phone
Lorraine Katz	PGE	503-672-5484
Mark Lindley	PGE	503-464-8102
Dan Loomis	PGE	503-736-5714
Ken Spencer	PGE	503-672-5487
Vinn Nguyen	PGE	503-974-4880
David Drochner	PGE	503-736-5763
Fidel Banuelor	PGE	503-464-8126
Brian Moore	PGE	503-672-5474
Mike Loomis	Lennar	360-258-7900
Mike Anders	Lennar	360-258-7900
John Howorth	3J	503-946-9365 x201
Andrew Tull	3J	503-946-9365 x203

The following is a record of the meeting between the Sagert Development Team and Portland General Electric on January 12, 2015.

Topic	Comment
Sagert Street Extension Alignment	<ul style="list-style-type: none"> • PGE questioned the straight alignment within the TSP and it was discussed that this was the literal interpretation of the TSP and the alignment that connects the existing intersection with the stub street to the east. • Cost of PGE Land for Sagert Street: When property is purchased from PGE, it is customarily purchased at the appraised value for raw land. Additional costs may be incurred depending on the impacts. • PGE may be forced to remove the access off of Borland Road based on a previous ARB condition of approval. Maintaining the Borland access is very important to PGE and the substation. • Access off of the Sagert Extension would be financially cumbersome, and highly undesirable. Initial estimates range from \$6M to \$7M to reconstruct the entire substation to current PGE standards. • Existing Feeder Line Relocation: It has been estimated that the existing feeder line will need to be removed and relocated to current standards within easements following the new alignment west of the PGE property to 65th Avenue. • Estimates for the relocation of the feeder line are approximately \$100,000, including the buyout of the equipment.
PGE Easement on Sagert's Property	<ul style="list-style-type: none"> • An easement document in September 1968 discusses the allowed uses within it. As it stands today there seems to be additional equipment within the easement that was not specifically allowed. In particular is the underground feeder line. • PGE to research the easement issue from there end and provide

<p>Modifications to Accommodate Development</p>	<p>feedback to the development team on the next steps.</p> <ul style="list-style-type: none"> • Self-supporting steel poles may be a possibility in lieu of current poles with guy wires. • If PGE is required to access off of the straight Sagert alignment, the substation would likely need to be reconstructed entirely. • Ground Conductor 5' south of fence would need to stay 10' away from site improvements. • PGE would require review for any improvements within or along property frontage. • PGE may consider temporary guying of the three main poles to accommodate construction of the roadway (Sagert) earlier than waiting for the full 1-year estimate for the design and procurement of the self-supporting steel poles.
<p>Costs associated with modifications</p>	<ul style="list-style-type: none"> • Steel poles would run approximately \$100k each, and require 1 year to accommodate fabrication and installation • \$50,000 - \$75,000 for grounding grid upgrades would be required. • New Retaining Wall, if required will likely be completed at Lennar's expense with PGE review. • New Sub-station would require potentially \$6M to \$7M and 2 years to complete, along with considerable impact to the community and adjacent hospital
<p>Offsite Improvements</p>	<ul style="list-style-type: none"> • PGE to confirm no improvements or consideration required for Borland. • PGE to confirm no improvements required along 65th Avenue.
<p>Items for Follow-up</p>	<ul style="list-style-type: none"> ○ PGE to confirm offsite requirements. ○ PGE to confirm fees associated with removal of improvements within easements. ○ PGE to confirm position regarding access to the north/south of their property based on the ARB conditions. ○ PGE to confirm position regarding straight extension of Sagert. ○ PGE to confirm costs associated with pole replacement for encroachments. ○ PGE to confirm whether straight alignment will necessitate sub-station redesign.

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Meeting Minutes – PGE Meeting

Meeting Date: February 20, 2015
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Portland General Electric

Attendee	Company	Phone
Lorraine Katz	PGE	503-672-5484
Mark Lindley	PGE	503-464-8102
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Mike Loomis	Lennar	360-258-7900
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John Howorth	3J	503-946-9365 x201
Dave Rouse	City of Tualatin – City Engineer	503-691-3026
Tony Doran	City of Tualatin – Engineering Associate	503-691-3035
Clare Fuchs	City of Tualatin – Senior Planner	503-691-3027

The following is a record of the meeting between the Sagert Development Team and Portland General Electric on February 20, 2015.

Topic	Comment
Sagert Street Extension Alignment	<ul style="list-style-type: none"> PGE questioned the straight alignment within the TSP and it was discussed that this was the literal interpretation of the TSP and the alignment that connects the existing intersection with the stub street to the east. Cost of PGE Land for Sagert Street: PGE is required to obtain fair market value for any land designated as a utility asset such as the substation property. Bare land is valued as such but improved property also valued accordingly. PGE may be required to remove the access off of Borland Road based on a previous ARB condition of approval. Maintaining the Borland access is very important to PGE. Access off of the Sagert Extension would be financially cumbersome, and highly undesirable. Initial estimates range from \$6M to \$7M to reconstruct the entire substation to current PGE standards. Existing Feeder Line Relocation: It has been estimated that the existing feeder line will need to be removed and relocated to current standards within easements following the new alignment west of the PGE property to 65th Avenue. Estimates for the relocation of the feeder line are approximately \$100,000, including the buyout of the equipment.
PGE Easement on Sagert's Property	<ul style="list-style-type: none"> PGE is aware of the Option Agreement which pre-dates the Recorded Deed and the Recorded Easement and the recorded documents take precedence over any prior documentation. PGE is not aware of any recorded documents which limit or modify either the

<p>Amount of PGE property required for Sagert Street Extension.</p>	<p><u>Deed or the Easement.</u></p> <ul style="list-style-type: none"> • The straight shot would be cumbersome to construct and would require the poles to be replaced with self supporting poles at an estimated cost of \$350,000 plus the cost of the land, and about a full year to design and procure the poles. • Options were discussed to push the street south as far as possible and to narrow up the section of the roadway along the PGE frontage. • Lennar proposed they would pay for the full right-of-way improvements (narrowed section) if PGE would provide the land to have the sidewalk go under the anchors (pending City approval and it would physically work given PGE clearance requirements), and the City would then look at removing the condition to relocate the access from Borland.
<p>Costs associated with modifications</p>	<ul style="list-style-type: none"> • Steel poles would run approximately \$100k each and require 1 year to accommodate fabrication and installation. Cost of land, cost of all other improvements by developer. PGE tariff agreement would require developer to pay for this improvement. • New Sub-station would require potentially \$6M to \$7M and 2 years to complete, along with considerable impact to the community and adjacent hospital. Tariff would require developer to pay. This is being researched further as it may not be a developer cost.
<p>Items for Follow-up</p>	<ul style="list-style-type: none"> ○ PGE to confirm minimum requirements for sidewalk beneath anchors. ○ PGE to survey anchor connections to poles for an accurate cross section to be developed. ○ PGE to confirm the minimum lead required to guy the 3 transmission poles. ○ PGE to confirm position regarding access to the north/south of their property based on the ARB conditions. ○ PGE to have property department take over the rest of the discussions between the City, the developers, and PGE.

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Sagert Farm Subdivision – Tualatin, Oregon
Tree Assessment Report
May 10, 2015

MHA15017

Purpose

This Tree Assessment Report for the Sagert Farm Subdivision project site located at 20130 SW 65th Avenue in Tualatin, Oregon, is provided pursuant to City of Tualatin Development Code Chapters 34 and 73. This report describes the existing trees located on and directly adjacent to the project site, as well as recommendations for tree removal, retention, and protection during construction. This report is based on observations made by International Society of Arboriculture (ISA) Certified Arborist (PN-6145A) and Qualified Tree Risk Assessor Morgan Holen during a site visit conducted on April 16, 2014.

Scope of Work and Limitations

Morgan Holen & Associates, LLC, was contracted by Lennar Northwest, Inc. to collect tree inventory data and develop an arborist report and tree plan for the project. The site is planned for residential development. A site plan was provided by 3J Consulting, Inc. illustrating the location of existing trees and proposed construction impacts.

The existing trees were surveyed and tagged in the field with numbered aluminum tags corresponding with survey point numbers. Visual Tree Assessment (VTA) was performed on individual trees located across the site and on neighboring properties located directly adjacent to the project site. VTA is the standard process whereby the inspector visually assesses the tree from a distance and up close, looking for defect symptoms and evaluating overall condition and vitality of individual trees. Trees were evaluated in terms of general condition and potential construction impacts.

The client may choose to accept or disregard the recommendations contained herein, or seek additional advice. Neither this author nor Morgan Holen & Associates, LLC, have assumed any responsibility for liability associated with the trees on or adjacent to this site.

General Description

The site is primarily a large open undeveloped field, with one existing residence and four other structures, which are all planned for demolition for a 79 lot residential subdivision. The proposed development also includes new streets, a storm water facilities, and open space tracts.

The existing trees are scattered across the site, primarily around the existing home and along property boundaries. In all, 164 trees were inventoried, including 10 trees measuring smaller than eight inches in diameter and 154 trees measuring eight inches and larger in diameter, the City's threshold diameter for regulated trees. Of the 164 existing trees, 43 (26%) are located off-site on neighboring properties, including seven trees measuring smaller than eight inches in diameter. The remaining 121 (74%) trees are located on the project site, including three trees measuring smaller than eight inches in diameter. Twenty-three different tree species were identified. Table 1 provides a summary of the number of inventoried trees by species and location on- or off-site.

Table 1. Number of Inventoried Trees by Species – Sagert Farm Subdivision, Tualatin.

Common Name	Species Name	On-Site	Off-Site	Total	Percent
American holly	<i>Ilex opaca</i>	2		2	1%
black walnut	<i>Juglans nigra</i>	1		1	<1%
chestnut	<i>Castanea dentata</i>	3		3	2%
deciduous	Unknown	1	8	9	5%
deodar cedar	<i>Cedrus deodara</i>	1		1	<1%
dogwood	<i>Cornus nuttallii</i>	1		1	<1%
Douglas-fir	<i>Pseudotsuga menziesii</i>	61	7	68	41%
English hawthorn	<i>Crataegus monogyna</i>	2		2	1%
English walnut	<i>Juglans regia</i>	8		8	5%
filbert	<i>Corylus cornuta</i>	1		1	<1%
fir	<i>Abies</i> spp.	10		10	6%
flowering pear	<i>Pyrus calleryana</i>	0	6	6	4%
fruit	Unknown	8		8	5%
giant sequoia	<i>Sequoiadendron giganteum</i>	1	20	21	13%
Japanese maple	<i>Acer japonicum</i>	1		1	<1%
juniper	<i>Juniperus occidentalis</i>	2		2	1%
larch	<i>Larix occidentalis</i>	3		3	2%
Oregon ash	<i>Fraxinus latifolia</i>	1		1	<1%
ponderosa pine	<i>Pinus ponderosa</i>	2		2	1%
Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	8	1	9	5%
redwood	<i>Sequoia sempervirens</i>	1	1	2	1%
saucer magnolia	<i>Magnolia × soulangeana</i>	1		1	<1%
western redcedar	<i>Thuja plicata</i>	2		2	1%
Total		121	43	164	100%
Percent of Total		74%	26%		

Douglas-fir (*Pseudotsuga menziesii*) is most common, accounting for 41% of the total inventory. These trees vary in size and condition, but most are mature trees located in dense groups. The group in the southeast portion of the project site connects with a larger stand of Douglas-firs located east of the project site. Several of the Douglas-firs in this group are in decline, but overall the group appears in good condition and there is low target potential meaning there is little risk in retaining the dying trees as part of the intact group. Another group of Douglas-firs is located in the middle of the proposed Sagert Road extension. Again, the overall group appears in good condition, but the individual trees are variable in condition, including one high risk tree with severe red-ring rot infection which is trunk decay caused by the fungus *Phellinus pini*. Other mature Douglas-firs and a number of small, young Douglas-firs are scattered across the site and generally appear in good condition, although removal of some of these trees will be necessary to accommodate grading for building lots and streets.

Giant sequoia (*Sequoiadendron giganteum*) accounts for 13% of the inventoried trees and all but one are located off-site to the east, along the south side of Borland Road. These trees were planted in a row and are prominent amenities along the street. The planter strip is relatively large and provides sufficient growing space. Past pruning for overhead utility line clearance has not impacted the health or stability of these trees. They are most suitable for preservation as an undisturbed intact group because they

have grown up competing with and adapting to one another. Construction impacts should be avoided within the dripline area of these trees in order to provide for their long-term preservation.

Two English hawthorns (*Crataegus monogyna*) are the only non-native and invasive trees identified. One filbert (*Corylus cornuta*) was inventoried, but is more of a large shrub than a tree. A variety of trees appear to have been planted for landscaping purposes, including larch (*Larix occidentalis*), ponderosa pine (*Pinus ponderosa*), saucer magnolia (*Magnolia x soulangeana*), Japanese maple (*Acer japonicum*), several fruit trees, black walnut (*Juglans nigra*), English walnut (*Juglans regia*), and others. The black walnuts are large trees primarily bordering the existing driveway. These trees are over-mature and although some are in relatively better condition than others, trunk and branch decay, broken branches, crown dieback, and decline are common defects observed and noted.

A complete description of individual trees is provided in the enclosed tree data.

Tree Plan Recommendations

Prior to preparation of this report we coordinated with 3J Consulting, Inc. in regard to the best existing trees and potential construction impacts, and reviewed and considered the approval criteria identified in the Tualatin Development Code Section 34.230 which requires a detailed justification for proposed tree removal. The enclosed tree data and this written report address the relevant criteria.

As provided in the enclosed tree inventory data, individual trees were rated in terms of general condition as either: poor, fair, good, or excellent. Individual trees recommended for removal were also assigned a reason for removal (shown for each tree to be removed under “criteria” in the tree inventory data table) based on the removal criteria as follows:

Criteria for Tree Removal per TDC 34.230:

- **D1** – Diseased and the disease threatens the structural integrity of the tree;
- **D2** – Diseased and the disease permanently and severely diminishes the aesthetic value of the tree; or
- **D3** – Diseased and the continued retention of the tree could result in other trees being infected with a disease that threatens either their structural integrity or aesthetic value.
- **H** – Hazardous.
- **C** – Construction necessitates tree removal.

Trees identified for removal because of construction were further classified as: **C1**- Building lot construction necessitates tree removal; **C2**- Street and sidewalk construction and grading necessitates tree removal; **C3**- Water quality facility construction necessitates tree removal; or **C4**: Other grading and site improvements necessitate tree removal.

Of the 43 off-site trees, 42 (98%) are recommended for retention with tree protection fencing established at the dripline or as otherwise directed by the project arborist. The remaining off-site tree, #10980, is an 18-inch diameter Douglas-fir located in the City’s open space tract east of the project site in the northeast area. This tree is intermediate in crown class and the proposed removal of two on-site Douglas-firs (#10977 and #10978) for construction on lot 78 is likely to expose this tree resulting in an increased risk of windthrow. Therefore, tree #10980 should be re-evaluated by a qualified arborist at the time of clearing in terms of hazard risk potential and removal may be recommended. The applicant

should coordinate with the City to obtain authorization to remove this tree if it is determined that the tree presents a foreseeable threat of danger after being exposed by adjacent tree removal.

Other trees recommended for retention were also evaluated in terms of impacts from adjacent tree removal that is necessary for site development and no additional impacts are anticipated. However, we did observe a tree in the City’s open space tract with a dead top and red-ring rot conks along the trunk that the City should be aware of because of hazard risk potential. This tree is not included on the project survey because it is not located directly adjacent to the project site, but it is closest to surveyed tree 10973. This tree will not be impacted by site development, but nevertheless is diseased and at increased risk for failure with the development site being the primary target.

Of the 121 on-site trees, 41 (34%) are recommended for retention and 80 (66%) are recommended for removal, including one tree measuring smaller than eight inches in diameter (#2873, a six inch diameter fruit tree in poor condition located on proposed lot 35).

Table 2 provides a summary of the number of inventoried trees based on general condition and treatment recommendation per the City’s tree removal criteria.

Table 2. Number of Inventoried Trees by Condition Rating and Treatment Recommendation.

Treatment Recommendation	Condition Rating				Total	Percent
	Poor	Fair	Good	Excellent		
On-Site Trees	20	34	60	7	121	74%
Retain	10	11	18	2	41	25%
Remove for Disease, Hazard, & Construction	0	1	0	0	1	1%
Remove for Building Lot Construction	2	10	20	3	35	21%
Remove for Street/Sidewalk Construction	7	10	12	2	31	19%
Remove for Water Quality Facility Construction	1	1	5	0	7	4%
Remove for Other Grading/Site Improvements	0	2	4	0	6	4%
Off-Site Trees	0	13	28	2	43	26%
Protect	0	12	28	2	42	25%
Re-Evaluate Risk Potential at the Time of Clearing	0	1	0	0	1	1%
Total	20	47	88	9	164	100%
Percent of Total	5%	29%	54%	12%		

Sufficient protection is not possible for on-site trees that are recommended for removal for the purposes of site development, including grading for building lots, streets and sidewalks, storm water facility construction, and other grading and site improvements. Note that tree #11191, the Douglas-fir infected with red-ring rot, is the only tree recommended for removal because it is diseased and hazardous.

On-site trees recommended for preservation are located along the eastern boundary of the project site and predominately in the southern portion of the site in open space tracts. Trees located in the open space tracts will not be impacted by construction and are suitable for preservation in their relatively natural condition. Trees planned for preservation along the eastern boundary will be located in the rear of building lots. Off-site trees recommended for protection are primarily located adjacent to these lots.

Minor pruning for clearance and safety may be needed for both on- and off-site trees. Tree protection fencing should be established at the dripline of trees planned for preservation. Where work is necessary within the protection area, a qualified arborist should provide on-the-ground recommendations for adjustments to protection fencing and monitor work beneath protected tree driplines. Recommendations for tree protection are provided in the next section.

Tree Protection Recommendations

The trees recommended for preservation will need special consideration to assure their protection during construction. We highly recommend a preconstruction meeting with the owner, contractors, and project arborist to review tree protection measures and address questions or concerns on site. Tree protection measures include:

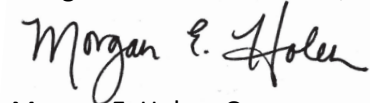
- **Tree Removal and Pruning.** Stumps of removed trees located within 30-feet of protected trees should be removed under the direction of the project arborist to help minimize underground impacts to potentially interconnected roots. Neighboring trees and on-site trees planned for retention may require minor pruning for overhead clearance to avoid crown damage during construction, and to remove dead and defective branches for safety. The project arborist should help identify whether pruning is necessary once trees recommended for removal have been removed and the site is staked and prepared for construction. Tree removal and pruning should be performed by a Qualified Tree Service.
- **Hazard Tree Evaluation.** At the time of clearing and following removal of trees #10977 and #10978, a qualified arborist should conduct a tree risk assessment for off-site tree #10980 and document recommendations for tree retention or removal as needed. If removal is recommended because of hazardous condition, the applicant should coordinate with the City to obtain authorization to remove this tree in conjunction with site development.
- **Protection Fencing.** Trees to be preserved should be protected by installation of tree protection fencing to prevent injury to tree trunks or roots, or soil compaction within the root protection area, which generally coincides with tree driplines. Fences should be 6-foot high steel on concrete blocks or orange plastic construction fencing on metal stakes. The project arborist should determine the exact location and type of tree protection fencing. Trees located more than 30-feet from construction activity should not require fencing.
- **Tree Protection Zone.** Without authorization from the Project Arborist, none of the following should occur beneath the dripline of any protected tree:
 1. Grade change or cut and fill;
 2. New impervious surfaces;
 3. Utility or drainage field placement;
 4. Staging or storage of materials and equipment; or
 5. Vehicle maneuvering.

Root protection zones may be entered for tasks like surveying, measuring, and sampling. Fences must be closed upon completion of these tasks. Protection fencing should not be removed or adjusted unless otherwise directed by the project arborist. Construction that is necessary beneath protected tree driplines should be monitored by the project arborist. It is the developer's responsibility to coordinate with the project arborist as needed prior to working beneath the dripline of any protected tree.

- **Excavation beneath Protected Tree Driplines.** Excavation beneath tree driplines should be avoided if alternatives are available. If excavation is unavoidable, the developer should coordinate with the project arborist to evaluate the proposed excavation to determine methods to minimize impacts to trees. This can include tunneling, hand digging, or other approaches.
- **Quality Assurance.** The project arborist should supervise proper execution of this plan during construction and will be available on-call. It is the developer's responsibility to coordinate with the project arborist as needed.
- **Final Report.** After the project has been completed, the project arborist should provide a final report that describes the measures needed to maintain and protect the remaining trees.

Please contact us if you have questions or need any additional information. Thank you for choosing Morgan Holen & Associates, LLC, to provide consulting arborist services for the Sagert Farm Subdivision project in Tualatin.

Thank you,
Morgan Holen & Associates, LLC



Morgan E. Holen, Owner
ISA Certified Arborist, PN-6145A
ISA Tree Risk Assessment Qualified
Forest Biologist

Enclosures: MHA15017 Sagert Farm Subdivision – Tree Data 4-16-15

No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
2857	English walnut	<i>Juglans regia</i>	24	24	F	trunk and branch decay, late to push leaves	remove	C2
2858	English walnut	<i>Juglans regia</i>	34	22	G	trunk and branch decay	remove	C2
2859	larch	<i>Larix occidentalis</i>	16	9	G	moderate branch distribution	remove	C1
2860	larch	<i>Larix occidentalis</i>	21	11	G	moderate branch distribution, few dead and broken branches	remove	C1
2861	English walnut	<i>Juglans regia</i>	28	14	P	old codominant stem failure, large hollow 0-8' with advanced decay	remove	C1
2862	English walnut	<i>Juglans regia</i>	40	24	F	dead branches, branch decay, decline	remove	C1
2863	English walnut	<i>Juglans regia</i>	40	18	F	top dieback, decline, trunk decay, codominant stems with included bark	remove	C1
2864	deciduous	unknown	2x10	12	F	dead branches	remove	C2
2865	English walnut	<i>Juglans regia</i>	34	30	F	good wound-wood, dieback, decline	remove	C1
2866	English walnut	<i>Juglans regia</i>	42	32	F	dieback, decline	remove	C1
2867	ponderosa pine	<i>Pinus ponderosa</i>	22	16	G	trunk sweep	remove	C1
2868	dogwood	<i>Cornus nuttallii</i>	8	12	G	moderate structure	remove	C1
2869	black walnut	<i>Juglans nigra</i>	34	20	F	moderate structure, dead and broken branches, dieback	remove	C1
2870	fruit	unknown	24	10	F	advanced trunk decay	remove	C1
2871	saucer magnolia	<i>Magnolia × soulangeana</i>	10,12	18	G	moderate structure, somewhat one-sided to the west	remove	C1
2872	deodar cedar	<i>Cedrus deodara</i>	24	22	E	no major defects	remove	C1
2873	fruit	unknown	6	6	P	dead branches, decay	remove	C1
2875	filbert	<i>Corylus cornuta</i>	2x10	16	P	poor structure, dead and broken branches, trunk decay	remove	C2
2876	fruit	unknown	3x18	26	F	moderate structure, trunk decay	remove	C1
2969	fruit	unknown	12	8	G	well-maintained	remove	C1

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
2970	juniper	<i>Juniperus occidentalis</i>	8	6	F	thin crown	remove	C2
2971	juniper	<i>Juniperus occidentalis</i>	12	9	F	thin crown	remove	C1
2972	larch	<i>Larix occidentalis</i>	20	14	G	few broken branches, no major defects	remove	C1
2973	ponderosa pine	<i>Pinus ponderosa</i>	32	22	E	multiple leaders, no major defects	remove	C1
2974	Japanese maple	<i>Acer japonicum</i>	14	13	E	multi-stemmed, well-maintained	remove	C2
2975	American holly	<i>Ilex opaca</i>	3x8	10	G	moderate structure	remove	C2
2976	Douglas-fir	<i>Pseudotsuga menziesii</i>	52	24	G	large codominant leaders with included bark	remove	C1
3040	English walnut	<i>Juglans regia</i>	42	32	G	broken branches, branch decay	remove	C1
3064	Douglas-fir	<i>Pseudotsuga menziesii</i>	48	18	G	forked top	remove	C1
3065	Douglas-fir	<i>Pseudotsuga menziesii</i>	42	18	F	twig dieback, poor top structure	remove	C1
3066	fruit	unknown	18	15	F	poor structure, covered with blackberry	remove	C1
3067	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	16	G	relatively young tree	remove	C1
3068	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	16	G	relatively young tree	remove	C2
3074	chestnut	<i>Castanea dentata</i>	22	22	G	moderate structure	remove	C2
3075	chestnut	<i>Castanea dentata</i>	25	22	G	moderate structure	remove	C2
3076	English hawthorn	<i>Crataegus monogyna</i>	8	10	F	invasive species, poor structure	remove	C2
3085	Douglas-fir	<i>Pseudotsuga menziesii</i>	50	18	G	few dead branches, some history of branch failure	remove	C2
3305	Douglas-fir	<i>Pseudotsuga menziesii</i>	44	20	G	codominant crown class	retain	
3306	Douglas-fir	<i>Pseudotsuga menziesii</i>	46	20	G	codominant crown class	retain	
3307	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	8	P	suppressed	retain	
3308	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	8	P	suppressed	retain	
3309	Douglas-fir	<i>Pseudotsuga menziesii</i>	48	26	G	codominant crown class	retain	
3310	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	24	G	codominant crown class	retain	
3311	Douglas-fir	<i>Pseudotsuga menziesii</i>	42	26	G	codominant crown class	retain	
3312	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	16	F	intermediate crown class	retain	

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
3313	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	8	F	intermediate crown class	retain	
3314	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	22	G	codominant crown class	retain	
3315	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	12	F	codominant crown class, history of branch failure, epicormic sprouts	retain	
3316	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	6	P	suppressed	retain	
3317	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	6	P	severe <i>P. pini</i> infection, could create snag, low target potential	retain	
3318	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	16	F	codominant crown class	retain	
3319	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	8	P	suppressed	retain	
3320	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	14	F	codominant crown class	retain	
3321	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	10	P	severe <i>P. pini</i> infection, could create snag, low target potential	retain	
3322	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	24	F	dead and broken branches	retain	
3323	Douglas-fir	<i>Pseudotsuga menziesii</i>	32	6	P	mostly dead, could create snag, low target potential	retain	
3368	Douglas-fir	<i>Pseudotsuga menziesii</i>	44	26	G	codominant crown class, self-corrected lean	retain	
3369	Douglas-fir	<i>Pseudotsuga menziesii</i>	54	30	E	no major defects	retain	
3370	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	12	G	relatively young tree	retain	
3371	fruit	unknown	18	16	P	poor structure, dead branches, decay, low target potential	retain	
3411	fir	<i>Abies</i> spp.	20	12	G	dense group, no major defects	remove	C1
3412	fir	<i>Abies</i> spp.	20	12	G	dense group, no major defects	remove	C1
3413	fir	<i>Abies</i> spp.	18	10	G	dense group, no major defects	remove	C1
3414	giant sequoia	<i>Sequoiadendron giganteum</i>	44	18	E	no major defects	remove	C2
3415	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	18	G	no major defects, minor crown asymmetry	remove	C2
3416	fir	<i>Abies</i> spp.	16	10	G	few dead branches	remove	C4
3417	fir	<i>Abies</i> spp.	8	6	F	thin crown, suppressed	remove	C4

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
3418	fir	<i>Abies</i> spp.	14	12	G	dense group	remove	C4
3419	fir	<i>Abies</i> spp.	12	10	G	dense group	remove	C4
3420	fir	<i>Abies</i> spp.	10	10	F	topped, multiple leaders	remove	C4
3421	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	12	G	relatively young tree	remove	C4
3422	fir	<i>Abies</i> spp.	8	6	F	small live crown, forked top, dead branches	remove	C3
3423	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	14	0	P	dead	remove	C3
3424	chestnut	<i>Castanea dentata</i>	3x20	20	G	moderate structure	remove	C3
3425	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	remove	C3
3426	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	remove	C3
3427	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	remove	C3
3428	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	remove	C3
3429	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	retain	
3430	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	retain	
3431	fir	<i>Abies</i> spp.	6	8	F	dead branches, suppressed	retain	
3432	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	12	8	G	dense row	retain	
3435	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	14	G	no major defects	retain	
3436	fruit	unknown	22	14	P	poor structure, dead and broken branches, decline, low target potential	retain	
3438	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	6	F	heavy cone production, low target potential	retain	
3439	fruit	unknown	18	16	P	poor structure, decay, low target potential	retain	
3440	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	15	F	relatively young tree	retain	
3606	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	
3607	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	
3608	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	
3609	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
3610	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	
3611	flowering pear	<i>Pyrus calleryana</i>	4	6	G	street tree	protect off-site tree	
10430	giant sequoia	<i>Sequoiadendron giganteum</i>	32	12	G	dense row, protect intact group	protect off-site tree	
10431	giant sequoia	<i>Sequoiadendron giganteum</i>	34	12	G	dense row, protect intact group	protect off-site tree	
10432	giant sequoia	<i>Sequoiadendron giganteum</i>	32	12	G	dense row, protect intact group	protect off-site tree	
10433	giant sequoia	<i>Sequoiadendron giganteum</i>	32	12	G	dense row, protect intact group	protect off-site tree	
10434	giant sequoia	<i>Sequoiadendron giganteum</i>	36	12	G	dense row, protect intact group	protect off-site tree	
10435	giant sequoia	<i>Sequoiadendron giganteum</i>	30	12	G	dense row, protect intact group	protect off-site tree	
10436	giant sequoia	<i>Sequoiadendron giganteum</i>	38	15	F	dense row, protect intact group	protect off-site tree	
10437	giant sequoia	<i>Sequoiadendron giganteum</i>	20	12	F	dense row, protect intact group	protect off-site tree	
10438	giant sequoia	<i>Sequoiadendron giganteum</i>	46	20	G	dense row, protect intact group	protect off-site tree	
10439	giant sequoia	<i>Sequoiadendron giganteum</i>	54	24	G	dense row, protect intact group, open wound on north face 20-30'	protect off-site tree	
10440	giant sequoia	<i>Sequoiadendron giganteum</i>	54	24	G	dense row, protect intact group	protect off-site tree	
10441	giant sequoia	<i>Sequoiadendron giganteum</i>	48	26	G	dense row, protect intact group	protect off-site tree	
10442	giant sequoia	<i>Sequoiadendron giganteum</i>	48	26	G	dense row, protect intact group	protect off-site tree	
10443	giant sequoia	<i>Sequoiadendron giganteum</i>	46	26	G	dense row, protect intact group, codominant leaders	protect off-site tree	
10444	giant sequoia	<i>Sequoiadendron giganteum</i>	46	28	G	dense row, protect intact group	protect off-site tree	
10445	giant sequoia	<i>Sequoiadendron giganteum</i>	44	26	F	dense row, protect intact group	protect off-site tree	
10446	giant sequoia	<i>Sequoiadendron giganteum</i>	42	28	G	dense row, protect intact group	protect off-site tree	
10447	giant sequoia	<i>Sequoiadendron giganteum</i>	50	28	G	dense row, protect intact group	protect off-site tree	
10448	giant sequoia	<i>Sequoiadendron giganteum</i>	50	28	F	dense row, protect intact group, codominant leaders	protect off-site tree	
10969	English hawthorn	<i>Crataegus monogyna</i>	14	16	F	invasive species	remove	C2
10971	Douglas-fir	<i>Pseudotsuga menziesii</i>	42	22	G	one-sided crown to west	protect off-site tree	
10972	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	24	G	one-sided crown to west	protect off-site tree	

No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
10973	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	22	F	suppressed, but okay in group (note that closest adjacent non-surveyed tree has dead top and <i>P. pini</i> conks along trunk)	protect off-site tree	
10974	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	25	G	one-sided crown to west	protect off-site tree	
10975	giant sequoia	<i>Sequoiadendron giganteum</i>	54	18	E	no major defects	protect off-site tree	
10976	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	24	G	poor leader structure with increased risk potential	remove	C1
10977	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	22	G	codominant crown class, one-sided crown, only suitable for retention with 10978	remove	C1
10978	Douglas-fir	<i>Pseudotsuga menziesii</i>	34	16	G	codominant crown class, one-sided crown, only suitable for retention with 10977	remove	C1
10979	redwood	<i>Sequoia sempervirens</i>	10	12	E	relatively young tree, no major defects	protect off-site tree	
10980	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	6	F	intermediate crown class, okay as intact group but increased risk of windthrow with exposure if 10977 and 10978 removed	re-evaluate at the time of adjacent tree removal	
10981	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	24	G	self-corrected lean	retain	
10982	redwood	<i>Sequoia sempervirens</i>	66	28	E	codominant leaders	retain	
10989	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	18	G	few dead and broken branches	remove	C1
11073	Douglas-fir	<i>Pseudotsuga menziesii</i>	32	22	G	codominant crown class	retain	
11074	Douglas-fir	<i>Pseudotsuga menziesii</i>	40	22	G	codominant crown class	retain	
11075	Douglas-fir	<i>Pseudotsuga menziesii</i>	46	22	G	open grown	retain	
11076	Oregon ash	<i>Fraxinus latifolia</i>	16	20	F	moderate structure, visual assessment inhibited by blackberry	retain	
11181	Douglas-fir	<i>Pseudotsuga menziesii</i>	60	24	E	forked top, no major defects	remove	C1

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
11182	Douglas-fir	<i>Pseudotsuga menziesii</i>	34	16	F	poor structure, history of branch failure	remove	C2
11183	Douglas-fir	<i>Pseudotsuga menziesii</i>	20	10	F	codominant crown class	remove	C2
11184	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	8	P	suppressed	remove	C2
11185	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	14	F	codominant crown class	remove	C2
11186	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	8	P	suppressed	remove	C2
11187	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	16	G	codominant crown class	remove	C1
11188	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	14	P	suppressed	remove	C2
11189	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	10	P	suppressed	remove	C2
11190	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	8	P	suppressed	remove	C2
11191	Douglas-fir	<i>Pseudotsuga menziesii</i>	44	22	F	>12 <i>P. pini</i> conks along north face, high risk	remove	D1,H,C2
11192	Douglas-fir	<i>Pseudotsuga menziesii</i>	42	20	G	few dead and broken branches, basal swelling	remove	C2
11193	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	14	P	suppressed	remove	C2
11194	Douglas-fir	<i>Pseudotsuga menziesii</i>	44	28	G	few dead and broken branches	remove	C2
11195	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	28	G	few dead and broken branches	remove	C2
11203	deciduous	unknown	20	22	F	visual assessment inhibited by blackberry	protect off-site tree	
11204	deciduous	unknown	20	22	F	visual assessment inhibited by blackberry	protect off-site tree	
11205	deciduous	unknown	20	22	G	visual assessment inhibited by blackberry	protect off-site tree	
11206	deciduous	unknown	20	20	G	visual assessment inhibited by blackberry	protect off-site tree	
11207	deciduous	unknown	20	22	F	visual assessment inhibited by blackberry	protect off-site tree	
11208	deciduous	unknown	20	20	F	visual assessment inhibited by blackberry	protect off-site tree	

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No.	Common Name	Species Name	DBH ¹	C-Rad ²	Cond ³	Comments	Treatment	Criteria ⁴
11209	deciduous	unknown	40	26	F	moderate structure	protect off-site tree	
11210	deciduous	unknown	18	12	F	poor structure, some decay	protect off-site tree	
11211	Port-Orford-cedar	<i>Chamaecyparis lawsoniana</i>	24	14	G	codominant leaders	protect off-site tree	
11224	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	10	F	intermediate crown class, dead and broken branches, poor structure	remove	C2
11225	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	16	F	suppressed, one-sided crown	remove	C2
11226	Douglas-fir	<i>Pseudotsuga menziesii</i>	40	22	G	old resin flow west face 0-12'	remove	C2
11227	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	10	G	codominant with 11228	remove	C2
11228	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	16	G	codominant with 11227	remove	C1
11229	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	20	G	no major defects	protect off-site tree	
11230	Douglas-fir	<i>Pseudotsuga menziesii</i>	7	8	F	somewhat suppressed	protect off-site tree	
11231	American holly	<i>Ilex opaca</i>	12	8	F	poor structure	retain	
11232	western redcedar	<i>Thuja plicata</i>	20	18	G	moderate structure	retain	
11233	western redcedar	<i>Thuja plicata</i>	20	22	G	moderate structure	retain	

¹**DBH** is tree diameter measured at 4.5-feet above the ground level in inches; multiple trunks splitting below DBH are measured separately and individual trunk measurements are separated by a comma, except multiple trunks of the same size are indicated with an asterisk (quantity x size).

²**C-Rad** is crown radius measured in feet.

³**Cond** is an arborist assigned rating to generally describe the condition of individual trees as follows-
Poor Condition; **F**air Condition; **G**ood Condition; or **E**xcellent Condition.

⁴**Criteria** provides justification for the proposed tree removal (per TDC 34.230):

D1: Diseased and the disease threatens the structural integrity of the tree;

D2: Diseased and the disease permanently and severely diminishes the aesthetic value of the tree; or

D3: Diseased and the continued retention of the tree could result in other trees being infected with a disease that threatens either their structural integrity or aesthetic value;
H: Hazardous.

C: Construction necessitates tree removal (**1**-Building Lot; **2**-Street/Sidewalk; **3**-Water Quality Facility; **4**-Other Grading/Site Improvements)



June 2, 2015

Project #: 17299

Tony Doran
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: Sagert Farms Development Transportation Impact Analysis

Dear Tony,

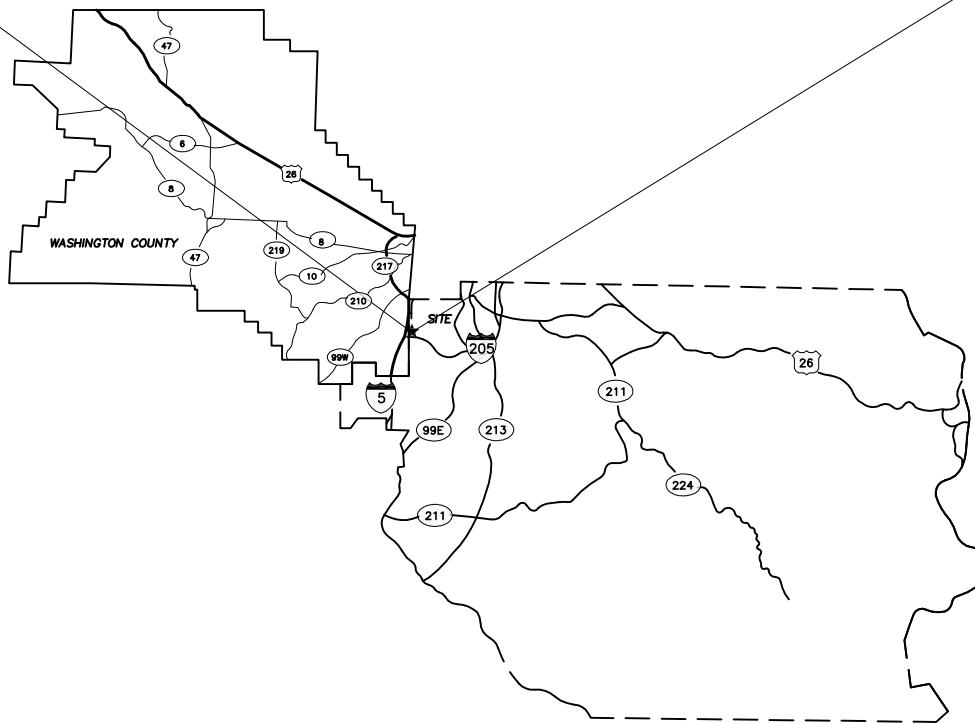
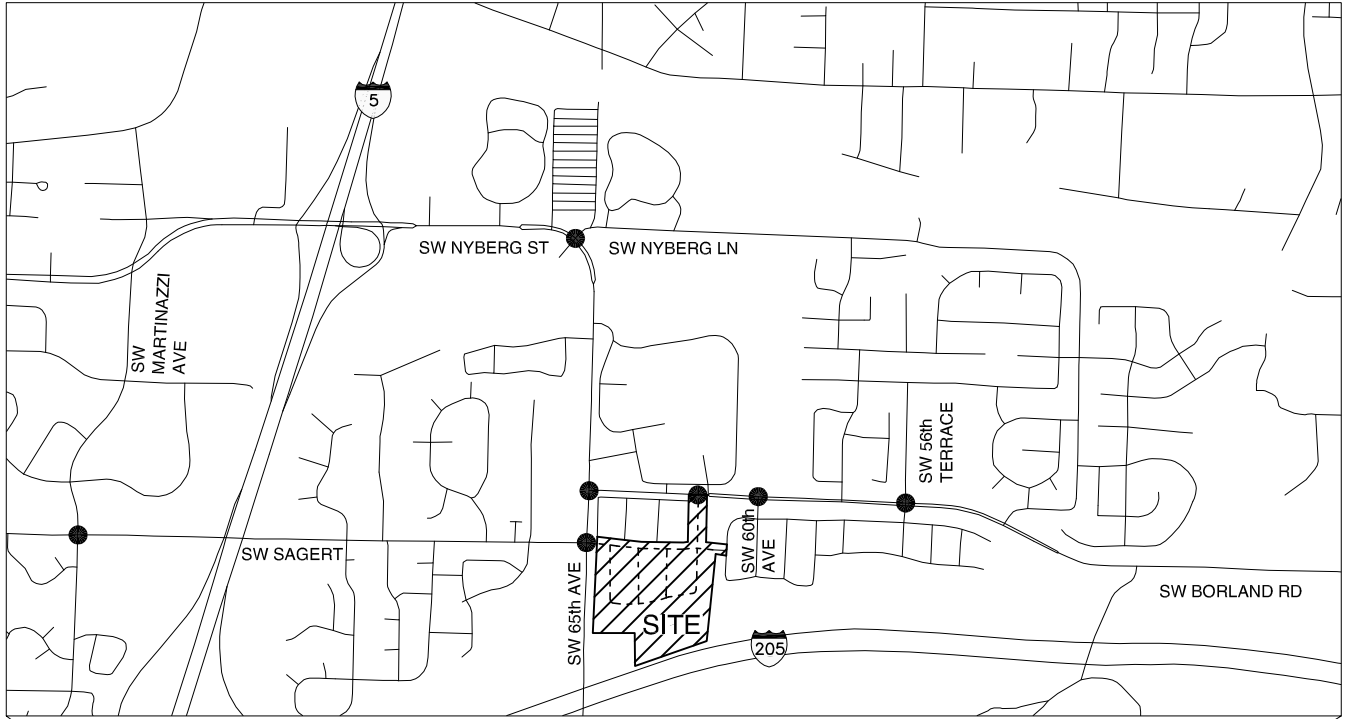
Lennar Homes is proposing a 79-unit single-family home subdivision in southeast Tualatin. This report addresses the development's traffic impacts on the surrounding transportation system and has been prepared to support the formal development application. Transportation improvements recommended in conjunction with site development include:

- SW Sagert Street should be extended to the east through the site in a manner that meets the intent of the City's TSP and accommodates the proposed development.
- The SW Sagert Street/SW 65th Avenue intersection should be signalized and coordinated with the SW Borland Road/SW 65th Avenue intersection.
- Landscaping, signage, and above ground utilities near the internal intersections and site access points should be located and maintained to ensure adequate sight distance.

Additional details of the methodology, findings and recommendations are provided herein.

INTRODUCTION

Lennar Homes is proposing to develop a residentially zoned property that has historically been owned/utilized by the Sagert family for farming/agriculture purposes. The development is a 79-unit single-family home subdivision. As identified in the City of Tualatin's Transportation System Plan (TSP), the development will construct an eastward extension of SW Sagert Street from its current terminus at SW 65th Avenue through the site and connect it to an existing local street stub in the adjacent Sequoia Woods neighborhood. Local street connections are proposed off the SW Sagert Street extension to provide access to the proposed neighborhood. In addition, a local street connection to SW Borland Road is proposed to provide a secondary access point to the neighborhood. Figure 1 shows the site vicinity and Figure 2 illustrates the proposed site plan. Full build-out and occupancy of the subdivision is anticipated in year 2018.



LEGEND

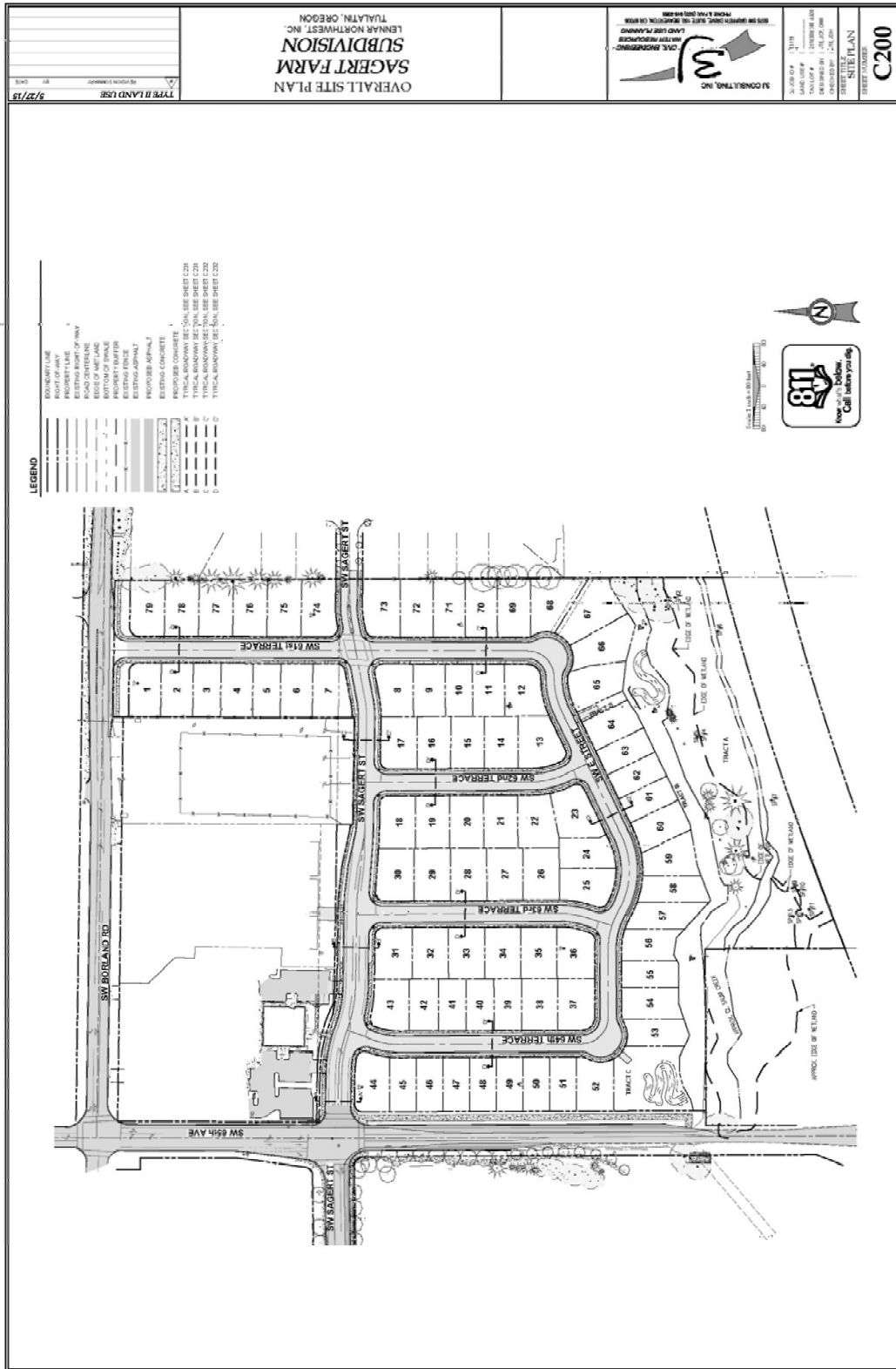
- - STUDY INTERSECTION

**SITE VICINITY MAP
TUALATIN, OREGON**

**FIGURE
1**

H:\profile\17299 - Sagert Farms\dwg\figs\17299_figs_4.14.2015.dwg Jun 02, 2015 - 4:48pm - pmarnell Layout Tab: 01

Figure 2 – Proposed Site Layout (Provided by 3J Consulting, Inc. 6/2/15)



SCOPE OF THE REPORT

This report identifies the transportation-related impacts associated with the proposed subdivision and was prepared in accordance with the requirements of the City of Tualatin. The study intersections and scope were selected in consultation with City staff. Accordingly, operational analyses were performed at the following study intersections during the weekday AM and PM peak periods:

- SW 65th Avenue/SW Sagert Street;
- SW 65th Avenue/SW Borland Road;
- SW Nyberg Street/SW 65th Avenue/SW Nyberg Lane;
- SW 60th Avenue/SW Borland Road;
- SW 56th Terrace/SW Borland Road; and
- SW Martinazzi Avenue/SW Sagert Street

This report evaluates the following transportation issues:

- Existing land use and transportation system conditions within the site vicinity during the weekday AM and PM peak periods;
- Forecast year 2018 background traffic conditions during the weekday AM and PM peak periods, considering developments and transportation improvements planned in the study area;
- Trip generation and distribution estimates for the subdivision;
- Forecast year 2018 total traffic conditions during both peak hours of the site assuming full buildout of the subdivision; and
- Recommended improvements/intersection considerations.

Analysis Methodology

All level-of-service analyses described in this report were performed in accordance with the procedures stated in the 2000 Highway Capacity Manual (HCM). A description of level of service and the criteria by which they are determined is presented in Appendix "A". Appendix "A" also indicates how level of service is measured and what is generally considered the acceptable range of level of service. To ensure that this analysis was based on a reasonable worst-case scenario, the peak 15 minute flow rate during the peak hour analysis periods was used in the evaluation of all intersection levels of service. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. Traffic conditions during other weekday and weekend hours will likely be better than those described in this report.

EXISTING CONDITIONS

This section summarizes the existing characteristics of the transportation system and adjacent land uses in the vicinity of the proposed subdivision, including an inventory of the existing multi-modal transportation facilities and options, an evaluation of existing intersection operations for motor vehicles at the study intersections, and a summary of recent crash history.

Site Conditions and Adjacent Land Uses

The proposed development site is located east of SW 65th Avenue, south of SW Borland Road, and north of Saum Creek and the I-205 corridor. The site has historically been used for farming purposes and currently contains a single residential home and several farming related structures. Access to this home is via a single driveway located off of SW 65th Avenue. The site is bounded to the east by the Sequoia Ridge subdivision. The site's northern boundary is formed by two separate professional medical office buildings, a PGE substation, and SW Borland Road.

Transportation Facilities

Table 1 identifies the characteristics of key roadways located within the vicinity of the development site. Figure 3 identifies the existing lane configurations and traffic control devices at all of the study intersections.

Table 1 – Existing Transportation Facilities

Roadway	Classification (by Jurisdiction)	Motor Vehicle Travel Lanes	Posted Speed (mph)	Sidewalks	Striped Bicycle Lanes	On-Street Parking
SW Nyberg Street	Arterial (east of I-5) - (Washington County) ¹ Major Arterial – (Tualatin)	3-6 lanes	30	Yes	Yes	No
SW 65 th Avenue	Arterial - (Washington County) ² Major Arterial – (Tualatin)	3 lanes	35	Yes	No ⁵	No
SW Sagert Street ³	Minor Arterial – (Tualatin) (east of SW Martinazzi Ave to SW 65 th Ave) Major Collector – (Tualatin) (west of SW Martinazzi Ave)	2-3 lanes	35	Yes	Yes	No
SW Borland Road	Minor Arterial – (Clackamas County) ⁴ Major Arterial – (Tualatin)	2-3 lanes	35	Yes	Yes ⁶	No
SW 60 th Avenue	Local Street – (Tualatin)	2 lanes	25	Yes	No	Yes
SW 56 th Avenue	Local Street – (Tualatin)	2 lanes	25	Yes	No	Yes

Notes:

¹ ODOT has jurisdictional control over SW Nyberg Road within the vicinity of the northbound and southbound I-5 ramp terminals. Washington County has maintenance and ownership responsibility east of this point.

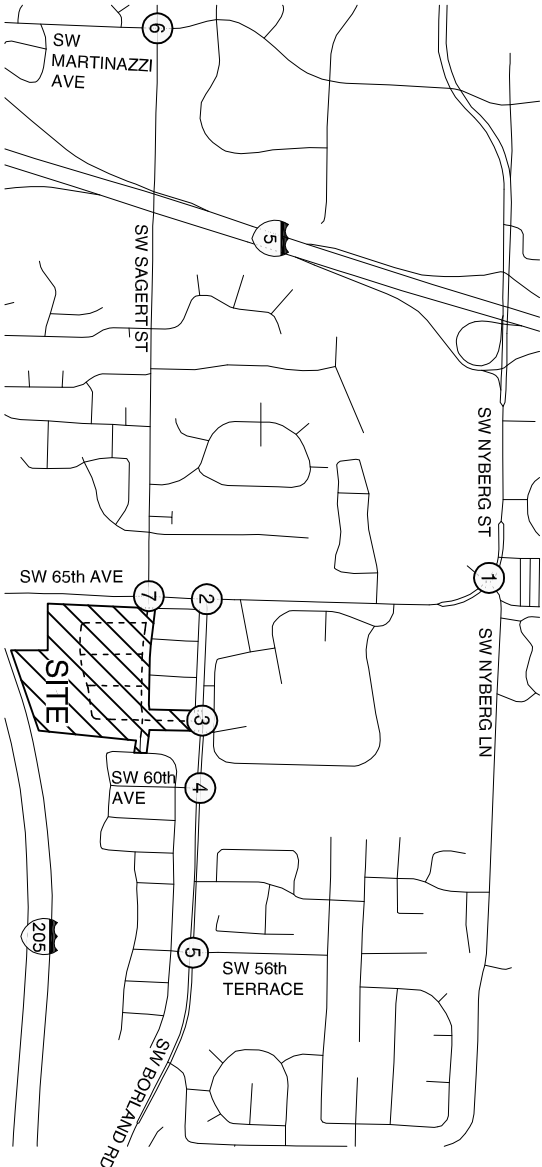
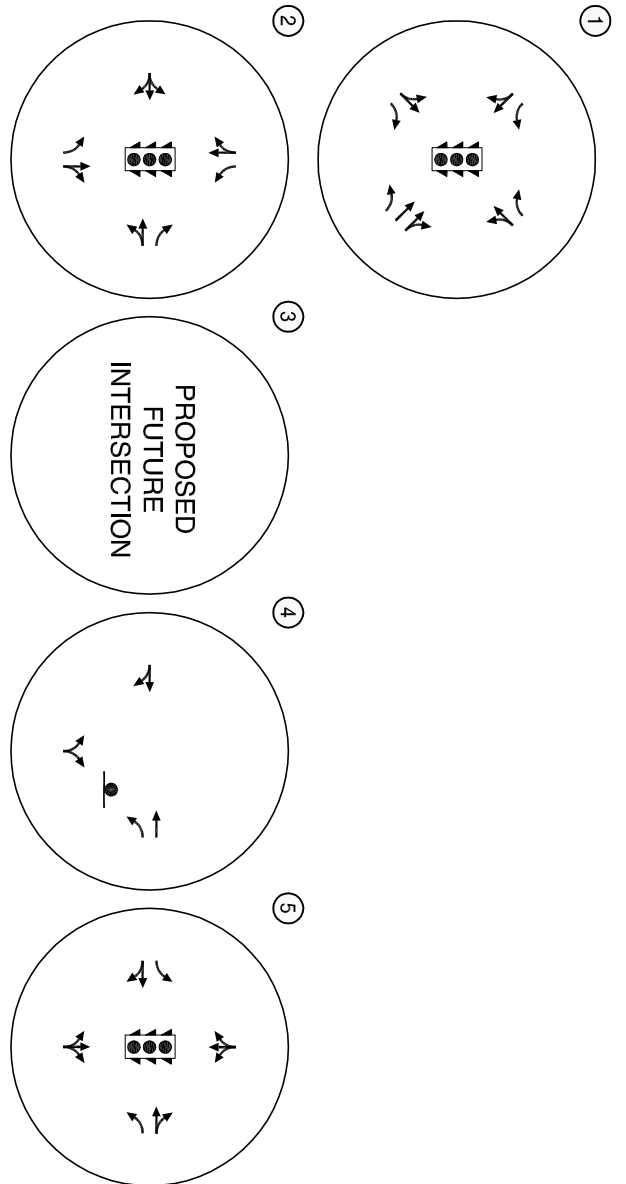
² Washington County has maintenance and ownership responsibility for SW 65th Avenue.

³ The City of Tualatin has maintenance and ownership responsibility for SW Sagert Street.

⁴ Clackamas County has maintenance and ownership responsibility for SW Borland Road.

⁵ Striped bicycle lanes exist on SW 65th Avenue south of SW Borland Road.

⁶ There are no bicycle lanes within the vicinity of the SW 65th Avenue intersection.



- LEGEND**
-  - STOP SIGN
 -  - TRAFFIC SIGNAL

EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES TUALATIN, OREGON

FIGURE 3

Transit Facilities

Regional transit access is provided to the site vicinity via TriMet bus route 76. This route connects the site vicinity to Legacy Meridian Park, Downtown Tualatin, Downtown Tigard, and Downtown Beaverton. Bus stops for this route are located within the Legacy Meridian Park hospital site, along SW 65th Avenue, and along SW Sagert Street. Service is provided seven days a week with a stop frequency of approximately every half hour.

2015 Existing Operations

Manual turning movement counts were collected at the study intersections in January 2015 when local schools were in session. Traffic counts were collected during the morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak time periods. Appendix "B" contains the traffic count worksheets.

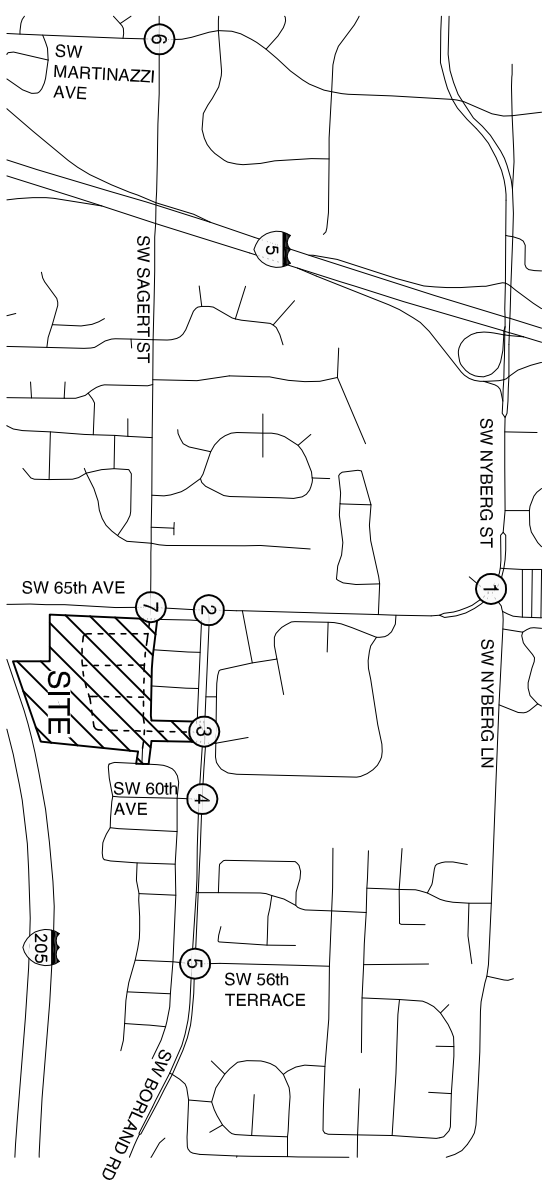
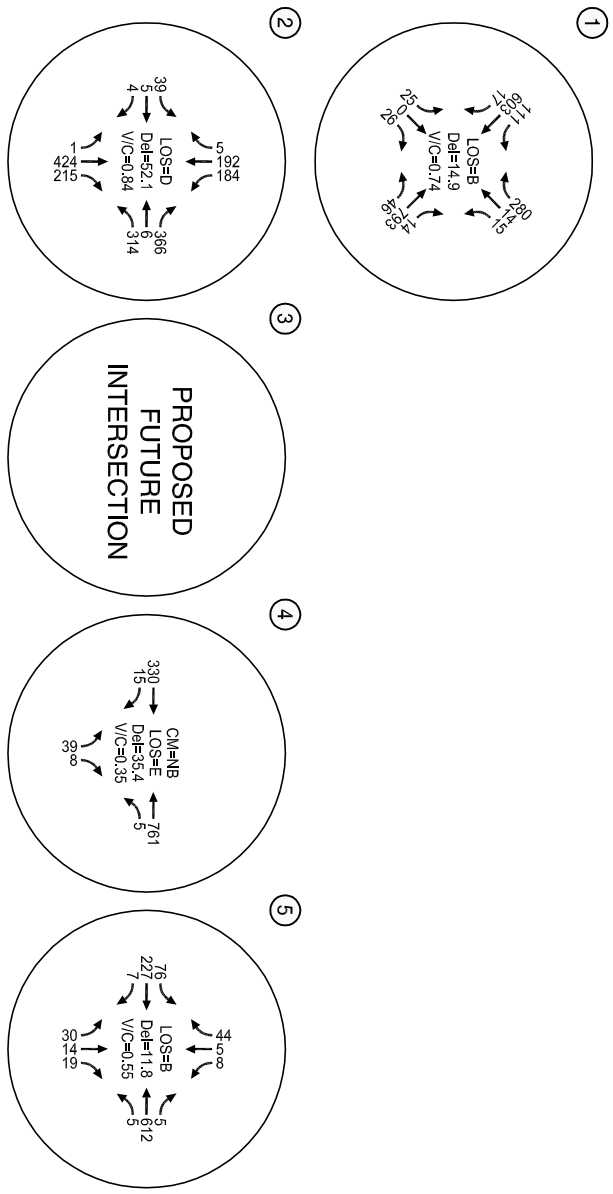
Figures 4, 5, and Table 2 summarize the operational analysis for the study intersections during the weekday AM and PM peak hours. As shown, all intersections operate at acceptable levels of service and volume-to-capacity (v/c) ratios during the peak hours with the exception of the SW Martinazzi Avenue/SW Sagert Street and SW 65th Avenue/SW Sagert Street intersections. *Appendix "C" contains the 2015 existing conditions operational worksheets.*

SW 65th Avenue/SW Sagert Street

The SW 65th Avenue/SW Sagert Street intersection is an all-way stop-controlled intersection. Based on the existing traffic demand, the intersection currently operates at LOS F during the weekday a.m. and p.m. peak hours. These findings are consistent with field observations which show significant levels of delay and long vehicle queues along the westbound SW Sagert Street approach and along the northbound SW 65th Avenue approach. These findings are also consistent with the analyses performed as part of the recent update to the *Tualatin Transportation System Plan (TSP)*. In recognition of these conditions, the City of Tualatin has included signalization of the SW 65th Avenue/SW Sagert Street intersection in the latest draft of its Capital Improvement Plan (CIP). With inclusion in the CIP, this funded improvement could potentially be constructed sometime within the 5-year CIP window.

SW Martinazzi Avenue/SW Sagert Road

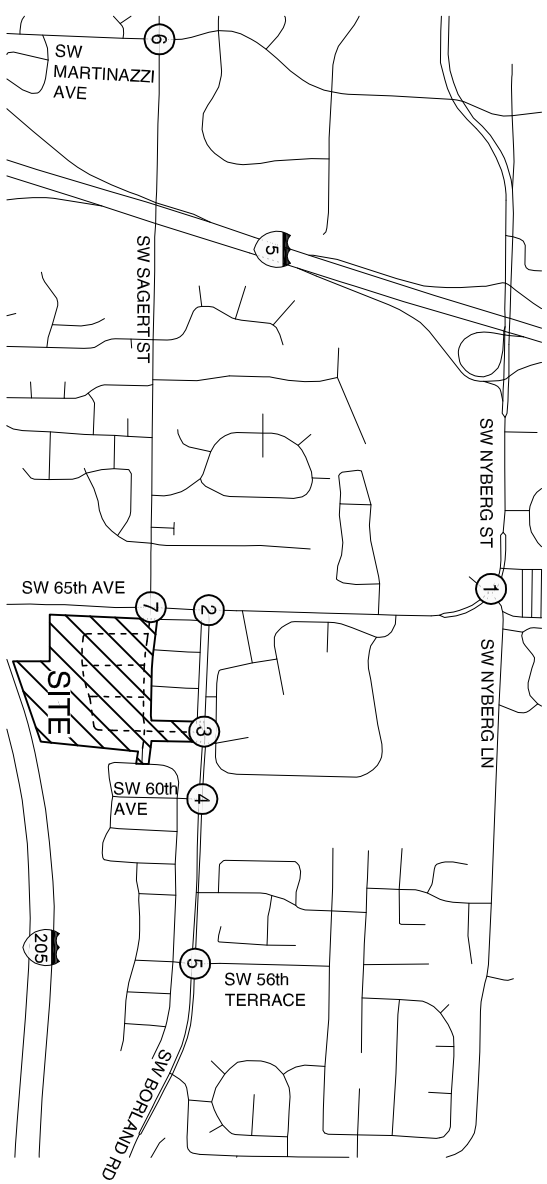
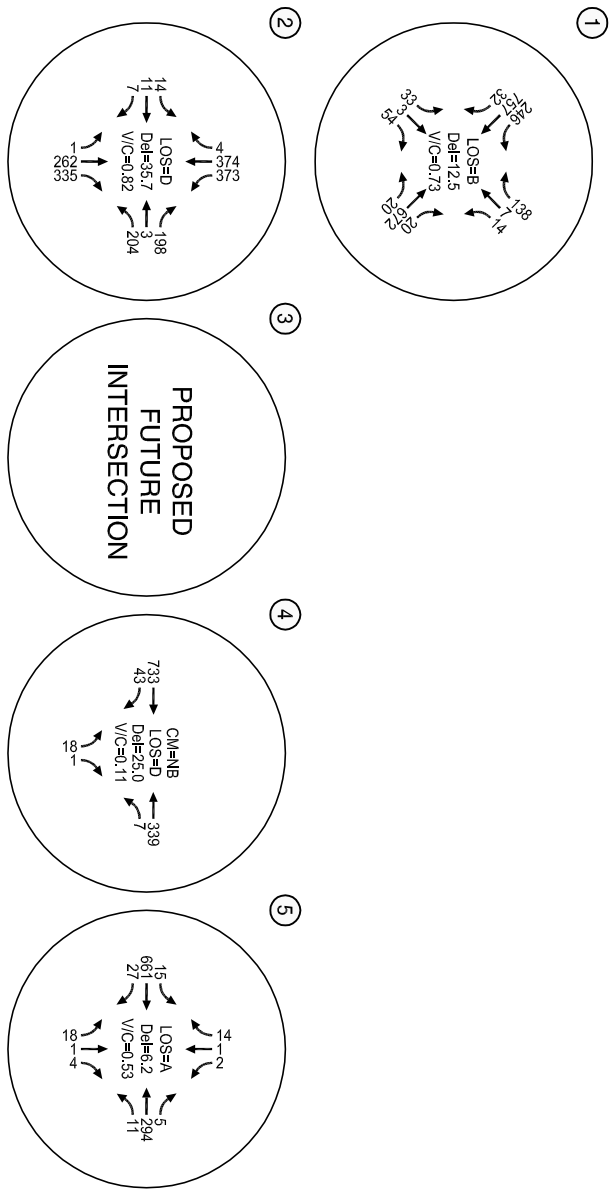
The SW Martinazzi Avenue/SW Sagert Street intersection is an all-way stop-controlled intersection. Based on the existing traffic demand, the intersection currently operates at LOS E during the weekday a.m. peak hour and LOS F during the weekday p.m. peak hour. These findings are also consistent with field observations and the existing conditions analysis prepared as part of the recent update to the Tualatin TSP. This intersection is included in the "unfunded" category of the City's CIP and is noted as needing improvements. The City's TSP calls for future signalization of the intersection.



LEGEND

CM = CRITICAL MOVEMENT (TWSC)
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
 TWSC = TWO-WAY STOP CONTROL
 AWSC = ALL-WAY STOP CONTROL

EXISTING TRAFFIC CONDITIONS
 WEEKDAY AM PEAK HOUR
 TUALATIN, OREGON
FIGURE 4



LEGEND

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- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

EXISTING TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE 5

Table 2 – 2015 Existing Traffic Conditions

Intersection	Maximum Operating Standard	Weekday AM Peak Hour		Weekday PM Peak Hour	
		LOS	V/C	LOS	V/C
Signalized Intersections					
SW 65 th Avenue/SW Borland Road	0.99 ¹	D	0.84	D	0.82
SW Nyberg Street/SW 65 th Avenue/SW Nyberg Lane	0.99 ¹	B	0.74	B	0.73
SW 56 th Terrace/SW Borland Road	0.99 ² / LOS E ³	B	0.55	A	0.53
Unsignalized Intersections⁴					
SW 60 th Avenue/SW Borland Road	0.99 ³ / LOS E ³	E	0.35	D	0.11
All-Way Stop Controlled Intersections					
SW 65 th Avenue/SW Sagert Street	0.99 ¹ / LOS E ³	F	-	F	-
SW Martinazzi Avenue/SW Sagert Street	LOS D ³	E	-	F	-

Notes:

¹ Washington County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.

² Clackamas County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.

³ The City of Tualatin considers LOS “D” acceptable at signalized intersections and LOS “E” acceptable at unsignalized intersections.

⁴ LOS and V/C for unsignalized intersections reported for the highest delay or critical movement.

Crash History Analysis

Washington County maintains a Safety Priority Index System (SPIS) list to identify existing hazardous intersections for potential safety improvements. Intersections are included in the SPIS list if they have three or more crashes or if they have one or more severe injury or fatal crashes within three consecutive years. The intersection of Nyberg Lane/Nyberg Street/65th Avenue appears on the most recent Washington County SPIS list (2010-2012) (Reference 1). This intersection of is ranked 185th of 312.

In addition to reviewing the Washington County SPIS list, the crash histories of the each study intersections and driveways were reviewed in an effort to identify potential intersection safety issues. Crash data for the study intersections were obtained from the Oregon Department of Transportation (ODOT) for the five-year period from January 1, 2009 through December 31, 2013. Table 3 illustrates the crashes reported at the study intersections. Appendix “D” contains the ODOT crash data.

Table 3 - Intersection Crash History (January 1, 2009 through December 31, 2013)

Intersection	Collision Type						Total Crashes	Estimated Average Annual Daily Traffic	Crash Rate (crashes per million entering vehicles)
	Angle	Turning	Rear End	Fixed Object	Ped/Bike	Other			
SW 65 th Avenue/ SW Borland Road	1	3	2	-	-	-	6	17,860	0.18
SW Nyberg Street/ SW 65 th Avenue/SW Nyberg Lane	-	2	5	-	1 ^A	1	9	19,960	0.25
SW 60 th Avenue/ SW Borland Road	-	-	-	-	-	-	0	11,410	0
SW 56 th Terrace/ SW Borland Road	-	-	-	-	-	-	0	10,530	0
SW 65 th Avenue/ SW Sagert Street	1	8	2	-	-	-	11	13,530	0.45
SW Martinazzi Avenue/ SW Sagert Street	5	1	-	1	1 ^B	-	8	18,020	0.24

^A The bicycle crash reported at the SW Nyberg Street/SW 65th Avenue/SW Nyberg Lane intersection occurred when a left-turning vehicle entering the driveway on the south side of the intersection failed to yield the right-of-way to eastbound bicyclist. The bicyclist struck the turning vehicle resulting in a "right-hook" crash.

^B The bicycle crash reported at the SW Martinazzi Avenue/SW Sagert Street intersection occurred when a southbound vehicle disregarded a stop sign and struck an eastbound bicyclist.

Eight turning crashes were reported at the SW 65th Avenue/SW Sagert Street intersection. As noted later in this report, it will be recommended that this intersection be signalized.

The historic crash rates were compared to the peak hour total entering volumes to determine whether the crashes per million entering vehicles exceeded 1.0. No intersection had a crash rate per million entering vehicles exceeding 1.0. Given the frequency of crashes at the intersections potentially impacted by the proposed Sagert Farms development, no additional safety-based mitigation measures were identified for the study intersections based on the review of ODOT crash data (assuming signalization of the SW 65th Avenue/SW Sagert Street intersection).

TRAFFIC IMPACT ANALYSIS

The traffic impact analysis identifies how the study area's transportation system will operate upon build out of the proposed residential development. The impact of site-generated weekday a.m. and p.m. peak hour trips was examined as follows:

- Planned developments and transportation improvements in the site vicinity were identified and reviewed;
- Year 2018 background traffic conditions (build-out year of the proposed development without site-generated traffic) were analyzed at the study intersections;
- Future peak hour site-generated trips were estimated for build-out of the site;
- A trip distribution pattern was prepared and the site-generated trips were distributed to the study area intersections;
- Existing traffic patterns were adjusted to account for new roadway infrastructure;
- Forecast year 2018 total traffic conditions were analyzed during the weekday a.m. and p.m., peak hours with build-out of the site; and
- On-site circulation and site-access operations were evaluated.

2018 BACKGROUND CONDITIONS

The year 2018 background traffic analysis identifies how the study area's transportation system will operate without the proposed development but within the same anticipated buildout period. This analysis accounts for traffic attributed to planned developments within the study area and includes general growth in the region, but does not include traffic from the proposed development.

Planned Developments and Transportation Improvements

Per discussions with City and County staff, there are no approved in-process developments in the immediate site vicinity that are anticipated to have a measurable impact at the study intersections. However, it should be noted that at the time the traffic counts were collected for this study, buildout of the last few Nyberg Rivers outparcel pads was still in process. Given the difficulty in itemizing the traffic-related impacts of these remaining pads, this growth as well as continued regional growth was accounted for by applying a 2-percent annual growth rate to the existing traffic volumes. This growth rate is slightly higher than the 1.5 percent annual growth rate that City has recognized on other transportation impact studies in the area and therefore is a reasonably conservative approximation of future traffic conditions.

With regards to planned transportation improvements, it was previously noted that signalization of the SW Sagert Street/SW 65th Avenue intersection has been included in the City's CIP. However, given the likelihood that construction of the traffic signal won't occur within the anticipated 2018 study horizon

year, the 2018 background traffic analysis has been performed assuming continued use of the existing all-way stop control.

2018 Background Operations

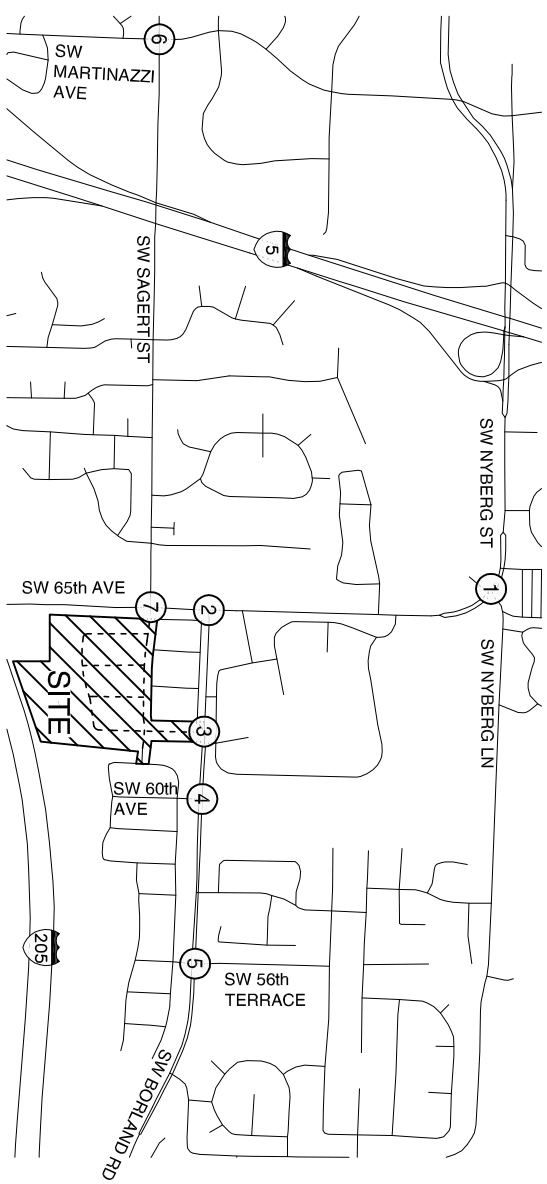
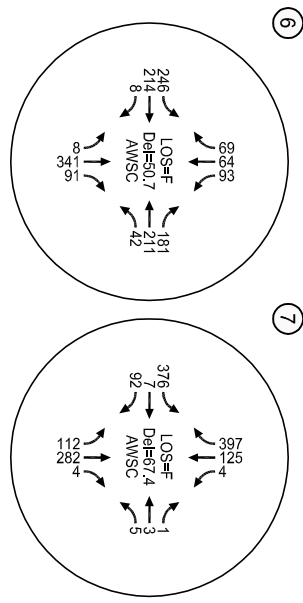
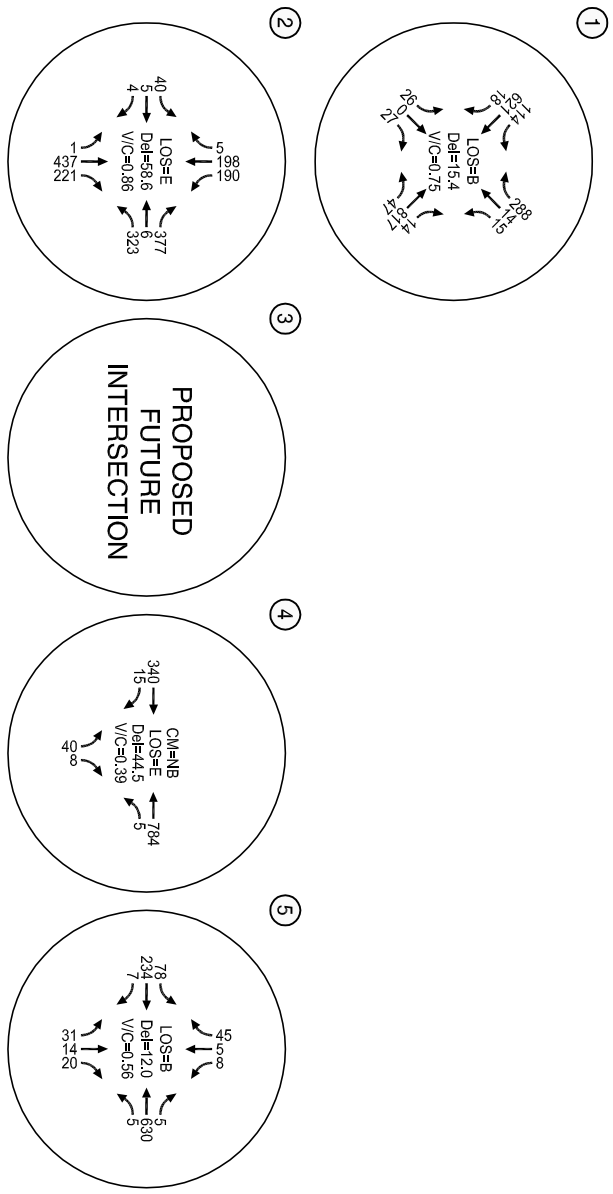
Figures 6, 7, and Table 4 summarize the forecast 2018 background traffic conditions for the study intersections during the weekday a.m. and p.m. peak hours. As shown, all intersections are forecast to operate at acceptable levels of service and v/c ratios during the peak hours with the exception of the SW Martinazzi Avenue/SW Sagert Street and SW 65th Avenue/SW Sagert Street intersections (both of which were documented to operate at LOS F under existing conditions). *Appendix “E” contains the 2018 background conditions operational worksheets.*

Table 4 – 2018 Background Traffic Conditions

Intersection	Maximum Operating Standard	Weekday AM Peak Hour		Weekday PM Peak Hour	
		LOS	V/C	LOS	V/C
Signalized Intersections					
SW 65 th Avenue/SW Borland Road	0.99 ¹	E	0.86	D	0.84
SW Nyberg Street/SW 65 th Avenue/SW Nyberg Lane	0.99 ¹	B	0.75	B	0.74
SW 56 th Terrace/SW Borland Road	0.99 ² / LOS E ³	B	0.56	A	0.55
Unsignalized Intersections⁴					
SW 60 th Avenue/SW Borland Road	0.99 ³ / LOS E ³	E	0.39	D	0.12
All-Way Stop Controlled Intersections					
SW 65 th Avenue/SW Sagert Street	0.99 ¹ / LOS E ³	F	-	F	-
SW Martinazzi Avenue/SW Sagert Street	LOS D ³	F	-	F	-

Notes:

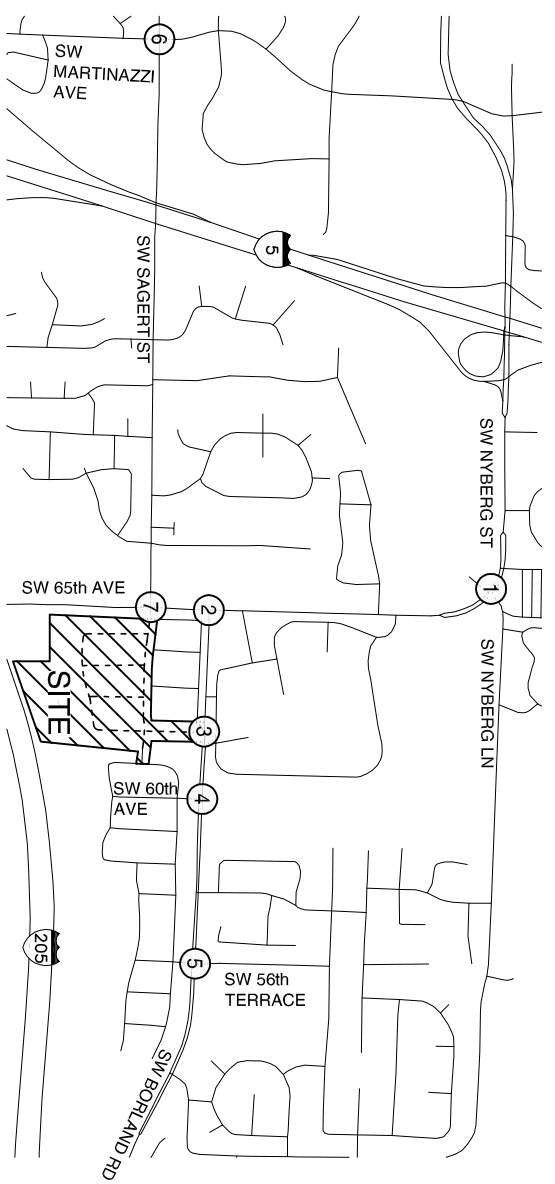
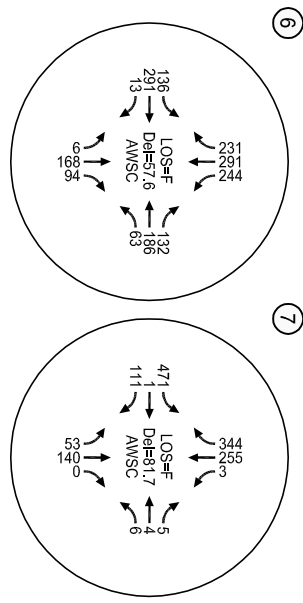
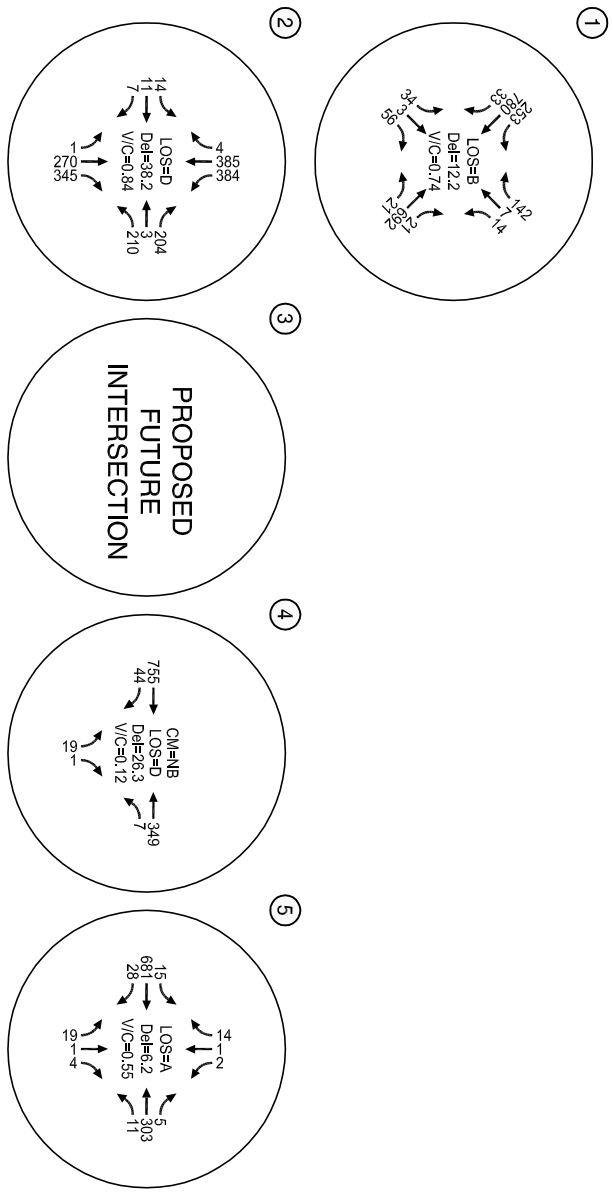
- ¹ Washington County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.
- ² Clackamas County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.
- ³ The City of Tualatin considers LOS “D” acceptable and signalized intersections and LOS “E” at unsignalized intersections.
- ⁴ LOS and V/C for unsignalized intersections reported for the highest delay or critical movement.



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- TWSC = TWO-WAY STOP CONTROL
- AMSC = ALL-WAY STOP CONTROL

2018 BACKGROUND TRAFFIC CONDITIONS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON
FIGURE 6



LEGEND

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- AWSC = ALL-WAY STOP CONTROL

2018 BACKGROUND TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON
FIGURE 7

PROPOSED DEVELOPMENT PLAN

As previously described and illustrated in Figure 2, Lennar Homes is proposing to develop a 79-unit single-family home subdivision on the Sagert Property. The development is proposing to construct the following transportation infrastructure:

- An easterly extension of SW Sagert Street beginning at the SW Sagert Street/SW 65th Avenue intersection and connecting to an existing local street stub in the adjacent Sequoia Ridge neighborhood. This proposed alignment and connecting points are consistent with the City of Tualatin TSP. To accommodate the development and meet the intent of the TSP, the configuration of the SW Sagert Street extension is proposed to include:
 - A two-lane roadway designed as a modified version of the City’s Minor Collector roadway standard.
 - The west end of the extension is proposed to be three travel lanes wide (adding a westbound left-turn lane) to better accommodate turning movement volumes at the SW Sagert Street/SW 65th Avenue intersection.
 - The east end of the extension will provide two travel lanes. This configuration will allow the roadway to match the existing local street stub at the Sequoia Ridge neighborhood and provide a natural transition from the three-lane minor arterial configuration west of SW 65th Avenue to the designated local street section (the two-lane configuration should help minimize regional cut-through traffic).
 - The entire roadway extension will include sidewalks and bicycle lanes.
- To serve the 79-home subdivision, a network of local streets will be constructed. All of these local streets are proposed to take access off of the new extension of SW Sagert Street. One of these local streets serving the eastern portion of the site is proposed to connect to SW Borland Road. Due to the configuration of the site and the width of the property that fronts SW Borland Road, it is not feasible to align a local street such that it would connect to SW Borland Road opposite the existing hospital access driveway and still maximize the property for development. As such, a limited access right-in/right-out connection is proposed to mitigate the resulting negatively off-set driveways. A small raised median is proposed along SW Borland Road at this connection point to help enforce the right-in/right-out access and still allow full access to the Meridian Park Hospital emergency driveway. A “pork-chop” island within the local street driveway throat the SW Borland Road may also be considered to reinforce the right-in/right-out access driveway.
- As documented later in this report, the extension of SW Sagert Street is likely to result in some regional cut-through traffic. Although projected to be relatively minor (see Figures 9, 10, and Appendix F figures F5 and F6), some of this regional cut-through traffic will result in increased traffic volumes on the local streets in the adjacent Sequoia Ridge subdivision. In an attempt to help minimize cut-through traffic oriented through Sequoia Ridge, all-way

stop control is proposed at the intersection of SW Sagert Street and the north-south roadway that connects to SW Borland Road. The inclusion of all-way stop control will help transition between the Minor Collector design of the SW Sagert Street extension and the local street stub connecting to the Sequoia Ridge subdivision. In addition to the all-way stop control, additional signage is proposed for eastbound traffic volumes on the SW Sagert Street that will help direct traffic volumes onto the new local street that will connect to SW Borland Road.

- Given the existing operational limitations, the new characteristics brought about as a result of the extension of SW Sagert Street, and the increased traffic volumes from the proposed subdivision, it is recognized that the proposed development will require signalization of the SW Sagert Street/SW 65th Avenue intersection. Additional details of this signalization are included in the following section.

Signalization of the SW Sagert Street/SW 65th Avenue Intersection

For the purposes of this analysis, signalization of the SW Sagert Street/SW 65th Avenue intersection was assumed to include the following characteristics.

- The intersection approaches are configured as described below.
 - The northbound approach will be widened and reconfigured to include a separate left-turn lane and a shared through-right lane;
 - The eastbound approach will be restriped to include a separate left-turn lane and a shared through/right-turn lane. This approach will also be widened to accommodate full width bicycle lanes all the way to the SW 65th Avenue intersection;
 - No changes are proposed to the southbound approach, thereby maintaining the existing right-turn slip lane, a through lane, and a left-turn lane; and
 - The westbound approach will be reconstructed to provide a separate left-turn lane and a shared through-right lane (mirroring the proposed configuration on the eastbound approach).
- The traffic signal has been analyzed and based on the traffic volumes, geometric/land use constraints, and proposed lane configurations, the following design characteristics are needed/proposed:
 - The new signal would need to operate in coordination with the existing traffic signal at the SW Borland Road/SW 65th Avenue intersection. This coordination is needed for vehicle queue management purposes due to the relatively short distance between the SW 65th Avenue/SW Borland Road and SW 65th Avenue/SW Sagert Street intersections.

- The signal should be designed with a 2070 type controller that will allow for coordination with the existing 2070 controller at the SW 65th Avenue/SW Borland Road intersection.
- The proposed signal should be designed to operate with split phasing in the east-west direction (along SW Sagert Street).
- The proposed signal should operate with a 130-second cycle length during the a.m. and a 115-second cycle length during p.m. peak periods to match current adjacent intersection operations (or as amended by the City/County to coordinate with the existing 2070 controller at the SW 65th Avenue/SW Borland Road intersection).
- The northbound and southbound movements at the proposed SW Sagert Street/SW 65th Avenue and the existing SW Borland Road/SW 65th Avenue signalized intersections are assumed to be served twice per cycle to better manage queuing between the signals.
- The traffic signal should include appropriate design features (to be determined during the formal signal design and affiliated signing/stripping plans) to address the grades along SW 65th Avenue's northbound approach. An example feature, among others, may include advanced signal head placements in accordance with the *Manual on Uniform Traffic Control Devices*).

Driveway Access to the SW Sagert Street Extension

In conjunction with the extension of SW Sagert Street, the two previously mentioned medical office building lots that border the north side of the proposed subdivision will have access to SW Sagert Street. The western lot (TPC property) will be provided two driveways to the SW Sagert Street extension that replace their existing driveway access at the SW Sagert Street/SW 65th Avenue intersection. The east driveway will be a full access driveway located approximately 250 feet east of the SW Sagert Street/SW 65th Avenue intersection. Due to the orientation of the site, the west driveway can only be located 100 feet from the SW Sagert Street/SW 65th Avenue intersection. As such, this driveway will be limited to right-in/right-out access via a raised median along the SW Sagert Street extension. Although the right-in/right-out driveway will provide some access limitations, the TPC property will continue to have use of two existing full access driveways off of SW Borland Road.

The other medical office building lot (Mei Medical Building) will be provided a full access driveway along the SW Sagert Street extension opposite one of the proposed local neighborhood streets. For the purposes of this study, it has been assumed that this access will replace the existing full access

driveway off of SW Borland Road per that site's original conditions of approval¹. Additional details of this SW Borland Road driveway closure are provided in the following section.

Figure 8 illustrates the proposed/assumed lane configurations and traffic control devices at all of the study intersections.

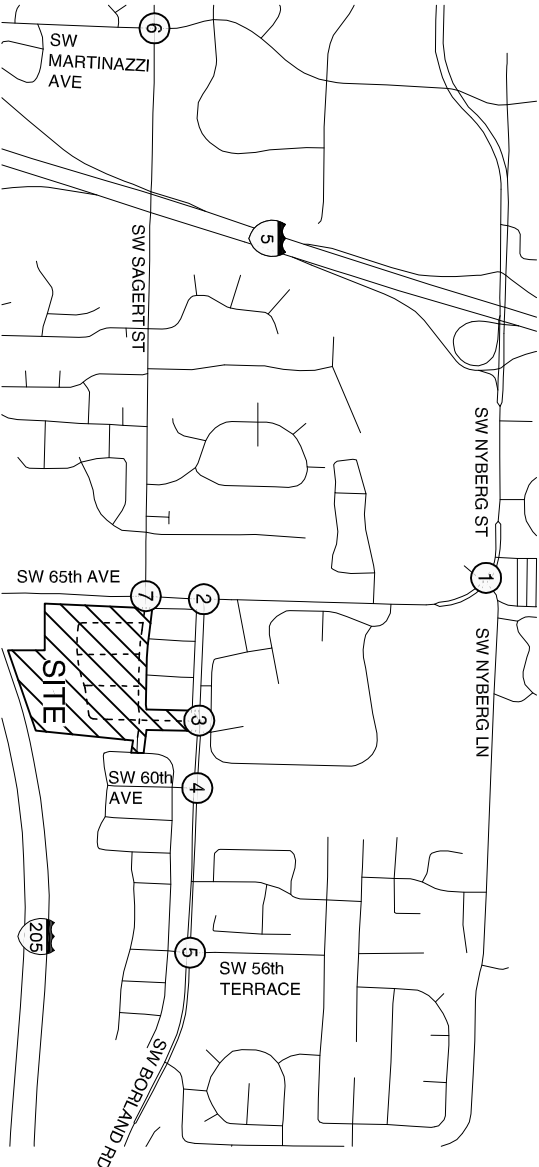
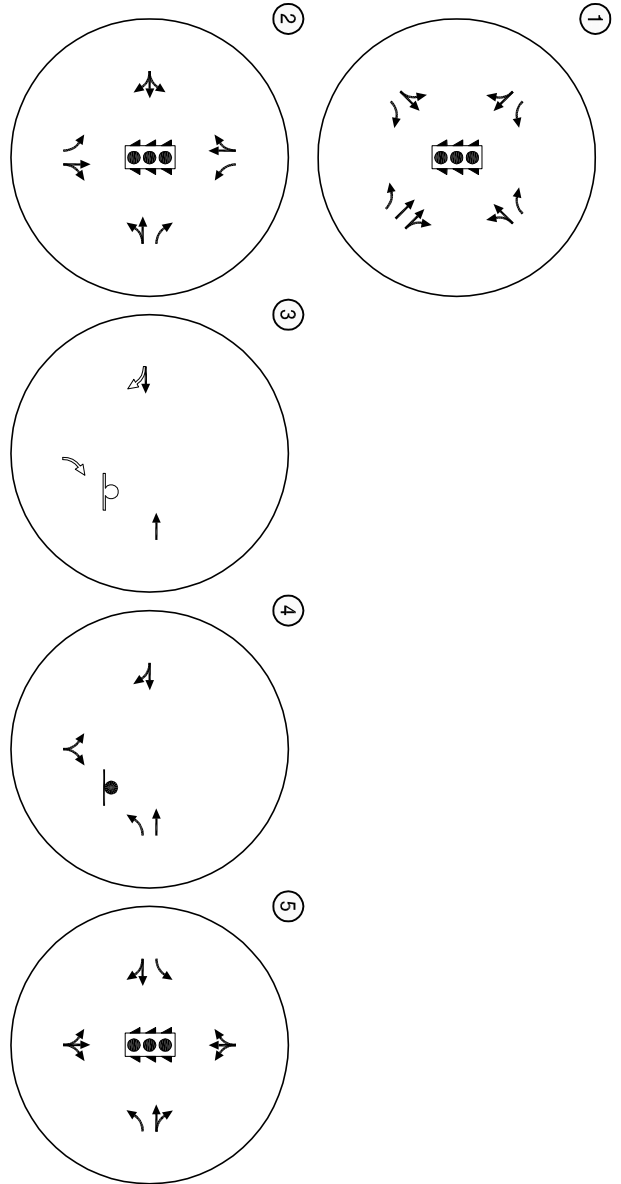
Re-Routing of Existing Volumes

The proposed extension of SW Sagert Street through the project site is expected to result in some changes to study area travel patterns as noted below:

- MEI Medical Building – The assumed closure of the MEI Medical Building driveway off of SW Borland Road will reorient all of the existing site-generated trips to the new extension of SW Sagert Street. Based on weekday a.m. and p.m. traffic counts collected at the site's existing SW Borland Road driveway, a detailed summary of the assumed re-routed trips is shown in Figures F1 and F2 in *Appendix F*.
- TPC Property – While this site will have two driveways on the new extension of SW Sagert Street, one of these driveways will be limited to right-in/right-out access. As such, some site-generated trips will need to re-route to the existing driveway off of SW Borland Road. Based on weekday a.m. and p.m. traffic counts collected at the TPC Property driveways, a detailed summary of the assumed re-routed trips is shown in Figures F1 and F2 in *Appendix F*.
- Sequoia Ridge Subdivision – It is reasonable to expect some existing residential trips from the Sequoia Ridge Subdivision to use the proposed extension of SW Sagert Street as an alternative to SW Borland Road. A detailed summary of the assumed Sequoia Ridge re-routed trips is shown in Figures F3 and F4 in *Appendix F*.
- Regional Trips – It is reasonable to expect some existing regional traffic along the SW 65th Avenue and SW Borland Road corridors to use the new SW Sagert Street extension as a cut-through/alternative to navigating signalized SW 65th Avenue/SW Borland Road intersection. A detailed summary of the assumed re-routed regional trips is shown in Figures F5 and F6 in *Appendix F*.

Figures 9 and 10 summarize the more detailed rerouting of existing traffic shown in Appendix F at the formal study area intersections during the weekday a.m. and p.m. peak hours.

¹ As part of the approval process for obtaining access to SW Borland Road, the City of Tualatin included an interim access provision when the Mei Medical Building was originally developed. This provision states that interim access to SW Borland Road will be allowed until SW Sagert Street on the south side of the property becomes available for access.



LEGEND




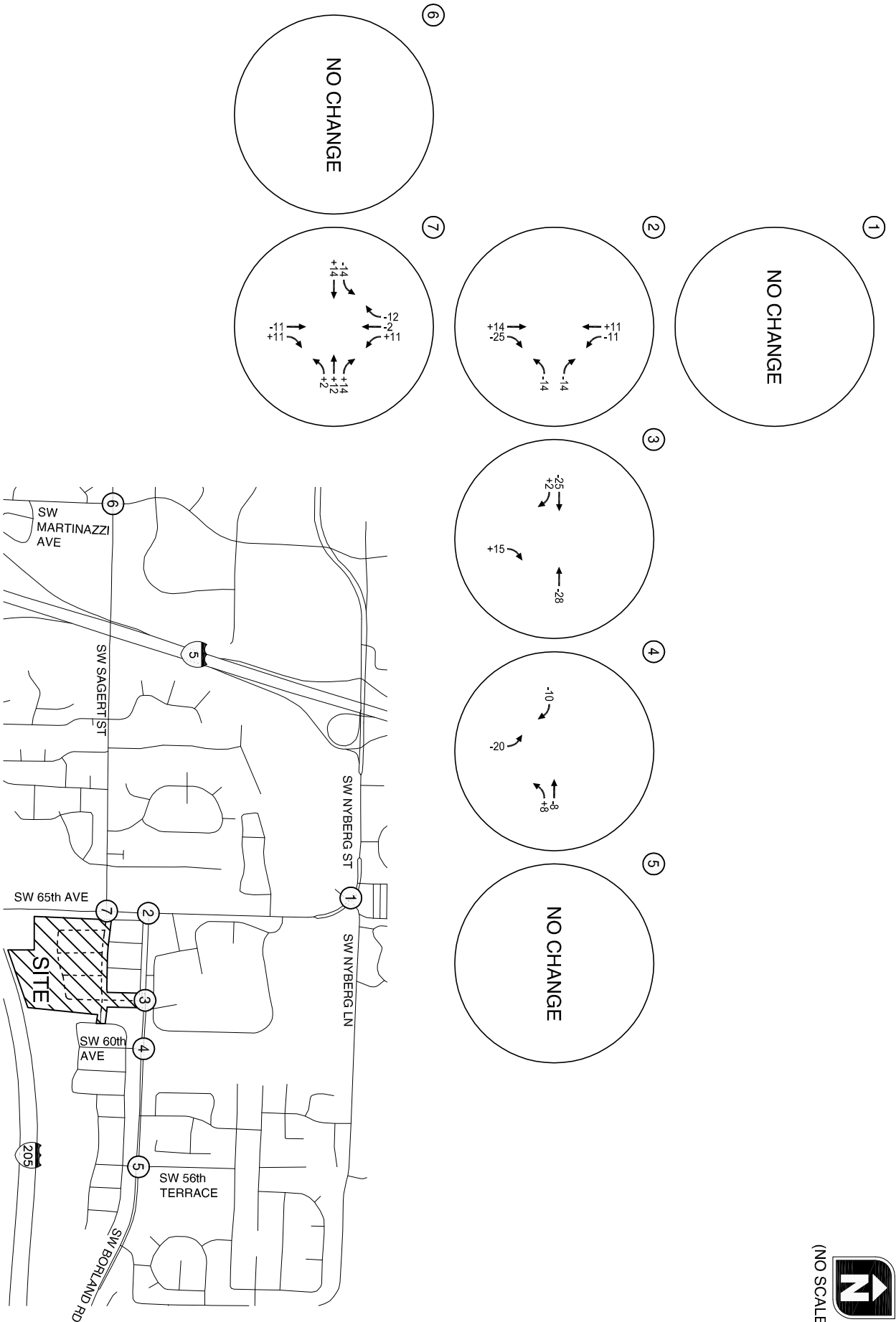
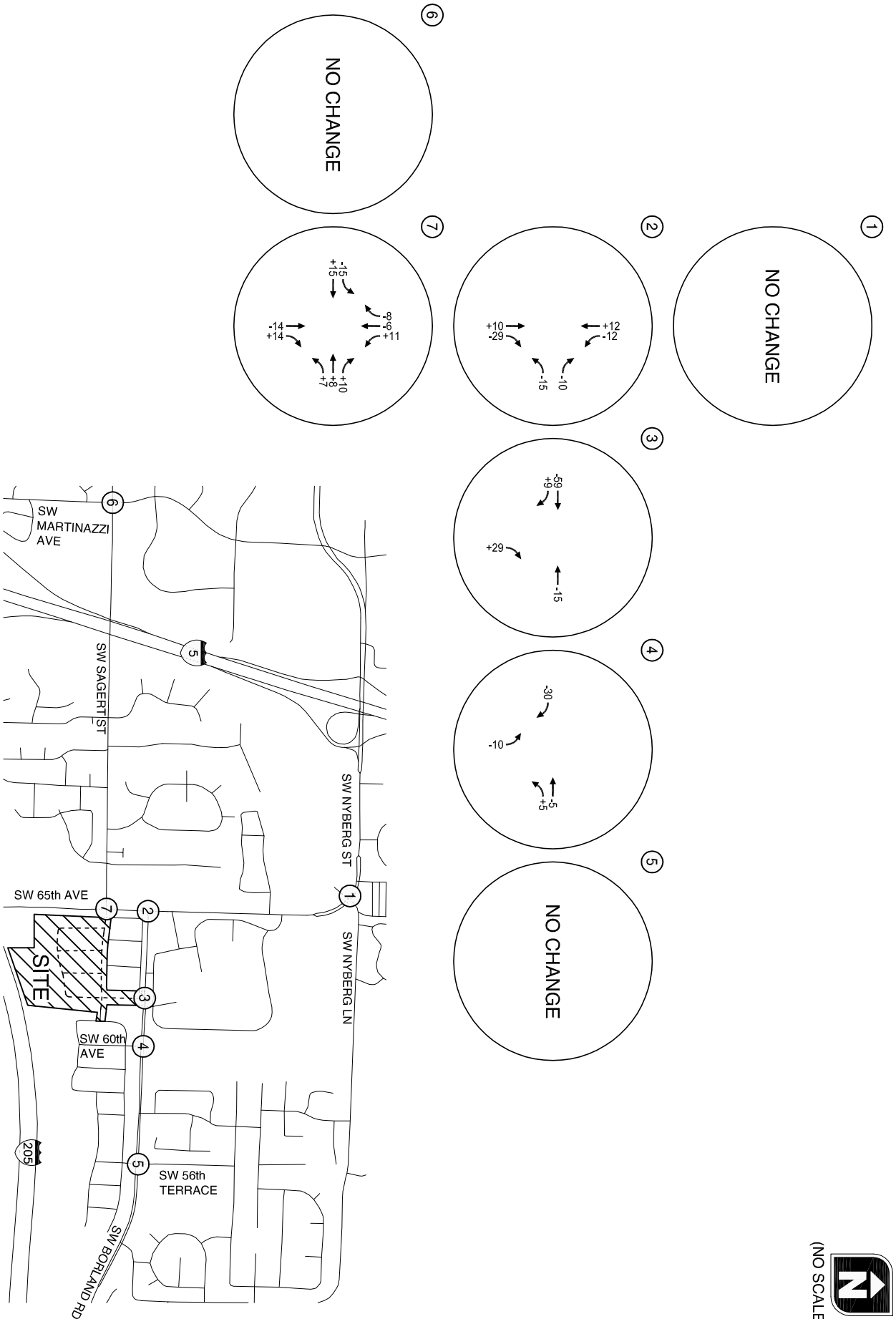
-  - STOP SIGN
-  - TRAFFIC SIGNAL
-  - PROPOSED

FIGURE 8
PROPOSED LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES TUALATIN, OREGON



2018 RE-ROUTED TRAFFIC
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
9



2018 RE-ROUTED TRAFFIC
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
10

Trip Generation

The projected weekday daily, a.m., and p.m. peak-hour vehicle trip ends for the proposed development were based on the *Trip Generation Manual*, 9th Edition (Reference 2). Table 5 summarizes the anticipated number of trips that will be generated by the proposed subdivision.

Table 5: Estimated Subdivision Trip Generation

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Single-Family Homes	210	79 units	752	65	16	49	85	54	31

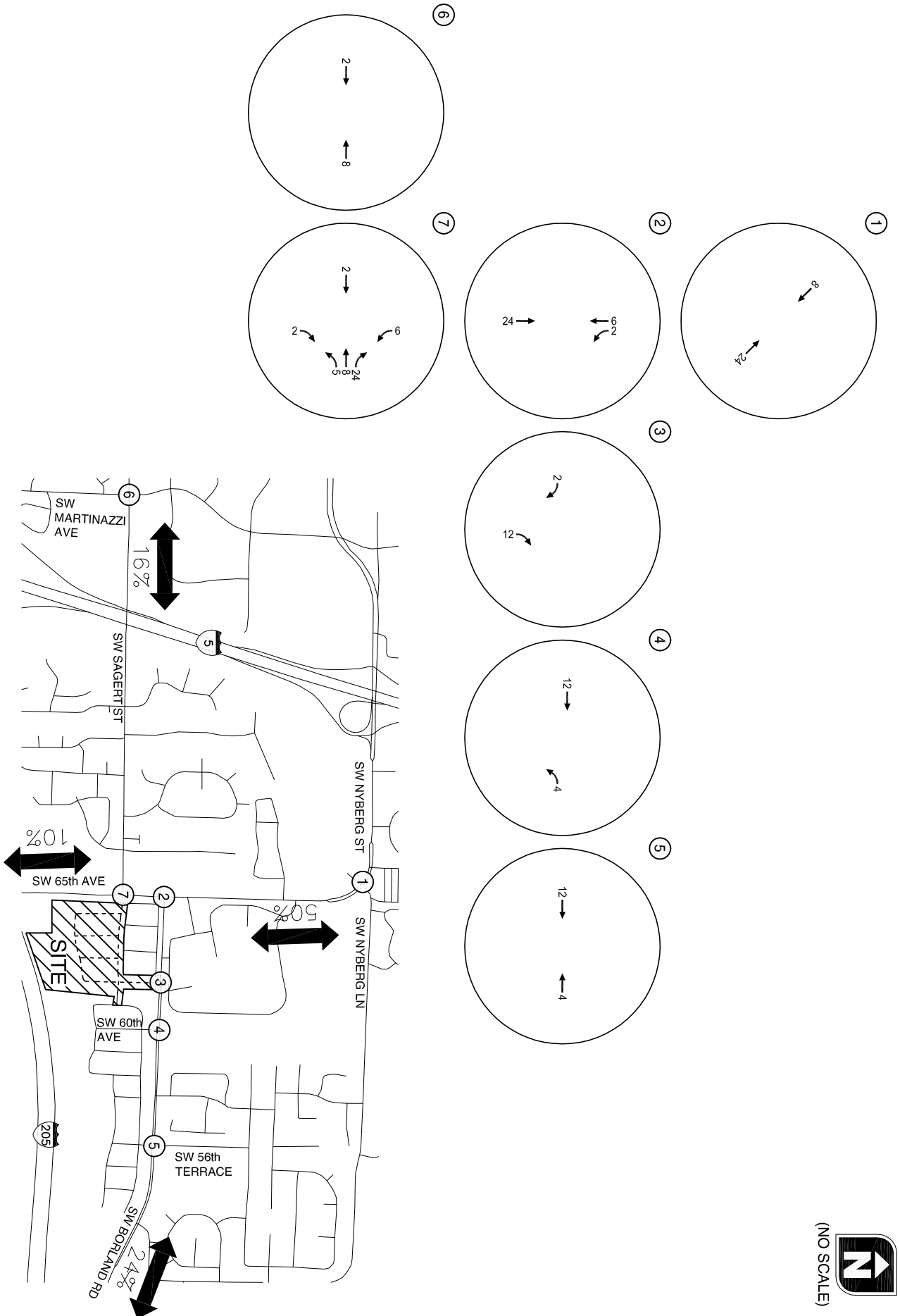
Site Trip Distribution/Trip Assignment

The site-generated trips were distributed onto the study area roadway system according to the existing traffic patterns and the location of major trip origins and destinations. Figures 11 and 12 illustrate the assumed trip distribution pattern and the resulting assignment of site-generated trips to the study area intersections during the weekday a.m. and p.m. peak hours, respectively.

2018 Total Traffic Operations

The year 2018 background traffic volumes for the weekday a.m. and p.m. peak hours (shown in Figures 6 and 7) were combined with the rerouted traffic (shown in Figures 9 and 10) and the site-generated traffic (shown in Figures 11 and 12) to arrive at the total traffic volumes that are shown in Figures 13 and 14.

Figures 13, 14, and Table 6 summarize the forecast 2018 total traffic conditions for the study intersections during the weekday a.m. and p.m. peak hours. As shown, all intersections are forecast to operate at acceptable levels of service and v/c ratios during the peak hours with the exception of the SW Martinazzi Avenue/SW Sagert Street intersection. *Appendix "G" contains the 2018 total traffic conditions operational worksheets.*



SITE-GENERATED TRIPS AND TRIP DISTRIBUTION
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
11

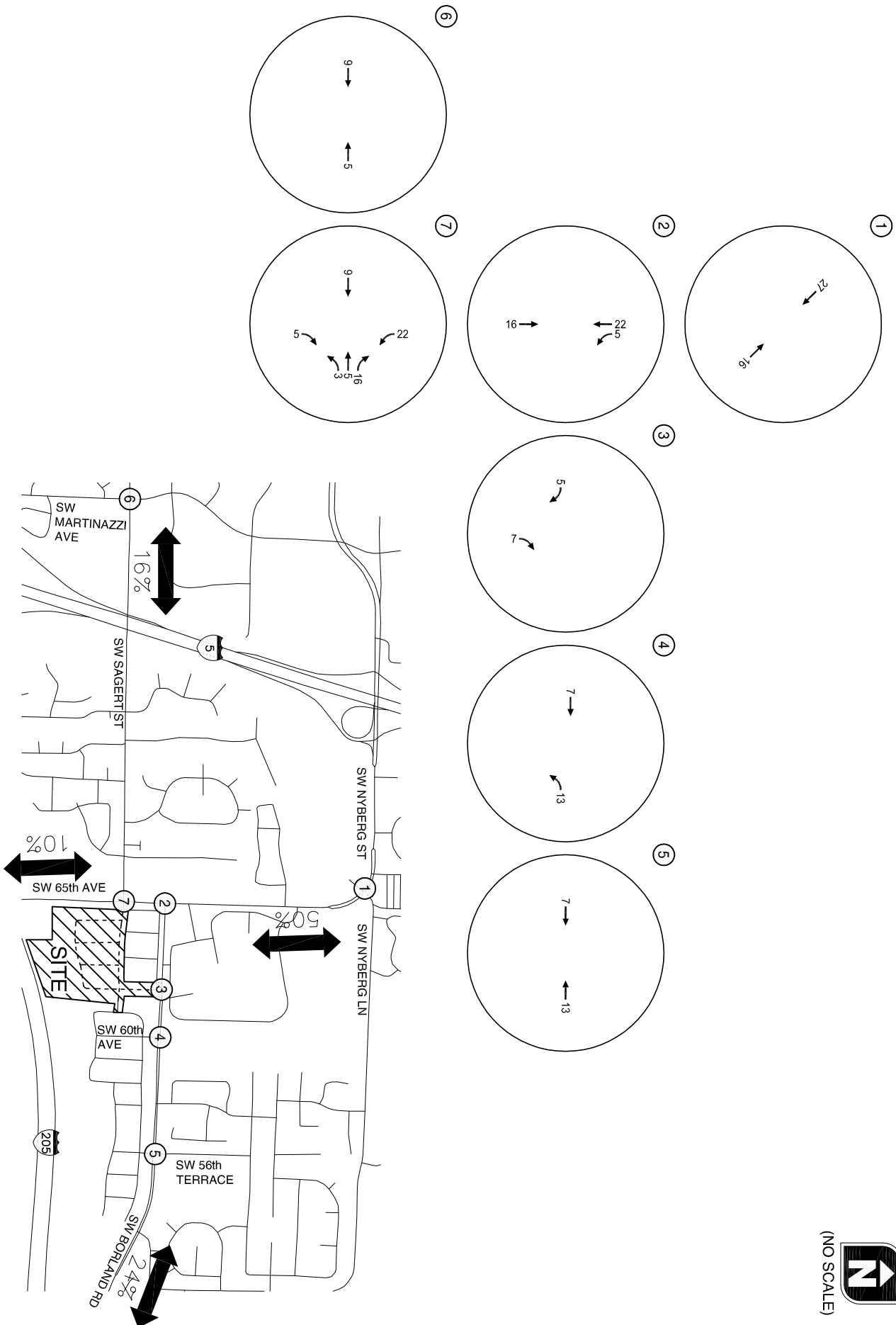
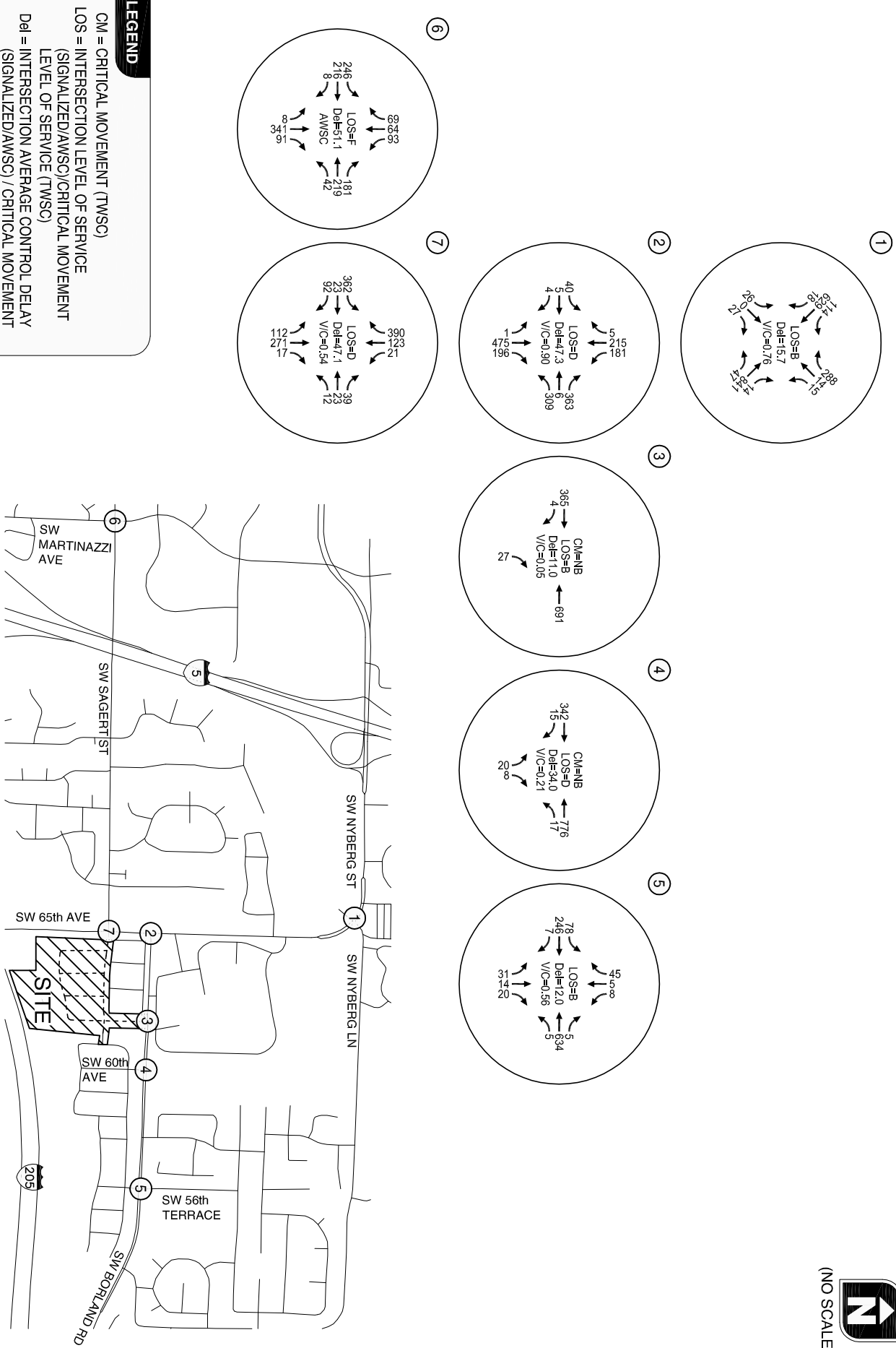
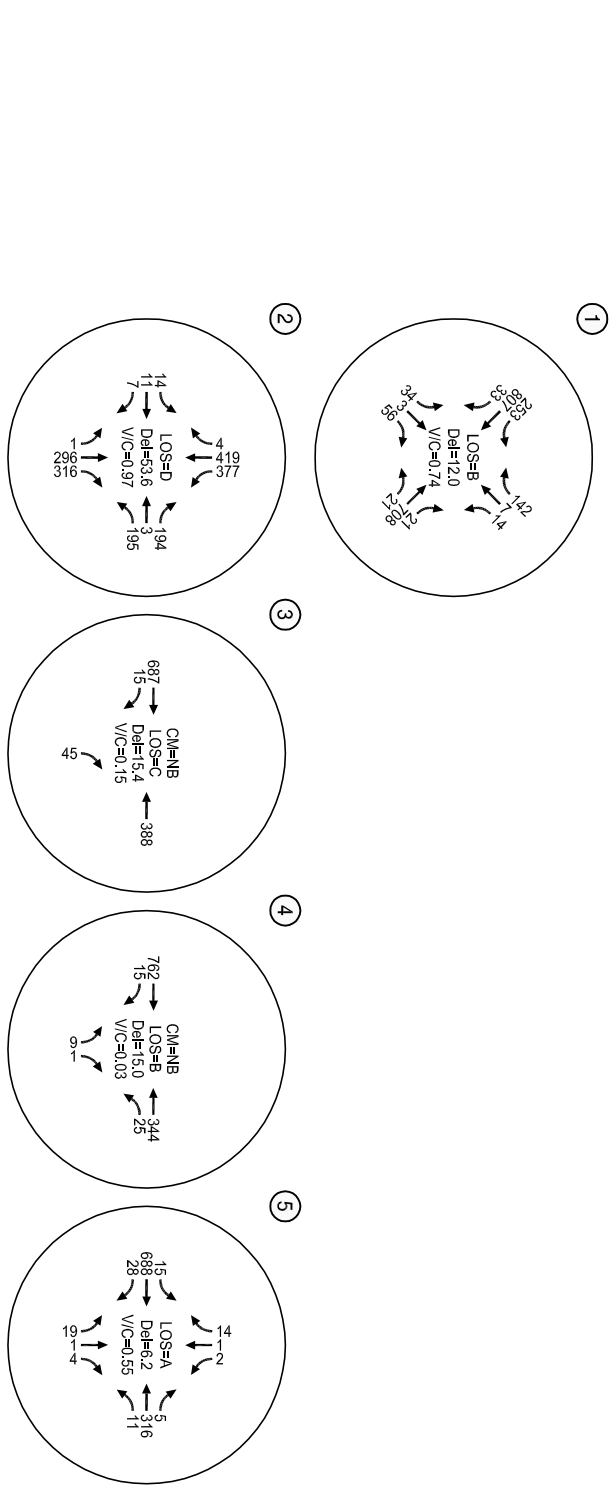


FIGURE 12
SITE-GENERATED TRIPS AND TRIP DISTRIBUTION
WEEKDAY PM PEAK HOUR
TUUALATIN, OREGON

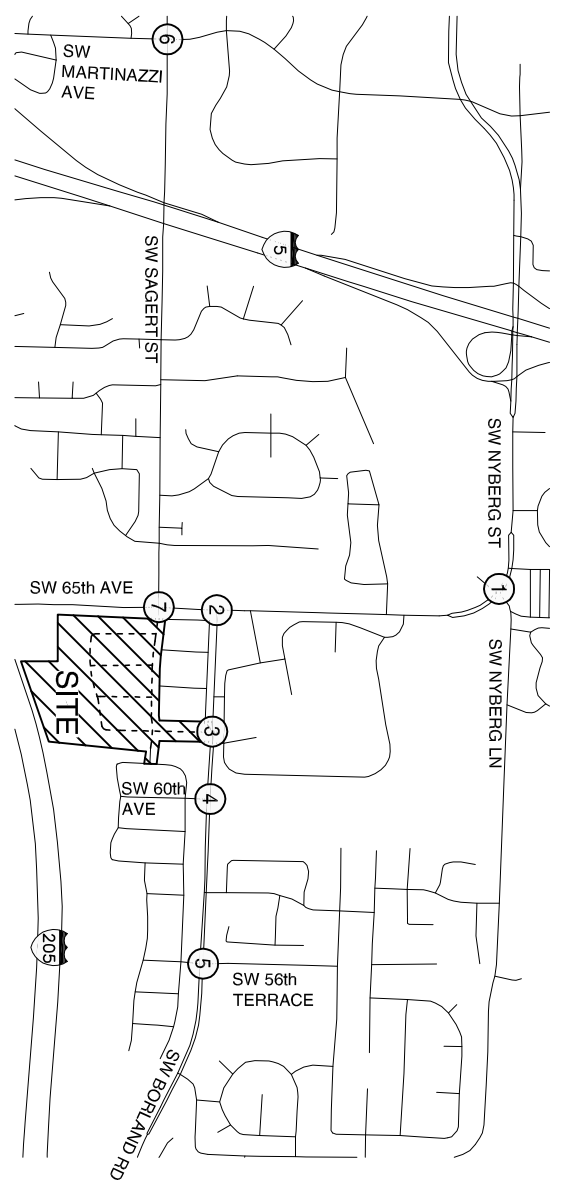


2018 TOTAL TRAFFIC CONDITIONS
 WEEKDAY AM PEAK HOUR
 TUALATIN, OREGON



LEGEND

CM = CRITICAL MOVEMENT (TWSC)
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
 TWSC = TWO-WAY STOP CONTROL
 AWSC = ALL-WAY STOP CONTROL



2018 TOTAL TRAFFIC CONDITIONS
 WEEKDAY PM PEAK HOUR
 TUALATIN, OREGON

SW Martinazzi Avenue/SW Sagert Street

The SW Martinazzi Avenue/SW Sagert Street intersection is forecast to continue to operate at LOS F. The proposed development is estimated to contribute an additional 0.6% and 0.7% increase in traffic volumes, respectively, during the weekday a.m. and p.m. peak hours. Given this relatively small increase, no development-driven traffic mitigation is recommended for the following reasons:

- The Tualatin TSP has identified mitigation for this intersection that, when implemented, will address near- and long-term operations.
- The Washington County Transportation Development Tax (TDT) in part funds an improvement project on SW Sagert Street that will add capacity and reduce delay to both intersections.

Table 6 – 2018 Total Traffic Conditions – Operations

Intersection	Maximum Operating Standard	Weekday AM Peak Hour		Weekday PM Peak Hour	
		LOS	V/C	LOS	V/C
Signalized Intersections					
SW 65 th Avenue/SW Borland Road	0.99 ¹	D	0.90	D	0.97
SW Nyberg Street/SW 65 th Avenue/SW Nyberg Lane	0.99 ¹	B	0.76	B	0.74
SW 56 th Terrace/SW Borland Road	0.99 ² / LOS E ³	B	0.56	A	0.55
SW 65 th Avenue/SW Sagert Street	0.99 ¹ / LOS E ³	D	0.54	D	0.57
Unsignalized Intersections⁴					
SW 60 th Avenue/SW Borland Road	0.99 ³ / LOS E ³	D	0.21	B	0.03
RIRO Access/SW Borland Road	0.99 ² / LOS E ³	B	0.05	C	0.15
All-Way Stop Controlled Intersections					
SW Martinazzi Avenue/SW Sagert Street	D ³	F	-	F	-

Notes:

¹ Washington County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.

² Clackamas County sets operating standards for both signalized and unsignalized intersections as a volume-to-capacity ratio no greater than 0.99.

³ The City of Tualatin considers LOS “D” acceptable and signalized intersections and LOS “E” at unsignalized intersections.

⁴ LOS and V/C reported for the highest delay or critical movement

2018 Total Traffic Queuing

A queuing analysis was completed at the SW 65th Avenue/SW Borland Road and SW 65th Avenue/SW Sagert Street signalized intersections under year 2018 total traffic volumes. Queues were analyzed using SimTraffic and the results reported are the average of five microsimulation runs. Table 5 documents the forecast 95th percentile queues for these intersections. *Appendix H contains the queuing worksheets for year 2018 background and total traffic conditions.*

Table 7: 2018 Total Traffic Conditions – 95th Percentile Queuing

Intersection	Movement	Available Storage (feet)	Weekday AM Peak Hour		Weekday PM Peak Hour	
			Forecast Length ¹	Exceeds Storage?	Forecast Length ¹	Exceeds Storage?
SW 65 th Avenue/ SW Borland Road	EB LT/TH/RT	150	125	No	75	No
	WB LT/TH	400	400	No	225	No
	WB RT	575	550	No	175	No
	NB LT	150	<25	No	<25	No
	NB TH/RT	350	350	No	275	No
	SB LT	675	175	No	350	No
	SB TH/RT	675	125	No	250	No
SW 65 th Avenue/ SW Sagert Street	EB LT	200	100	No	100	No
	EB TH/RT	1,000	550	No	1,000	No ²
	WB LT	125	50	No	50	No
	WB TH/RT	200	75	No	75	No
	NB LT	200	100	No	75	No
	NB TH/RT	>1,000	175	No	100	No
	SB LT	150	25	No	75	No
	SB TH	350	100	No	275	No
SB RT	50	75	Yes	100	Yes ³	

¹ Queue length rounded to 25 foot increments.

² Queue length will lead to intermittent blockage of SW Wampanoag Drive consistent with current conditions

³ Queue length will be accommodated in southbound through lane.

As shown in Table 7, during the a.m. and p.m. peak hours the forecast 95th percentile queues at the SW 65th Avenue/SW Borland Road intersection can be accommodated by the existing storage distance. Several movements at the SW 65th Avenue/SW Sagert Street intersection are anticipated to exceed the existing storage distance.

- During the a.m. and p.m. peak hours, the eastbound through-right lane is expected to extend past SW Wampanoag Drive. This condition exists today and no mitigation beyond the signalization of the intersection is suggested.
- During the a.m. and p.m. peak hours the southbound right-turn lane is expected to exceed the existing 50 feet of storage. Although the southbound right-turn will spill back, the 95th percentile queues for southbound through-left lane are forecast to operate within the existing 350 feet of storage.

It should be emphasized that the assumed timing of the proposed signal at SW 65th Avenue/SW Sagert Street and the existing signal at SW 65th Avenue/SW Borland Road have been optimized to control queuing between the two intersection. As shown in Table 7, the 95th percentile queues between these intersections are forecast to be less than the 350 feet of available storage; however, the east-west movements experience longer queues due to the north-south queue management.

CONCLUSIONS AND RECOMMENDATIONS

The results of the traffic impact analysis indicate that the proposed 79-unit single-family home subdivision on the Sagert Property can be constructed while maintaining acceptable levels of service and safety on the surrounding transportation system as long as the appropriate mitigations are in place. The findings of this analysis and our recommendations are discussed below.

FINDINGS

Year 2015 Existing Conditions

- Five of the seven study intersections currently operate at acceptable levels of service during the weekday a.m. and p.m. peak hours.
 - The SW Martinazzi Avenue/SW Sagert Street all-way stop-controlled intersection currently operates at LOS E during the weekday a.m. peak hour and LOS F during the weekday p.m. peak hour.
 - This intersection is included in the “unfunded” category of the City’s CIP and is noted as needing improvements. The City’s TSP calls for the eventual signalization of the intersection.
 - The SW 65th Avenue/SW Sagert Street all-way stop-controlled intersection currently operates at LOS F during the weekday a.m. and p.m. peak hours.
 - The current City of Tualatin’s Capital Improvement Plan (CIP) includes signalization of the SW 65th Avenue/SW Sagert Street intersection. With inclusion in the CIP, this funded improvement could potentially be constructed sometime within the 5-year CIP window.
- A review of historical crash data did not reveal any patterns or trends in the site vicinity that require mitigation associated with this project.

Year 2018 Background Traffic Conditions

- Five of seven study intersections are forecast to continue to operate at acceptable levels of service during the weekday a.m. and p.m. peak hours.
 - The SW Martinazzi Avenue/SW Sagert Street all-way stop-controlled intersection is forecast to operate at LOS F during both the weekday a.m. and p.m. peak hours.
 - The SW 65th Avenue/SW Sagert Street all-way stop-controlled intersection is forecast to continue to operate at LOS F during the weekday a.m. and p.m. peak hours.

Proposed Development Plan

- The proposed 79-unit single-family home subdivision is estimated to generate 752 daily net new trips; 65 net new trips (16 inbound, 49 outbound) are projected to occur during the weekday a.m. peak hour and 85 net new trips (54 inbound, 31 outbound) are projected to occur during the weekday p.m. peak hour.
- The proposed subdivision development will include an easterly extension of SW Sagert Street beginning at the SW Sagert Street/SW 65th Avenue intersection and connecting to an existing local street stub in the adjacent Sequoia Ridge neighborhood.
 - To meet the intent of the City's TSP and accommodate the development, this roadway should be designed to a modified version of the City's Minor Collector roadway standard.
 - The west end of the extension is proposed to be three travel lanes wide (adding a westbound left-turn lane) to better accommodate turning movement volumes at the SW Sagert Street/SW 65th Avenue intersection.
 - The east end of the extension will provide two travel lanes. This configuration will allow the roadway to better match the existing local street stub at the Sequoia Ridge neighborhood and provide a natural transition from the three-lane minor arterial configuration west of SW 65th Avenue to the designated local street section (the two-lane configuration should help minimize regional cut-through traffic).
 - The entire roadway extension will include sidewalks and bicycle lanes on both sides of the roadway.
- The extension of SW Sagert Street is anticipated to effect existing traffic patterns in the surrounding network resulting in some rerouting of existing trips.
- A network of local streets will be constructed within the proposed subdivision with all of these local streets to take access off of the extension of SW Sagert Street.
 - One of these local streets serving the eastern portion of the site is proposed to connect to SW Borland Road. Due to the configuration of the site and the width of the property that fronts SW Borland Road this access will be limited to right-in/right-movements.
- In conjunction with the proposed subdivision the SW Sagert Street/SW 65th Avenue intersection will be signalized.
 - The northbound, eastbound, and westbound intersection lane configurations will be reconfigured or redesigned.
 - A signal timing plan, coordinated with the existing SW Borland Road/SW 65th Avenue intersection, and using double cycled northbound and southbound movements, will be implemented to help manage queuing at these closely spaced intersections.

Year 2018 Total Traffic Conditions

- All of the study intersections, except the SW Martinazzi Avenue/SW Sagert Street intersection, are forecast to operate at acceptable levels of service during the weekday a.m. and p.m. peak hours.
 - Similar to background traffic conditions, the SW Martinazzi Avenue/SW Sagert Street all-way stop-controlled intersection is forecast to continue operate at LOS F during the weekday a.m. and p.m. peak hours. The proposed development is estimated to contribute an additional 0.6% and 0.7% increase in traffic volumes, respectively, during the weekday a.m. and p.m. peak hours. No mitigation measures are recommended in conjunction with the proposed site development given the relatively small percentage of site-generated traffic being added to this intersection.

RECOMMENDATIONS

The following list summarizes the mitigation measures recommended as part of this proposed development.

- SW Sagert Street should be extended to the east through the site as outlined in the project description.
- The SW Sagert Street/SW 65th Avenue intersection should be signalized.
- The signalized SW Sagert Street/SW 65th and SW Borland Road/SW 65th Avenue intersections should be timed and coordinated to manage queuing between these intersections.
- Landscaping, signage, and above ground utilities near the internal intersections and site access points should be located and maintained to ensure adequate sight distance.

Please contact us if you have any questions regarding our analysis findings or recommendations.

Sincerely,
KITTELSON & ASSOCIATES, INC.



Matt Hughart, AICP
Associate Planner

Chris Brehmer, P.E.
Principal Engineer

REFERENCES

1. Washington County Department of Land Use and Transportation, *Washington County Safety Priority Index System (SPIS) 2010-2012*, January 2014.
2. Institute of Transportation Engineers, *Trip Generation Manual*, 9th Edition, September 2012.

APPENDICES

- A. Level-of-Service Concept
- B. Traffic Counts
- C. Existing Conditions Worksheets
- D. Crash Data
- E. 2018 Background Conditions Worksheets
- F. Assumed Re-Routing of Trips
- G. 2018 Total Traffic Conditions Worksheets
- H. 2018 Total Traffic Queuing Worksheets

Appendix A
Level-of-Service Concept

APPENDIX A LEVEL-OF-SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various level of service from “A” to “F”.¹

SIGNALIZED INTERSECTIONS

The six level-of-service grades are described qualitatively for signalized intersections in Table A1. Additionally, Table A2 identifies the relationship between level of service and average control delay per vehicle. Control delay is defined to include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Using this definition, Level of Service “D” is generally considered to represent the minimum acceptable design standard.

Table A-1 Level-of-Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average control delay, less than 10 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average control delay is greater than 10 seconds per vehicle and less than or equal to 20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a level of service A, causing higher levels of average delay.
C	Average control delay is greater than 20 seconds per vehicle and less than or equal to 35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average control delay is greater than 35 seconds per vehicle and less than or equal to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average control delay is greater than 55 seconds per vehicle and less than or equal to 80 seconds per vehicle. This is usually considered to be the limit of acceptable delay. These high delay values generally (but not always) indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average control delay is in excess of 80 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

¹ Most of the material in this appendix is adapted from the Transportation Research Board, Highway Capacity Manual, (2000).

Table A-2 Level-of-Service Criteria for Signalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The 2000 Highway Capacity Manual (HCM) provides models for estimating control delay at both TWSC and AWSC intersections. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of level of service for unsignalized intersections is presented in Table B4. Using this definition, Level of Service “E” is generally considered to represent the minimum acceptable design standard.

Table A3 Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	<ul style="list-style-type: none"> Nearly all drivers find freedom of operation. Very seldom is there more than one vehicle in queue.
B	<ul style="list-style-type: none"> Some drivers begin to consider the delay an inconvenience. Occasionally there is more than one vehicle in queue.
C	<ul style="list-style-type: none"> Many times there is more than one vehicle in queue. Most drivers feel restricted, but not objectionably so.
D	<ul style="list-style-type: none"> Often there is more than one vehicle in queue. Drivers feel quite restricted.
E	<ul style="list-style-type: none"> Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. There is almost always more than one vehicle in queue. Drivers find the delays approaching intolerable levels.
F	<ul style="list-style-type: none"> Forced flow. Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table A4 Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

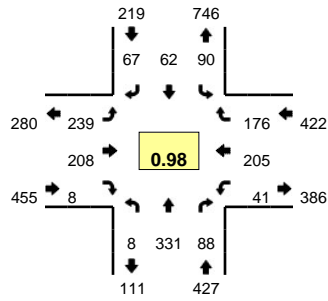
It should be noted that the level-of-service criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less galling than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the control delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. While overall intersection level of service is calculated for AWSC intersections, level of service is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection level of service remains undefined: level of service is only calculated for each minor street lane.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOEs) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th-percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, users may make inappropriate traffic control decisions. The potential for making such inappropriate decisions is likely to be particularly pronounced when the HCM level-of-service thresholds are adopted as legal standards, as is the case in many public agencies.

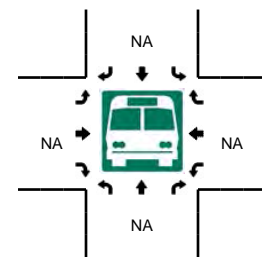
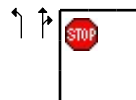
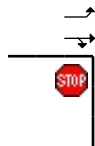
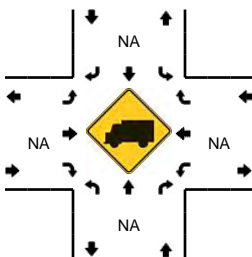
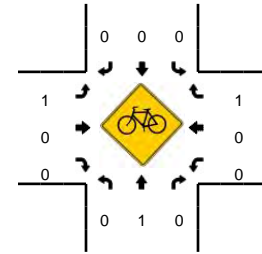
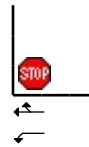
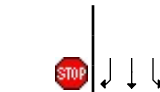
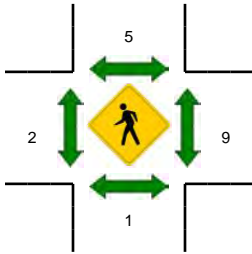
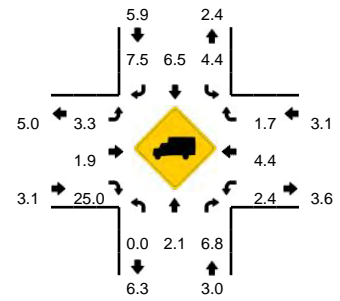
Appendix B
Traffic Counts

LOCATION: SW Martinazzi Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

QC JOB #: 13173407
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

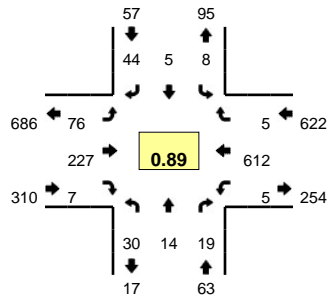


5-Min Count Period Beginning At	SW Martinazzi Ave (Northbound)				SW Martinazzi Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	18	7	0	3	0	3	0	20	5	1	0	2	15	9	0	83	
7:05 AM	0	15	1	0	3	3	4	0	15	2	0	0	4	16	13	0	76	
7:10 AM	1	28	2	0	1	3	6	0	11	6	0	0	3	16	10	0	87	
7:15 AM	0	19	4	0	3	4	4	0	14	5	0	0	3	18	11	0	85	
7:20 AM	0	26	2	0	5	1	1	0	24	7	0	0	3	14	12	0	95	
7:25 AM	0	13	7	0	5	4	6	0	14	10	0	0	4	21	13	0	97	
7:30 AM	0	34	1	0	4	6	5	0	20	6	0	0	6	21	13	0	116	
7:35 AM	3	32	8	0	6	7	7	0	17	9	2	0	4	18	18	0	131	
7:40 AM	1	29	5	0	8	8	4	0	26	13	0	0	4	16	16	0	130	
7:45 AM	0	21	7	0	1	6	5	0	21	18	2	0	4	23	21	0	129	
7:50 AM	0	34	8	0	4	5	7	0	28	11	0	0	3	17	10	0	127	
7:55 AM	0	24	11	0	13	6	7	0	22	15	1	0	4	17	13	0	133	1289
8:00 AM	0	20	8	0	7	5	11	0	18	22	1	0	3	15	12	0	122	1328
8:05 AM	1	26	11	0	15	0	0	0	16	27	0	0	2	16	7	0	121	1373
8:10 AM	1	29	11	0	6	8	3	0	21	18	1	0	1	16	9	0	124	1410
8:15 AM	0	28	7	0	5	2	3	0	16	21	0	0	3	15	18	0	118	1443
8:20 AM	1	31	4	0	11	3	6	0	15	28	1	0	5	16	21	0	142	1490
8:25 AM	1	23	7	0	10	6	9	0	19	20	0	0	2	15	18	0	130	1523
8:30 AM	1	15	7	0	6	2	5	0	12	15	0	0	4	24	26	0	117	1524
8:35 AM	0	11	1	0	6	6	2	0	18	9	0	0	0	13	18	0	84	1477
8:40 AM	0	11	3	0	8	4	4	0	8	8	0	0	1	18	16	0	81	1428
8:45 AM	0	14	4	0	7	5	5	0	11	7	0	0	2	16	9	0	80	1379
8:50 AM	1	14	1	0	10	6	2	0	18	15	0	0	1	10	14	0	92	1344
8:55 AM	0	16	2	0	8	1	4	0	12	11	0	0	0	9	4	0	67	1278
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	328	80	0	60	84	64	0	256	160	16	0	48	228	220	0	1560	
Heavy Trucks	0	0	0	0	4	4	4	0	4	12	0	0	0	8	4	0	40	
Pedestrians		0				12				0				20			32	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

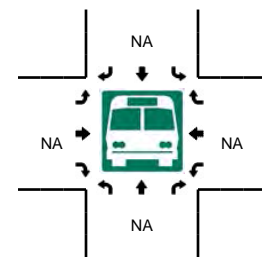
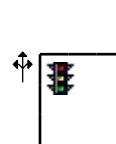
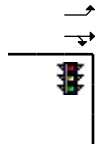
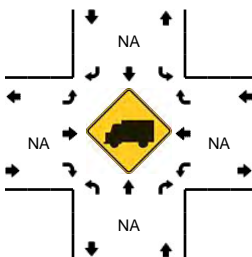
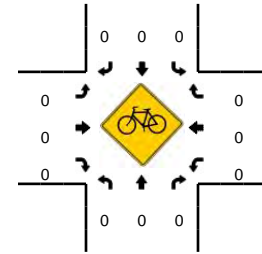
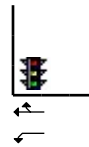
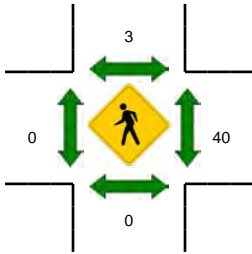
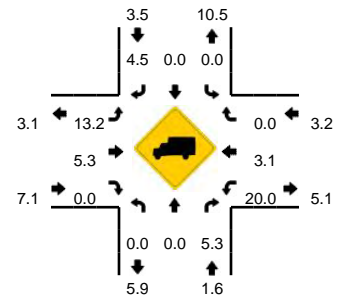
Comments:

LOCATION: SW 56th Ter -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173409
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

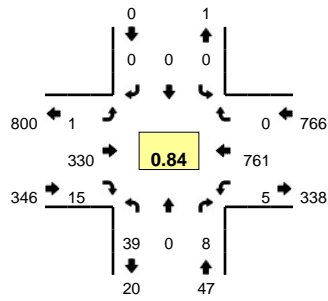


5-Min Count Period Beginning At	SW 56th Ter (Northbound)				SW 56th Ter (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	42	
7:05 AM	4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	50	
7:10 AM	2	0	0	0	0	0	0	0	0	1	12	0	0	0	0	0	43	
7:15 AM	0	0	4	0	0	0	0	0	0	3	12	0	0	0	0	0	70	
7:20 AM	3	0	1	0	0	0	0	0	0	1	16	0	0	0	0	0	71	
7:25 AM	0	0	0	0	1	0	0	0	1	1	19	1	0	0	0	0	78	
7:30 AM	2	1	2	0	0	0	1	0	2	14	1	0	1	50	1	0	75	
7:35 AM	5	0	3	0	0	1	0	0	2	15	0	0	0	58	0	0	84	
7:40 AM	2	0	2	0	1	1	0	0	4	24	0	0	0	57	0	0	91	
7:45 AM	3	1	3	0	0	0	1	0	5	19	0	0	0	53	0	0	85	
7:50 AM	2	0	1	0	1	0	0	0	5	18	0	0	2	56	1	0	86	
7:55 AM	3	1	1	0	0	0	2	0	14	10	0	0	0	49	0	0	80	855
8:00 AM	0	1	0	0	0	0	2	0	9	20	0	0	0	59	0	0	91	904
8:05 AM	4	4	0	0	0	0	9	0	10	19	1	0	0	45	1	0	93	947
8:10 AM	1	4	1	0	2	0	9	0	9	20	2	0	1	56	1	0	106	1010
8:15 AM	1	2	0	0	1	2	6	0	11	20	2	0	0	52	1	0	98	1038
8:20 AM	3	0	3	0	3	1	10	0	3	28	1	0	0	39	0	0	91	1058
8:25 AM	4	0	3	0	0	0	4	0	2	20	0	0	1	38	0	0	72	1052
8:30 AM	0	0	0	0	0	0	0	0	0	28	1	0	0	49	0	0	78	1055
8:35 AM	3	0	0	0	0	0	0	0	2	23	1	0	0	57	0	0	86	1057
8:40 AM	3	0	0	0	0	0	2	0	0	14	0	0	0	32	0	0	51	1017
8:45 AM	3	0	0	0	0	0	0	0	0	16	0	0	0	39	0	0	58	990
8:50 AM	2	0	0	0	0	0	0	0	0	26	0	0	0	36	0	0	64	968
8:55 AM	0	0	0	0	0	0	0	0	2	20	1	0	0	36	0	0	59	947
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	24	40	4	0	12	8	96	0	120	236	20	0	4	612	12	0	1188	
Heavy Trucks	0	0	0	0	0	0	0	0	12	20	0	0	0	20	0	0	52	
Pedestrians		0				4				0				120			124	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																	0	
Stopped Buses																		

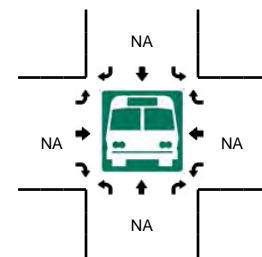
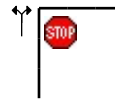
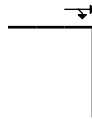
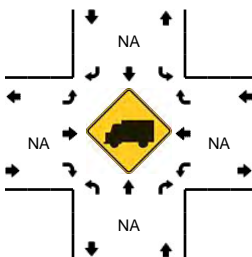
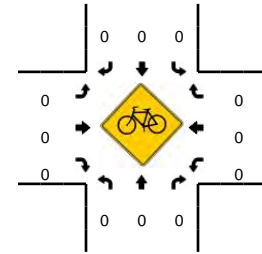
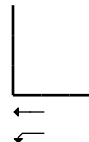
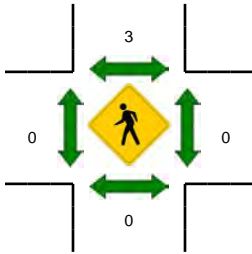
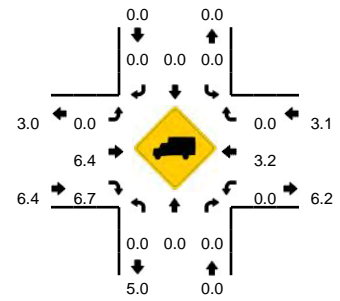
Comments:

LOCATION: SW 60th Ave -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173411
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

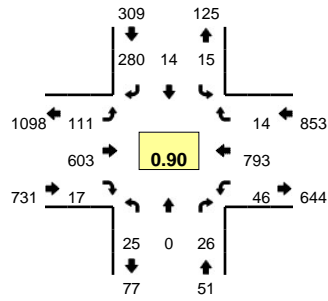


5-Min Count Period Beginning At	SW 60th Ave (Northbound)				SW 60th Ave (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	0	0	0	0	2	0	0	0	42	0	0	45	
7:05 AM	2	0	0	0	0	0	0	0	0	6	0	0	0	47	0	0	55	
7:10 AM	5	0	1	0	0	0	0	0	0	14	1	0	1	27	0	0	49	
7:15 AM	5	0	1	0	0	0	0	0	0	14	1	0	0	55	0	0	76	
7:20 AM	6	0	0	0	0	0	0	0	0	17	0	0	0	51	0	0	74	
7:25 AM	4	0	0	0	0	0	0	0	0	17	1	0	1	57	0	0	80	
7:30 AM	6	0	0	0	0	0	0	0	0	17	0	0	0	54	0	0	77	
7:35 AM	2	0	1	0	0	0	0	0	0	15	0	0	0	73	0	0	91	
7:40 AM	2	0	1	0	0	0	0	0	0	27	1	0	0	57	0	0	88	
7:45 AM	3	0	0	0	0	0	0	0	0	20	3	0	0	69	0	0	95	
7:50 AM	4	0	0	0	0	0	0	0	0	26	1	0	0	59	0	0	90	
7:55 AM	4	0	1	0	0	0	0	0	0	30	1	0	0	56	0	0	92	912
8:00 AM	0	0	1	0	0	0	0	0	0	37	0	0	1	61	0	0	100	967
8:05 AM	3	0	0	0	0	0	0	0	0	35	2	0	0	76	0	0	116	1028
8:10 AM	6	0	2	0	0	0	0	0	0	37	2	0	1	68	0	0	116	1095
8:15 AM	5	0	1	0	0	0	0	0	0	37	2	0	2	66	0	0	113	1132
8:20 AM	2	0	1	0	0	0	0	0	0	31	2	0	1	66	0	0	103	1161
8:25 AM	2	0	0	0	0	0	0	0	1	18	1	0	0	56	0	0	78	1159
8:30 AM	1	0	0	0	0	0	0	0	1	25	2	0	0	48	0	0	77	1159
8:35 AM	3	0	0	0	0	0	0	0	0	26	0	0	0	64	0	0	93	1161
8:40 AM	2	0	0	0	0	0	0	0	0	17	1	0	0	42	0	0	62	1135
8:45 AM	3	0	1	0	0	0	0	0	0	13	1	0	0	43	0	0	61	1101
8:50 AM	1	0	1	0	0	0	0	0	0	26	1	0	0	39	0	0	68	1079
8:55 AM	4	0	0	0	0	0	0	0	0	23	1	0	0	35	0	0	63	1050
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	56	0	12	0	0	0	0	0	0	436	24	0	12	840	0	0	1380	
Heavy Trucks	0	0	0		0	0	0		0	16	4		0	36	0		56	
Pedestrians						8				0				0			8	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																	0	
Stopped Buses																		

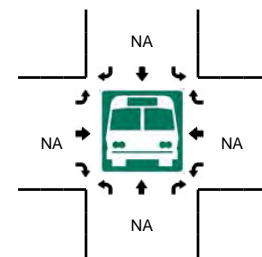
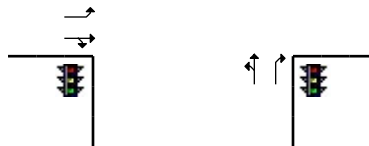
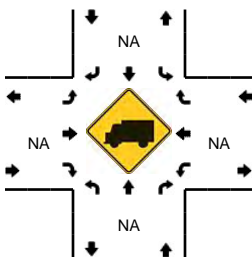
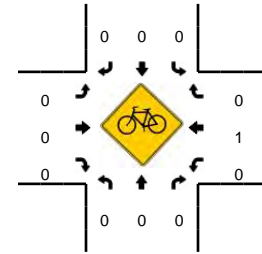
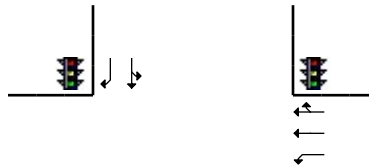
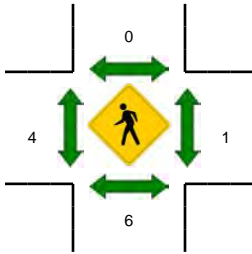
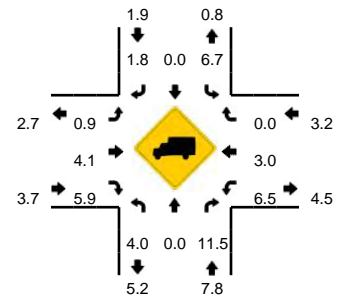
Comments:

LOCATION: SW Nyberg Ln -- SW Nyberg St/SW 65th Ave
CITY/STATE: Tualatin, OR

QC JOB #: 13173413
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

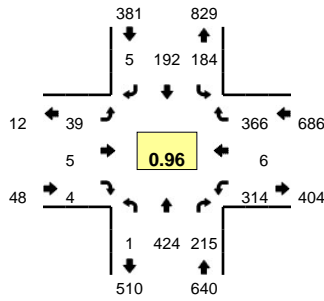


5-Min Count Period Beginning At	SW Nyberg Ln (Northbound)				SW Nyberg Ln (Southbound)				SW Nyberg St/SW 65th Ave (Eastbound)				SW Nyberg St/SW 65th Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	0	1	0	1	0	24	0	1	19	1	0	6	42	1	0	101	
7:05 AM	3	0	3	0	0	0	16	0	2	30	2	0	5	59	2	0	122	
7:10 AM	4	0	3	0	0	0	23	0	3	25	1	0	4	43	0	0	106	
7:15 AM	2	0	1	0	1	1	20	0	3	17	0	0	7	64	2	0	118	
7:20 AM	3	1	1	0	2	0	23	0	3	39	1	0	2	62	0	0	137	
7:25 AM	2	0	2	0	1	0	22	0	4	32	1	0	3	53	1	0	121	
7:30 AM	0	0	3	0	3	0	28	0	8	38	1	0	3	62	0	0	146	
7:35 AM	3	0	2	0	2	2	24	0	2	36	2	0	4	69	1	0	147	
7:40 AM	3	0	2	0	1	3	24	0	13	55	4	0	6	66	2	0	179	
7:45 AM	5	0	6	0	2	1	25	0	9	50	1	0	6	74	0	0	179	
7:50 AM	1	0	1	0	1	0	32	0	8	53	2	0	2	77	1	0	178	
7:55 AM	1	0	1	0	2	1	27	0	19	60	0	0	3	66	2	0	182	1716
8:00 AM	2	0	2	0	2	2	20	0	5	35	1	0	3	57	0	0	129	1744
8:05 AM	1	0	3	0	0	2	26	0	10	74	2	0	2	50	2	0	172	1794
8:10 AM	2	0	1	0	0	1	20	0	14	48	0	0	6	75	1	0	168	1856
8:15 AM	3	0	2	0	1	1	21	0	8	32	0	0	6	69	1	0	144	1882
8:20 AM	2	0	2	0	0	0	18	0	6	62	2	0	0	68	2	0	162	1907
8:25 AM	2	0	1	0	1	1	15	0	9	60	2	0	5	60	2	0	158	1944
8:30 AM	3	1	1	0	0	0	25	0	6	46	1	0	1	46	1	0	131	1929
8:35 AM	3	1	2	0	0	1	13	0	4	59	3	0	3	69	0	0	158	1940
8:40 AM	2	1	2	0	0	0	18	0	9	43	0	0	2	62	2	0	141	1902
8:45 AM	0	0	1	0	3	0	12	0	10	43	0	0	2	51	0	0	122	1845
8:50 AM	3	0	3	0	2	1	12	0	10	55	0	0	3	59	3	0	151	1818
8:55 AM	0	0	0	0	4	1	17	0	12	47	1	0	3	49	0	0	134	1770
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	0	32	0	20	8	336	0	144	652	12	0	44	868	12	0	2156	
Heavy Trucks	0	0	4	0	4	0	0	0	4	28	0	0	12	36	0	0	88	
Pedestrians		8				0				8				0			16	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																	0	
Stopped Buses																		

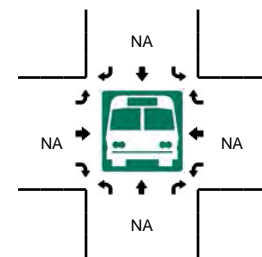
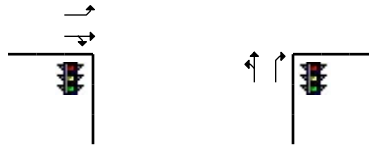
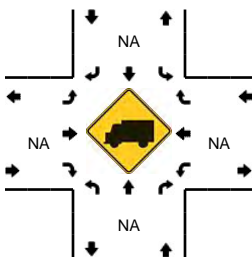
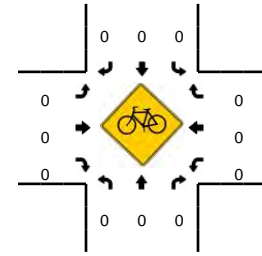
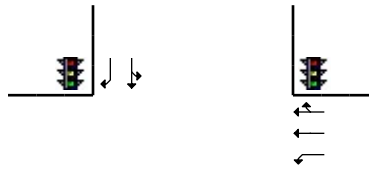
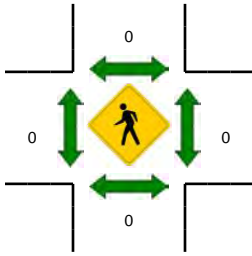
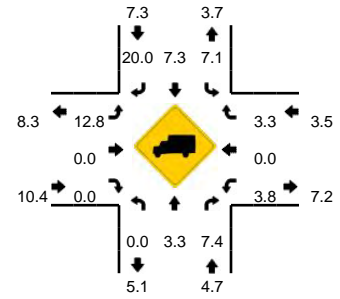
Comments:

LOCATION: SW 65th Ave -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173415
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

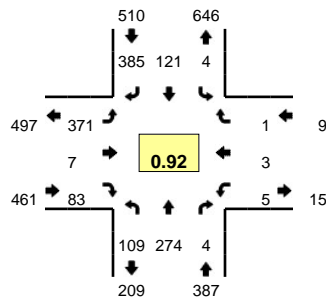


5-Min Count Period Beginning At	SW 65th Ave (Northbound)				SW 65th Ave (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	35	4	0	2	12	0	0	0	0	0	0	13	0	23	0	89	
7:05 AM	0	26	4	0	6	11	1	0	1	0	3	0	18	0	29	0	99	
7:10 AM	0	36	11	0	6	14	0	0	0	0	0	0	7	0	19	0	93	
7:15 AM	0	38	6	0	9	10	0	0	1	0	2	0	22	1	29	0	118	
7:20 AM	0	24	8	0	7	14	0	0	1	2	2	0	24	0	33	0	115	
7:25 AM	0	38	12	0	8	11	1	0	0	0	0	0	28	2	27	0	127	
7:30 AM	0	28	6	0	15	21	0	0	1	0	0	0	22	0	33	0	126	
7:35 AM	0	30	11	0	12	15	0	0	16	1	3	0	39	1	36	0	164	
7:40 AM	1	39	14	0	13	17	0	0	1	0	0	0	19	1	28	0	133	
7:45 AM	0	33	13	0	22	22	0	0	4	0	0	0	29	1	32	0	156	
7:50 AM	0	45	12	0	9	4	1	0	5	0	1	0	29	1	24	0	131	
7:55 AM	0	37	29	0	24	21	0	0	0	2	0	0	13	0	35	0	161	1512
8:00 AM	0	33	27	0	9	13	1	0	0	1	0	0	25	2	26	0	137	1560
8:05 AM	0	24	23	0	26	15	0	0	4	0	0	0	22	0	30	0	144	1605
8:10 AM	0	46	27	0	17	17	1	0	3	1	0	0	22	0	38	0	172	1684
8:15 AM	0	36	16	0	11	10	0	0	0	0	0	0	38	0	25	0	136	1702
8:20 AM	0	34	22	0	13	16	2	0	5	0	0	0	27	0	32	0	151	1738
8:25 AM	0	39	15	0	13	21	0	0	0	0	0	0	29	0	27	0	144	1755
8:30 AM	0	29	17	0	22	14	0	0	0	0	0	0	15	0	30	0	127	1756
8:35 AM	0	28	16	0	15	14	2	0	1	0	0	0	15	2	42	0	135	1727
8:40 AM	0	24	10	0	17	14	2	0	3	0	0	0	14	0	28	0	112	1706
8:45 AM	0	21	10	0	4	13	0	0	0	0	1	0	11	0	30	0	90	1640
8:50 AM	0	40	12	0	23	11	2	0	1	1	2	0	6	2	24	0	124	1633
8:55 AM	0	19	15	0	15	11	0	0	1	0	1	0	11	2	26	0	101	1573
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	464	260	0	164	172	12	0	32	4	0	0	348	0	380	0	1836	
Heavy Trucks	0	16	12		4	16	4		4	0	0		12	0	16		84	
Pedestrians		0				0				0				0				0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		0
Stopped Buses																		0

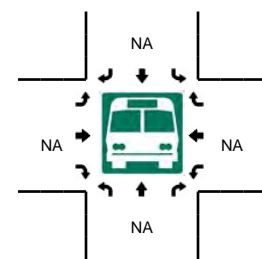
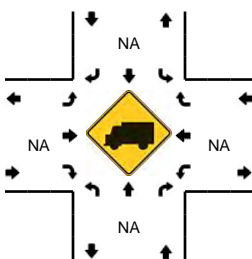
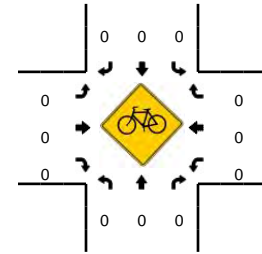
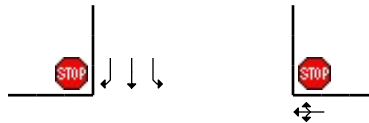
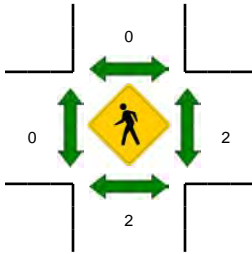
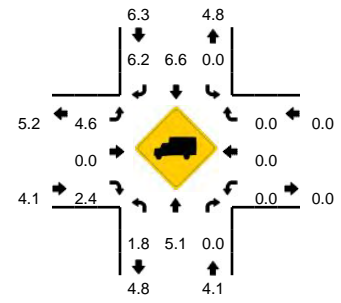
Comments:

LOCATION: SW 65th Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

QC JOB #: 13173417
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

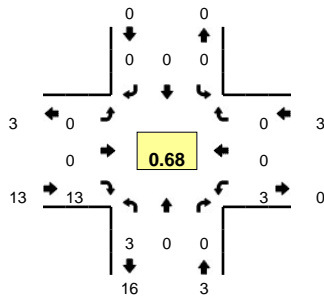


5-Min Count Period Beginning At	SW 65th Ave (Northbound)				SW 65th Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	15	0	0	0	2	21	0	27	0	2	0	0	0	0	0	69	
7:05 AM	5	16	0	0	0	2	26	0	16	0	4	0	0	0	0	0	69	
7:10 AM	6	25	0	0	0	8	14	0	22	0	2	0	0	0	0	0	77	
7:15 AM	5	23	0	0	0	9	25	0	22	1	3	0	0	0	0	0	88	
7:20 AM	5	14	0	0	1	11	25	0	22	0	4	0	0	0	0	0	82	
7:25 AM	6	24	0	0	1	9	26	0	25	0	4	0	0	0	0	0	95	
7:30 AM	10	23	2	0	0	14	29	0	15	0	6	0	0	0	0	0	99	
7:35 AM	5	18	0	0	1	9	37	0	24	0	4	0	2	0	0	0	100	
7:40 AM	14	27	1	0	0	15	25	0	22	1	5	0	1	0	0	0	111	
7:45 AM	8	28	0	0	1	17	32	0	27	1	8	0	0	0	0	0	122	
7:50 AM	6	27	1	0	1	5	32	0	31	0	6	0	0	0	0	0	109	
7:55 AM	7	25	0	0	0	10	30	0	33	2	5	0	0	0	0	0	112	1133
8:00 AM	18	23	0	0	0	7	29	0	38	1	10	0	0	0	0	0	126	1190
8:05 AM	5	18	0	0	0	13	26	0	33	0	6	0	0	1	0	0	102	1223
8:10 AM	10	25	0	0	1	8	28	0	35	0	8	0	0	1	0	0	116	1262
8:15 AM	11	21	0	0	0	7	34	0	38	1	10	0	2	1	0	0	125	1299
8:20 AM	11	16	0	0	0	6	40	0	44	0	11	0	0	0	1	0	129	1346
8:25 AM	4	23	0	0	0	10	43	0	31	1	4	0	0	0	0	0	116	1367
8:30 AM	9	11	0	0	1	7	22	0	30	0	10	0	0	0	0	0	90	1358
8:35 AM	4	21	0	0	0	5	25	0	32	0	4	0	0	0	0	0	91	1349
8:40 AM	7	13	0	0	2	3	18	0	13	0	3	0	0	0	0	0	59	1297
8:45 AM	7	18	0	0	0	7	20	0	20	0	3	0	0	0	0	0	75	1250
8:50 AM	3	18	0	0	1	4	14	0	33	0	1	0	0	0	0	0	74	1215
8:55 AM	7	17	0	0	0	5	17	0	15	0	2	0	0	0	0	0	63	1166
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	128	248	0	0	4	84	408	0	468	4	116	0	8	8	4	0	1480	
Heavy Trucks	0	8	0	0	0	4	28	0	8	0	4	0	0	0	0	0	52	
Pedestrians		8				0				0				8			16	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

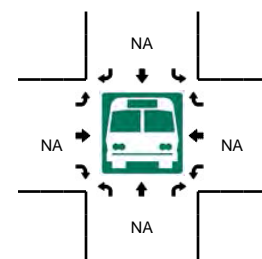
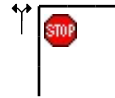
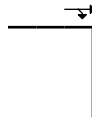
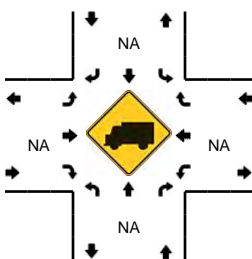
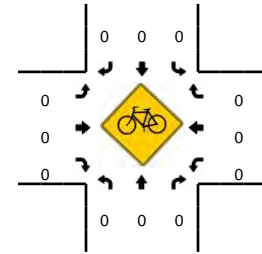
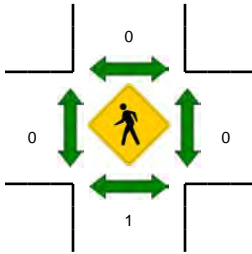
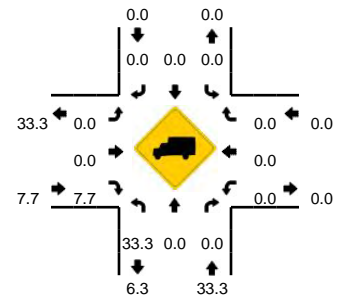
Comments:

LOCATION: East Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173401
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

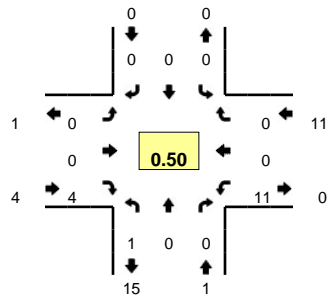


5-Min Count Period Beginning At	East Site Dwy (Northbound)				East Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:05 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
7:10 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:25 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4	
7:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:40 AM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3	
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:50 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
7:55 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
8:05 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
8:20 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
8:25 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
8:35 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
8:40 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:50 AM	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	4	
8:55 AM	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	4	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	28	
Heavy Trucks	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

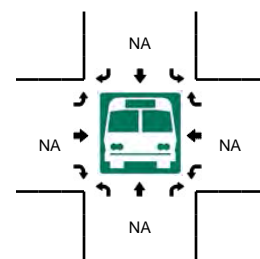
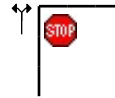
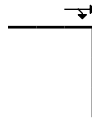
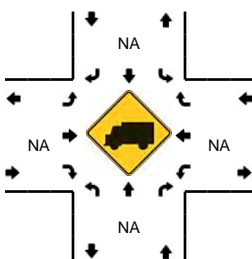
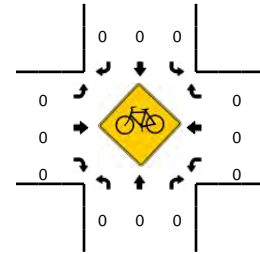
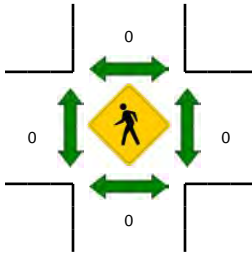
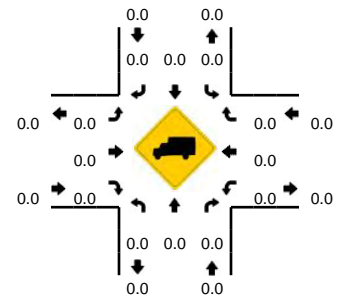
Comments:

LOCATION: Middle Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173403
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

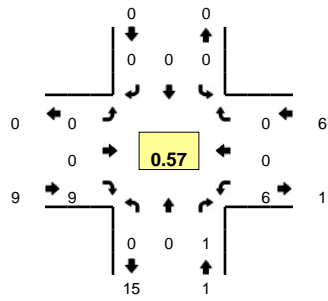


5-Min Count Period Beginning At	Middle Site Dwy (Northbound)				Middle Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2	
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:25 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:05 AM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3	
8:10 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
8:25 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
8:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
8:35 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	0	0	0	0	0	0	0	0	0	8	0	20	0	0	0	32	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

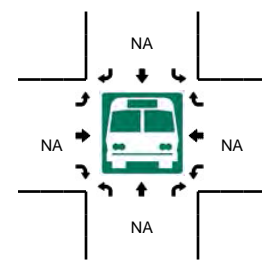
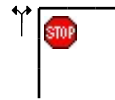
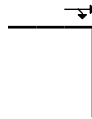
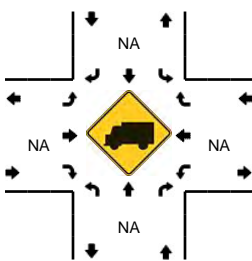
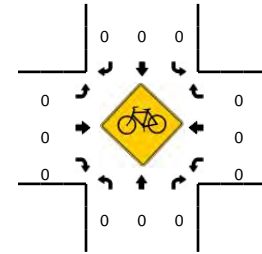
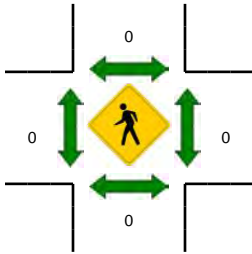
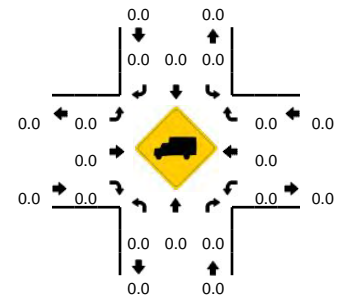
Comments:

LOCATION: West Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173405
DATE: Thu, Jan 08 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

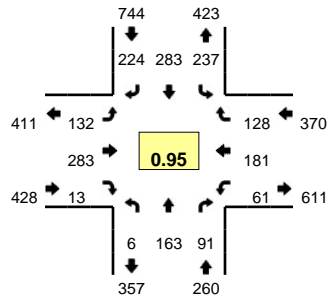


5-Min Count Period Beginning At	West Site Dwy (Northbound)				West Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	5	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:10 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:50 AM	1	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	5	
8:55 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	0	16	0	12	0	0	0	28	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

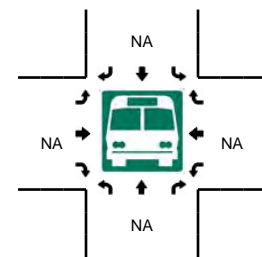
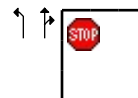
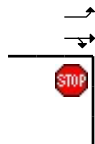
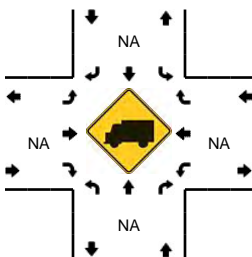
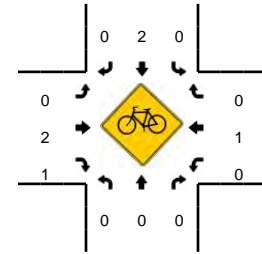
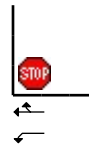
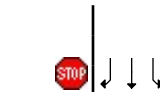
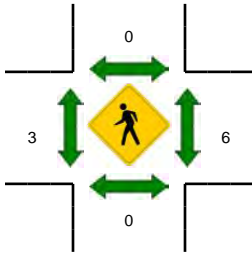
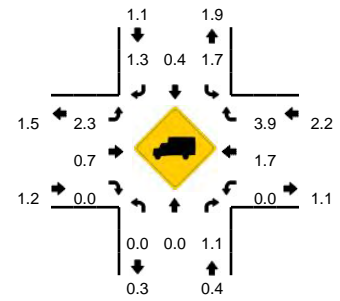
Comments:

LOCATION: SW Martinazzi Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

QC JOB #: 13173408
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

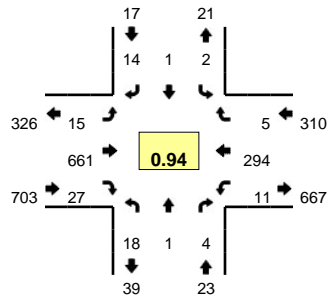


5-Min Count Period Beginning At	SW Martinazzi Ave (Northbound)				SW Martinazzi Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	15	4	0	14	17	24	0	14	18	2	0	5	12	10	0	136	
4:05 PM	2	11	6	0	16	16	7	0	9	21	0	0	5	13	7	0	113	
4:10 PM	1	22	5	0	27	22	18	0	13	23	1	0	1	12	11	0	156	
4:15 PM	1	6	8	0	22	23	16	0	9	24	0	0	3	14	12	0	138	
4:20 PM	0	18	7	0	16	15	16	0	12	28	0	0	9	12	13	0	146	
4:25 PM	0	11	5	0	15	25	16	0	6	23	0	0	7	15	11	0	134	
4:30 PM	0	8	1	0	15	21	21	0	8	22	1	0	5	13	16	0	131	
4:35 PM	0	17	8	0	12	18	16	0	13	20	0	0	6	19	8	0	137	
4:40 PM	0	15	8	0	16	21	21	0	14	35	0	0	2	11	17	0	160	
4:45 PM	1	18	4	0	15	21	15	0	11	28	2	0	4	9	16	0	144	
4:50 PM	1	10	12	0	17	17	19	0	12	24	3	0	2	12	10	0	139	
4:55 PM	0	12	7	0	21	26	20	0	11	22	1	0	5	16	10	0	151	1685
5:00 PM	1	12	11	0	25	22	20	0	7	21	0	0	6	20	10	0	155	1704
5:05 PM	0	12	8	0	25	27	23	0	8	20	1	0	8	14	8	0	154	1745
5:10 PM	0	14	6	0	25	24	15	0	12	31	1	0	4	17	14	0	163	1752
5:15 PM	0	13	5	0	21	24	18	0	12	27	2	0	7	16	10	0	155	1769
5:20 PM	1	15	6	0	21	24	23	0	12	17	1	0	8	15	12	0	155	1778
5:25 PM	1	11	9	0	18	33	16	0	8	21	1	0	5	17	7	0	147	1791
5:30 PM	1	14	7	0	21	26	18	0	12	17	1	0	4	15	6	0	142	1802
5:35 PM	0	7	5	0	19	28	19	0	5	20	1	0	2	13	8	0	127	1792
5:40 PM	0	13	6	0	21	27	24	0	11	14	0	0	5	11	10	0	142	1774
5:45 PM	0	16	7	0	18	20	21	0	12	14	1	0	3	12	13	0	137	1767
5:50 PM	0	12	5	0	17	20	18	0	9	15	0	0	3	13	5	0	117	1745
5:55 PM	0	11	9	0	17	26	18	0	12	18	0	0	4	12	10	0	137	1731
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	168	68	0	268	288	224	0	144	300	16	0	76	192	144	0	1892	
Heavy Trucks	0	0	0	0	4	0	4	0	0	0	0	0	0	8	0	0	16	
Pedestrians	0	0	0	0	0	0	0	0	0	4	0	0	0	12	0	0	16	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

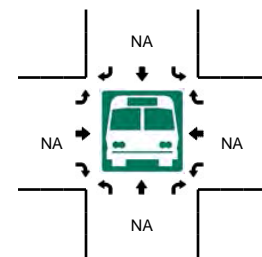
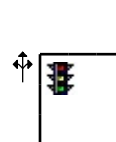
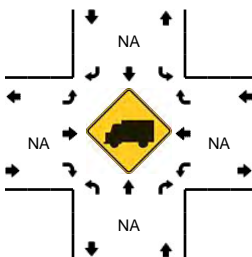
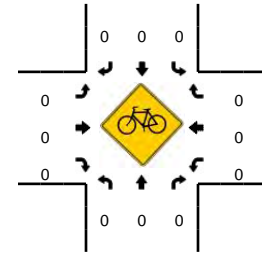
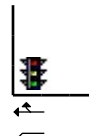
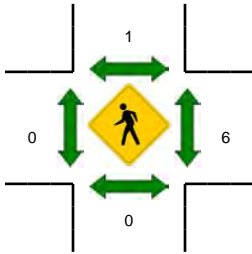
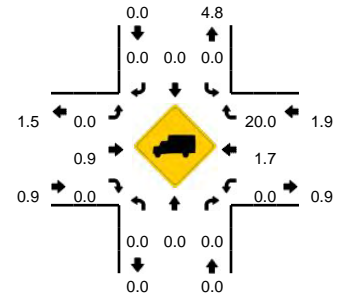
Comments:

LOCATION: SW 56th Ter -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173410
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

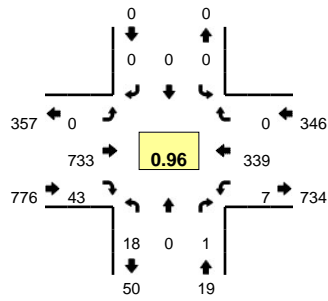


5-Min Count Period Beginning At	SW 56th Ter (Northbound)				SW 56th Ter (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	2	0	1	47	1	0	2	38	0	0	91	
4:05 PM	1	0	0	0	0	0	2	0	0	45	1	0	2	33	0	0	84	
4:10 PM	2	0	1	0	0	0	1	0	0	59	1	0	0	29	0	0	93	
4:15 PM	2	0	0	0	0	0	0	0	0	49	3	0	1	18	0	0	73	
4:20 PM	5	0	1	0	0	0	0	0	1	45	1	0	0	22	0	0	75	
4:25 PM	0	0	1	0	0	0	0	0	0	69	3	0	1	30	0	0	104	
4:30 PM	0	0	0	0	0	0	2	0	1	56	2	0	0	21	0	0	82	
4:35 PM	3	0	0	0	0	0	0	0	0	48	3	0	0	26	0	0	80	
4:40 PM	1	0	1	0	1	0	4	0	1	57	2	0	4	20	0	0	91	
4:45 PM	4	0	0	0	0	0	1	0	1	52	1	0	1	27	0	0	87	
4:50 PM	1	0	0	0	0	0	3	0	3	55	3	0	0	19	1	0	85	
4:55 PM	1	0	0	0	0	0	1	0	4	61	5	0	1	20	0	0	93	1038
5:00 PM	0	1	0	0	0	0	1	0	3	59	1	0	1	37	0	0	103	1050
5:05 PM	2	0	0	0	0	0	2	0	2	56	0	0	1	21	0	0	84	1050
5:10 PM	0	0	0	0	1	0	0	0	1	50	5	0	2	24	0	0	83	1040
5:15 PM	1	0	0	0	0	0	1	0	0	55	3	0	1	27	1	0	89	1056
5:20 PM	1	0	0	0	0	0	1	0	0	55	1	0	0	24	1	0	83	1064
5:25 PM	2	0	1	0	0	0	0	0	0	49	2	0	0	21	1	0	76	1036
5:30 PM	2	0	2	0	0	1	0	0	0	64	1	0	0	28	1	0	99	1053
5:35 PM	3	0	0	0	0	0	1	0	1	53	2	0	0	23	0	0	83	1056
5:40 PM	2	0	0	0	1	0	0	0	2	48	2	0	0	25	0	0	80	1045
5:45 PM	0	0	0	0	0	0	0	0	1	43	3	0	0	27	0	0	74	1032
5:50 PM	2	0	2	0	0	0	1	0	2	54	0	0	0	37	1	0	99	1046
5:55 PM	1	1	0	0	0	0	0	0	9	52	2	0	3	18	0	0	86	1039
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	4	0	0	0	0	20	0	40	700	36	0	8	304	4	0	1124	
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	4	0	0	0	0	0	0	0	16	0	0	20	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

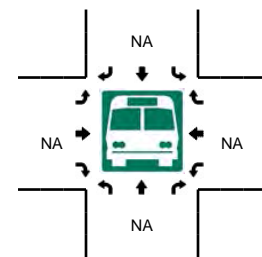
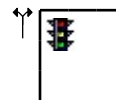
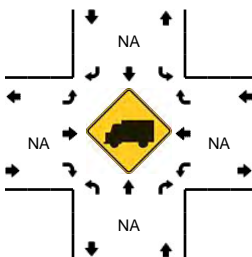
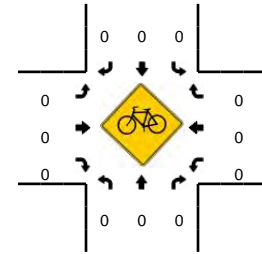
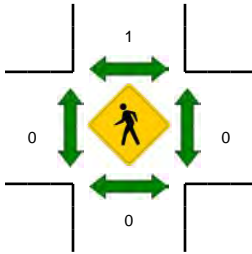
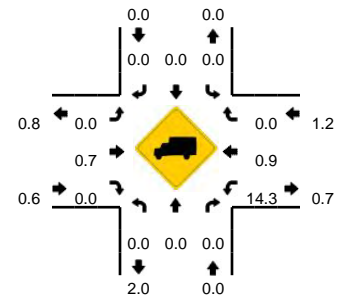
Comments:

LOCATION: SW 60th Ave -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173412
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

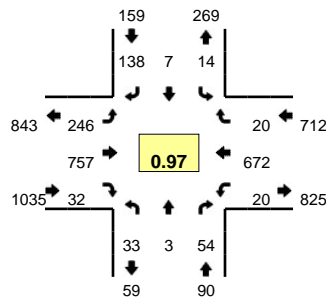


5-Min Count Period Beginning At	SW 60th Ave (Northbound)				SW 60th Ave (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	1	0	0	0	0	0	0	51	1	0	2	36	0	0	93	
4:05 PM	3	0	0	0	0	0	0	0	0	51	1	0	1	36	0	0	92	
4:10 PM	0	0	0	0	0	0	0	0	0	64	2	0	0	33	0	0	99	
4:15 PM	3	0	0	0	0	0	0	0	0	57	3	0	0	21	0	0	84	
4:20 PM	2	0	0	0	0	0	0	0	0	50	5	0	0	28	0	0	85	
4:25 PM	4	0	1	0	0	0	0	0	0	75	3	0	0	26	0	0	109	
4:30 PM	1	0	0	0	0	0	0	0	0	55	4	0	0	29	0	0	89	
4:35 PM	0	0	0	0	0	0	0	0	0	59	4	0	2	30	0	0	95	
4:40 PM	1	0	1	0	0	0	0	0	0	56	3	0	0	27	0	0	88	
4:45 PM	1	0	0	0	0	0	0	0	0	57	3	0	1	31	0	0	93	
4:50 PM	1	0	0	0	0	0	0	0	0	67	4	0	0	22	0	0	94	
4:55 PM	2	0	0	0	0	0	0	0	0	77	3	0	0	27	0	0	109	1130
5:00 PM	0	0	0	0	0	0	0	0	0	60	2	0	2	30	0	0	94	1131
5:05 PM	3	0	0	0	0	0	0	0	0	60	3	0	0	28	0	0	94	1133
5:10 PM	3	0	0	0	0	0	0	0	0	58	9	0	0	26	0	0	96	1130
5:15 PM	1	0	0	0	0	0	0	0	0	62	3	0	0	30	0	0	96	1142
5:20 PM	1	0	0	0	0	0	0	0	0	57	1	0	0	23	0	0	82	1139
5:25 PM	1	0	0	0	0	0	0	0	0	51	1	0	1	33	0	0	87	1117
5:30 PM	4	0	0	0	0	0	0	0	0	69	7	0	1	32	0	0	113	1141
5:35 PM	3	0	0	0	0	0	0	0	0	51	4	0	0	25	0	0	83	1129
5:40 PM	4	0	0	0	0	0	0	0	0	50	3	0	0	28	0	0	85	1126
5:45 PM	0	0	0	0	0	0	0	0	0	48	3	0	0	23	0	0	74	1107
5:50 PM	3	0	1	0	0	0	0	0	0	61	3	0	0	38	0	0	106	1119
5:55 PM	4	0	0	0	0	0	0	0	0	63	4	0	0	23	0	0	94	1104
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	0	0	0	0	0	0	0	0	816	36	0	8	316	0	0	1188	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

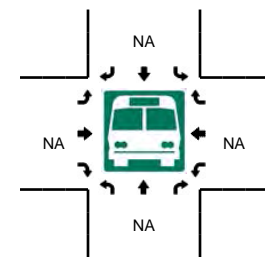
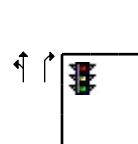
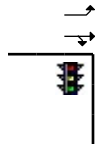
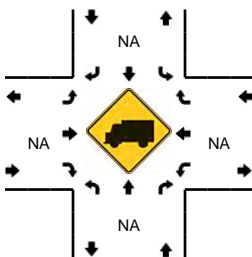
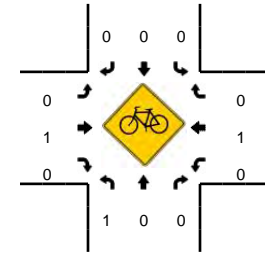
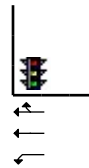
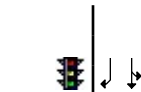
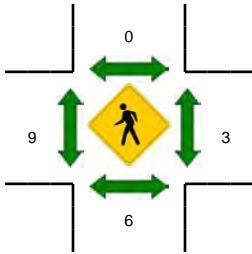
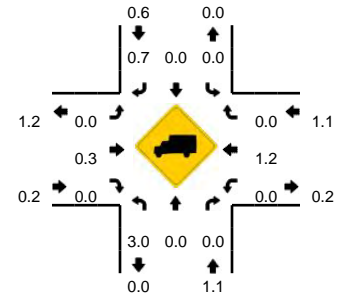
Comments:

LOCATION: SW Nyberg Ln -- SW Nyberg St/SW 65th Ave
CITY/STATE: Tualatin, OR

QC JOB #: 13173414
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

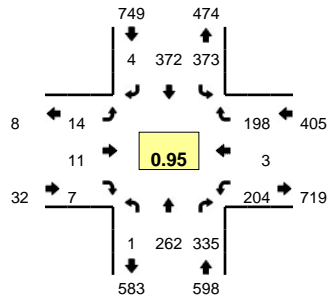


5-Min Count Period Beginning At	SW Nyberg Ln (Northbound)				SW Nyberg Ln (Southbound)				SW Nyberg St/SW 65th Ave (Eastbound)				SW Nyberg St/SW 65th Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	5	0	0	1	17	0	21	51	2	0	3	50	1	0	152	
4:05 PM	2	1	5	0	0	0	11	0	21	48	1	0	1	62	0	0	152	
4:10 PM	3	0	3	0	1	1	14	0	14	63	2	0	3	61	3	0	168	
4:15 PM	2	1	1	0	2	1	10	0	15	43	1	0	0	75	0	0	151	
4:20 PM	0	1	1	0	0	0	15	0	19	62	3	0	1	67	1	0	170	
4:25 PM	0	1	5	0	2	1	11	0	22	65	2	0	3	55	2	0	169	
4:30 PM	1	2	2	0	2	1	15	0	22	61	3	0	2	33	3	0	147	
4:35 PM	0	0	6	0	3	0	3	0	20	64	1	0	2	79	1	0	179	
4:40 PM	4	0	3	0	2	0	11	0	16	39	1	0	2	67	3	0	148	
4:45 PM	1	0	0	0	0	0	20	0	18	61	5	0	1	56	1	0	163	
4:50 PM	2	1	3	0	1	2	16	0	15	70	3	0	0	49	2	0	164	
4:55 PM	3	0	5	0	2	1	16	0	24	65	4	0	0	46	1	0	167	1930
5:00 PM	1	1	7	0	2	0	12	0	21	55	2	0	3	61	2	0	167	1945
5:05 PM	3	1	6	0	0	1	11	0	21	64	3	0	4	56	0	0	170	1963
5:10 PM	2	0	5	0	0	0	7	0	21	66	4	0	1	55	1	0	162	1957
5:15 PM	4	0	10	0	1	1	14	0	18	70	2	0	0	41	0	0	161	1967
5:20 PM	5	0	2	0	2	0	7	0	24	67	1	0	3	50	1	0	162	1959
5:25 PM	4	0	2	0	0	1	10	0	21	64	5	0	2	60	8	0	177	1967
5:30 PM	4	0	5	0	1	1	11	0	27	72	1	0	2	52	0	0	176	1996
5:35 PM	2	1	6	0	1	0	7	0	37	65	2	0	4	51	0	0	176	1993
5:40 PM	2	0	3	0	1	0	16	0	23	38	3	0	2	37	3	0	128	1973
5:45 PM	1	1	2	0	1	0	3	0	27	64	1	0	2	42	6	0	150	1960
5:50 PM	1	1	4	0	2	1	11	0	23	71	0	0	3	47	0	0	164	1960
5:55 PM	1	0	7	0	2	0	15	0	23	67	1	0	2	44	2	0	164	1957
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	52	0	36	0	12	8	112	0	288	812	28	0	28	648	36	0	2060	
Heavy Trucks	4	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	12	
Pedestrians		0				0				8				0			8	
Bicycles		0				0				0				1	0		1	
Railroad																		
Stopped Buses																		

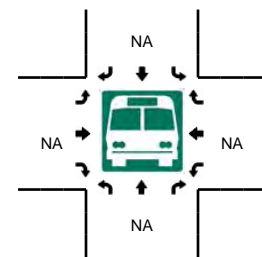
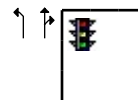
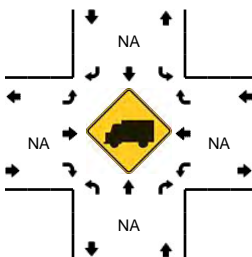
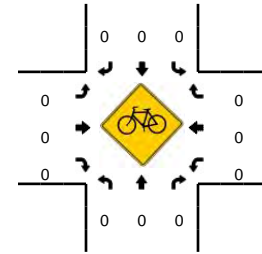
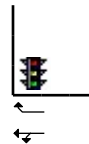
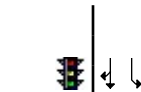
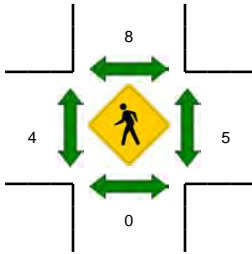
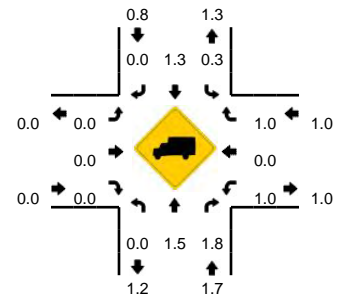
Comments:

LOCATION: SW 65th Ave -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173416
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

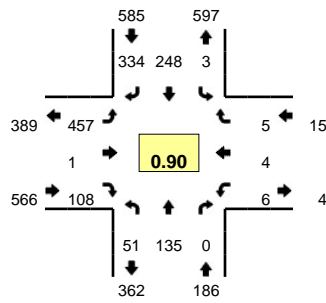


5-Min Count Period Beginning At	SW 65th Ave (Northbound)				SW 65th Ave (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	20	21	0	27	21	0	0	3	2	1	0	21	0	19	0	135	
4:05 PM	0	17	28	0	22	26	3	0	2	0	1	0	15	0	22	0	136	
4:10 PM	0	25	28	0	31	27	0	0	0	0	0	0	16	0	27	0	154	
4:15 PM	0	26	24	0	26	24	0	0	2	0	0	0	8	0	21	0	131	
4:20 PM	1	32	24	0	29	32	0	0	0	1	0	0	18	0	14	0	151	
4:25 PM	0	14	34	0	31	30	1	0	1	0	0	0	17	0	21	0	149	
4:30 PM	1	14	21	0	26	34	0	0	3	1	0	0	14	0	19	0	133	
4:35 PM	1	18	18	0	39	32	0	0	3	0	0	0	19	1	17	0	148	
4:40 PM	0	23	26	0	30	24	0	0	2	0	0	0	10	0	17	0	132	
4:45 PM	0	22	34	0	21	26	0	0	2	0	0	0	17	0	16	0	138	
4:50 PM	0	17	27	0	39	31	0	0	1	2	1	0	17	0	17	0	152	
4:55 PM	0	20	32	0	38	29	0	0	1	0	0	0	14	1	19	0	154	1713
5:00 PM	0	26	30	0	28	30	0	0	0	1	1	0	19	0	16	0	151	1729
5:05 PM	0	22	29	0	28	36	1	0	0	1	1	0	21	0	18	0	157	1750
5:10 PM	0	23	28	0	35	26	2	0	1	2	1	0	15	1	10	0	144	1740
5:15 PM	0	24	24	0	31	45	0	0	2	1	1	0	21	0	14	0	163	1772
5:20 PM	0	19	34	0	18	39	0	0	2	2	1	0	19	0	19	0	153	1774
5:25 PM	0	23	29	0	29	32	1	0	0	0	1	0	19	0	18	0	152	1777
5:30 PM	0	25	24	0	37	22	0	0	0	2	0	0	13	0	17	0	140	1784
5:35 PM	0	20	27	0	32	28	0	0	0	0	0	0	22	0	11	0	140	1776
5:40 PM	0	19	20	0	20	21	0	0	0	0	0	0	23	0	17	0	120	1764
5:45 PM	0	26	21	0	33	29	0	0	0	1	0	0	9	1	15	0	135	1761
5:50 PM	0	19	22	0	35	23	0	0	2	0	0	0	19	0	23	0	143	1752
5:55 PM	0	21	32	0	27	36	0	0	1	1	0	0	15	0	11	0	144	1742
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	264	348	0	312	464	4	0	16	12	12	0	236	0	204	0	1872	
Heavy Trucks	0	0	4	0	0	0	0	0	0	0	0	0	8	0	0	0	12	
Pedestrians	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

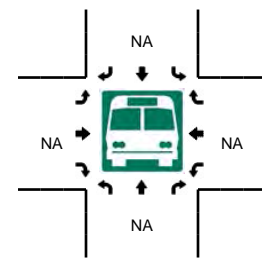
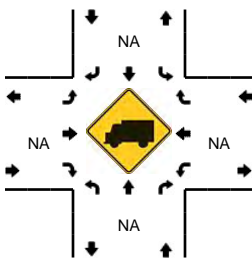
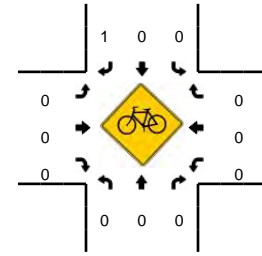
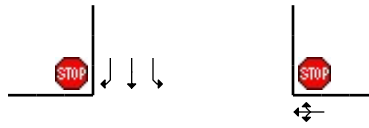
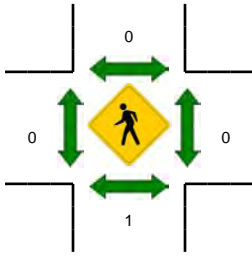
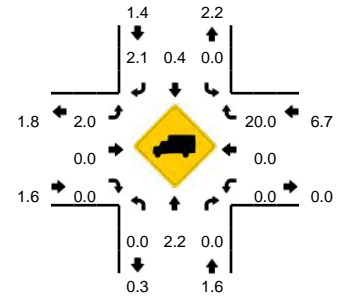
Comments:

LOCATION: SW 65th Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

QC JOB #: 13173418
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

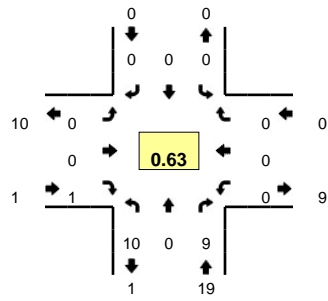


5-Min Count Period Beginning At	SW 65th Ave (Northbound)				SW 65th Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	10	0	0	0	15	27	0	31	1	9	0	0	0	0	0	96	
4:05 PM	2	7	0	0	0	23	23	0	38	0	6	0	1	1	2	0	103	
4:10 PM	1	12	0	0	0	21	21	0	41	0	14	0	0	0	0	0	110	
4:15 PM	5	14	0	0	1	15	17	0	33	0	8	0	0	0	0	0	93	
4:20 PM	2	19	0	0	0	18	31	0	39	1	7	0	0	2	1	0	120	
4:25 PM	2	8	0	0	1	14	34	0	35	0	4	0	0	1	0	0	99	
4:30 PM	4	8	0	0	0	22	28	0	32	0	7	0	0	0	1	0	102	
4:35 PM	6	7	0	0	0	16	33	0	27	0	6	0	0	0	2	0	97	
4:40 PM	9	14	0	0	1	12	20	0	37	0	8	0	1	0	0	0	102	
4:45 PM	5	8	0	0	0	21	24	0	41	0	6	0	1	0	0	0	106	
4:50 PM	4	13	0	0	0	19	29	0	32	0	11	0	0	0	0	0	108	
4:55 PM	5	14	0	0	0	22	21	0	41	0	7	0	0	1	0	0	111	1247
5:00 PM	2	12	0	0	0	19	31	0	41	0	7	0	0	0	1	0	113	1264
5:05 PM	6	11	0	0	0	30	28	0	41	0	12	0	0	1	1	0	130	1291
5:10 PM	2	10	0	0	1	20	21	0	40	0	16	0	0	0	0	0	110	1291
5:15 PM	5	13	0	0	1	23	40	0	36	1	9	0	4	1	1	0	134	1332
5:20 PM	1	8	0	0	0	31	34	0	42	0	9	0	0	1	0	0	126	1338
5:25 PM	4	13	0	0	0	20	27	0	45	0	7	0	0	0	0	0	116	1355
5:30 PM	2	12	0	0	0	15	26	0	34	0	10	0	0	0	0	0	99	1352
5:35 PM	3	5	0	0	0	18	30	0	35	0	7	0	0	0	0	0	98	1353
5:40 PM	6	11	0	0	0	20	25	0	32	0	6	0	0	0	0	0	100	1351
5:45 PM	3	16	0	0	0	13	25	0	34	0	7	0	0	0	0	0	98	1343
5:50 PM	2	11	0	0	0	12	28	0	31	0	8	0	0	0	0	0	92	1327
5:55 PM	1	8	1	0	0	19	33	0	40	0	7	0	1	0	1	0	111	1327
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	40	136	0	0	4	296	404	0	492	4	100	0	16	8	4	0	1504	
Heavy Trucks	0	0	0	0	0	0	8	0	4	0	0	0	0	0	0	0	12	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

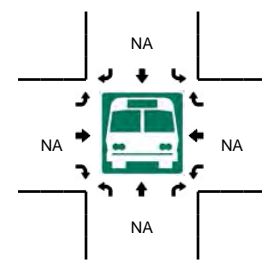
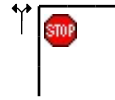
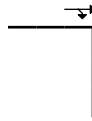
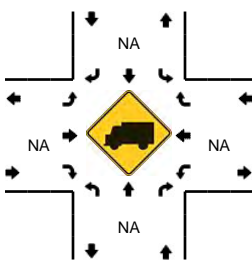
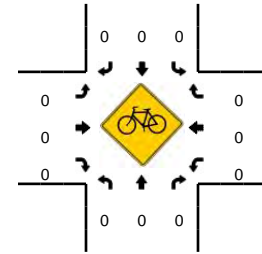
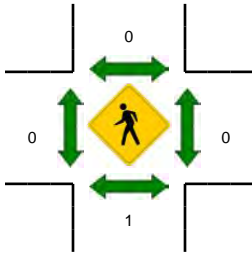
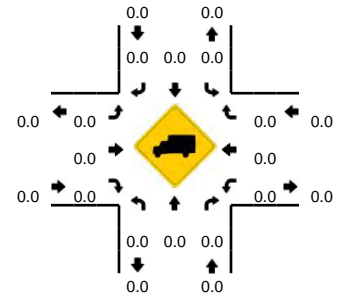
Comments:

LOCATION: East Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173402
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

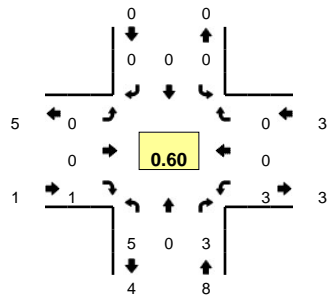


5-Min Count Period Beginning At	East Site Dwy (Northbound)				East Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:05 PM	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	4	
4:10 PM	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:15 PM	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	
4:20 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:35 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:40 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:50 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:55 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	24
5:05 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	22
5:10 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	21
5:15 PM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	21
5:20 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21
5:25 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
5:55 PM	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	15
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	32	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

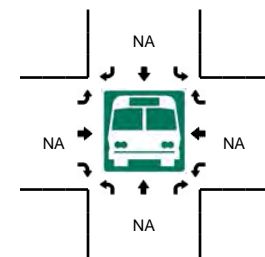
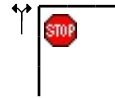
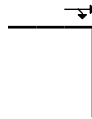
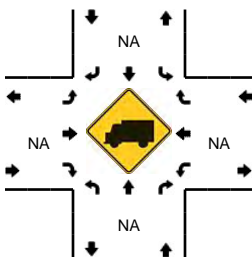
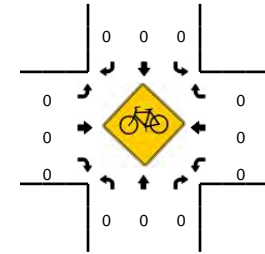
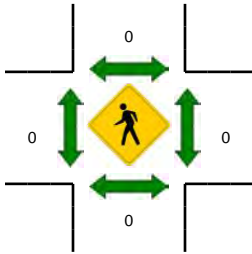
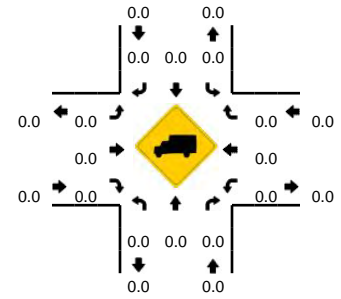
Comments:

LOCATION: Middle Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173404
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

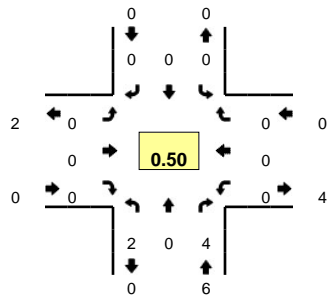


5-Min Count Period Beginning At	Middle Site Dwy (Northbound)				Middle Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
4:05 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
4:10 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:20 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:25 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
4:40 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3	
4:50 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:55 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2	
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:25 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:50 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	4	0	8	0	0	0	0	0	0	0	4	0	4	0	0	0	20	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

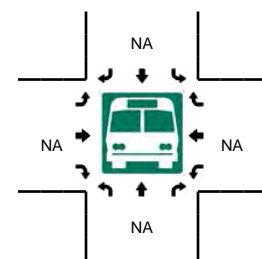
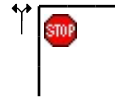
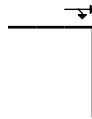
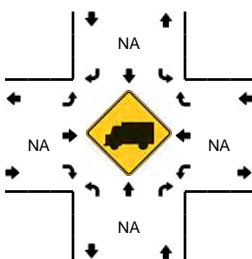
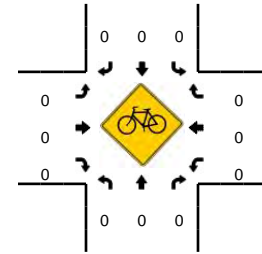
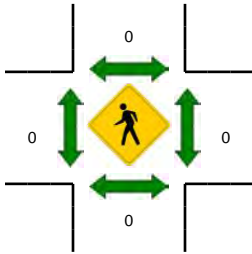
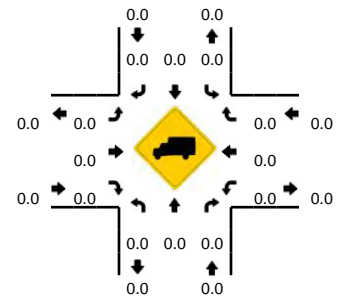
Comments:

LOCATION: West Site Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13173406
DATE: Thu, Jan 08 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



5-Min Count Period Beginning At	West Site Dwy (Northbound)				West Site Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	
4:05 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
4:10 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:50 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:10 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
5:15 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																			
Stopped Buses																			

Comments:

Appendix C
*2015 Existing Conditions
Worksheets*

Sagert Farms
1: SW Nyberg Ln & SW Nyberg St/SW 65th Ave

Existing AM Peak Hour
1/26/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	603	17	46	793	14	25	0	26	15	14	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	1.00
Satd. Flow (prot)	1787	1817		1686	3496			1727	1442		1786	1583
Flt Permitted	0.21	1.00		0.27	1.00			0.74	1.00		0.85	1.00
Satd. Flow (perm)	390	1817		478	3496			1337	1442		1550	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	123	670	19	51	881	16	28	0	29	17	16	311
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	24	0	0	53
Lane Group Flow (vph)	123	688	0	51	896	0	0	28	5	0	33	258
Confl. Peds. (#/hr)			6	6			4		1	1		4
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	4%	6%	7%	3%	0%	4%	0%	12%	7%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4 5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	41.3	33.6		32.3	29.1			11.3	11.3		11.3	25.0
Effective Green, g (s)	41.3	33.6		32.3	29.1			11.3	11.3		11.3	25.0
Actuated g/C Ratio	0.62	0.51		0.49	0.44			0.17	0.17		0.17	0.38
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	406	923		292	1539			228	246		264	598
v/s Ratio Prot	0.04	c0.38		0.01	0.26				0.00			c0.16
v/s Ratio Perm	0.15			0.08				0.02			0.02	
v/c Ratio	0.30	0.75		0.17	0.58			0.12	0.02		0.12	0.43
Uniform Delay, d1	6.3	12.9		9.7	13.9			23.2	22.8		23.2	15.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	3.1		0.2	0.5			0.1	0.0		0.1	0.2
Delay (s)	6.6	16.0		9.9	14.4			23.3	22.8		23.3	15.5
Level of Service	A	B		A	B			C	C		C	B
Approach Delay (s)		14.6			14.1			23.0			16.2	
Approach LOS		B			B			C			B	

Intersection Summary

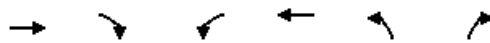
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Sagert Farms
2: SW 65th Ave & SW Borland Rd

Existing AM Peak Hour
1/26/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	39	5	4	314	6	366	1	424	215	184	192	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			2%			6%		
Total Lost time (s)		6.1			5.8	5.8	5.3	5.3		5.3	5.3		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Flt		0.99			1.00	0.85	1.00	0.95		1.00	1.00		
Flt Protected		0.96			0.95	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1632			1743	1568	1787	1712		1636	1711		
Flt Permitted		0.96			0.95	1.00	0.63	1.00		0.13	1.00		
Satd. Flow (perm)		1632			1743	1568	1184	1712		226	1711		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	41	5	4	327	6	381	1	442	224	192	200	5	
RTOR Reduction (vph)	0	2	0	0	0	230	0	12	0	0	0	0	
Lane Group Flow (vph)	0	48	0	0	333	151	1	654	0	192	205	0	
Heavy Vehicles (%)	13%	0%	0%	4%	0%	3%	0%	3%	7%	7%	7%	20%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	8	8		4	4	4 5	1	6		5	2		
Permitted Phases							6			2			
Actuated Green, G (s)		5.9			20.9	40.1	54.6	53.8		78.3	72.2		
Effective Green, g (s)		5.9			20.9	40.1	54.6	53.8		78.3	72.2		
Actuated g/C Ratio		0.05			0.17	0.33	0.45	0.44		0.64	0.59		
Clearance Time (s)		6.1			5.8		5.3	5.3		5.3	5.3		
Vehicle Extension (s)		1.0			2.0		1.0	3.0		2.5	3.0		
Lane Grp Cap (vph)		78			297	514	532	753		366	1010		
v/s Ratio Prot		c0.03			c0.19	0.10	0.00	c0.38		c0.08	0.12		
v/s Ratio Perm							0.00			0.25			
v/c Ratio		0.62			1.12	0.29	0.00	0.87		0.52	0.20		
Uniform Delay, d1		57.1			50.7	30.6	18.7	31.1		18.0	11.7		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		9.8			88.9	0.1	0.0	10.4		1.0	0.1		
Delay (s)		66.9			139.6	30.7	18.7	41.5		19.1	11.8		
Level of Service		E			F	C	B	D		B	B		
Approach Delay (s)		66.9			81.5			41.5			15.3		
Approach LOS		E			F			D			B		
Intersection Summary													
HCM 2000 Control Delay			52.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			122.3									Sum of lost time (s)	22.5
Intersection Capacity Utilization			79.3%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Volume (veh/h)	330	15	5	761	39	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	393	18	6	906	46	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked					0.72	
vC, conflicting volume			411		1320	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			411		1249	402
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		66	99
cM capacity (veh/h)			1159		138	653
Direction, Lane #						
	EB 1	WB 1	WB 2	NB 1		
Volume Total	411	6	906	56		
Volume Left	0	6	0	46		
Volume Right	18	0	0	10		
cSH	1700	1159	1700	159		
Volume to Capacity	0.24	0.01	0.53	0.35		
Queue Length 95th (ft)	0	0	0	37		
Control Delay (s)	0.0	8.1	0.0	39.4		
Lane LOS			A	E		
Approach Delay (s)	0.0	0.1		39.4		
Approach LOS					E	
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			50.1%	ICU Level of Service	A	
Analysis Period (min)	15					

Sagert Farms
5: SW 56th Ter & SW Borland Rd

Existing AM Peak Hour
1/26/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	76	227	7	5	612	5	30	14	19	8	5	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Frt	1.00	1.00		1.00	1.00			0.96			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1597	1804		1504	1842			1706			1613	
Flt Permitted	0.24	1.00		0.60	1.00			0.84			0.95	
Satd. Flow (perm)	410	1804		945	1842			1471			1537	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	85	255	8	6	688	6	34	16	21	9	6	49
RTOR Reduction (vph)	0	1	0	0	0	0	0	16	0	0	44	0
Lane Group Flow (vph)	85	262	0	6	694	0	0	55	0	0	20	0
Confl. Peds. (#/hr)	3						3		40	40		
Heavy Vehicles (%)	13%	5%	0%	20%	3%	0%	0%	0%	5%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.9	49.8		44.4	43.5			7.6			7.6	
Effective Green, g (s)	55.9	49.8		44.4	43.5			7.6			7.6	
Actuated g/C Ratio	0.76	0.67		0.60	0.59			0.10			0.10	
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0	
Lane Grp Cap (vph)	425	1215		574	1084			151			158	
v/s Ratio Prot	c0.02	0.15		0.00	c0.38							
v/s Ratio Perm	0.13			0.01				c0.04			0.01	
v/c Ratio	0.20	0.22		0.01	0.64			0.36			0.13	
Uniform Delay, d1	5.1	4.6		5.9	10.0			30.9			30.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	1.5			1.5			0.4	
Delay (s)	5.4	4.7		5.9	11.5			32.4			30.5	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		4.9			11.4			32.4			30.5	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			11.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			73.9			Sum of lost time (s)		15.6				
Intersection Capacity Utilization			64.1%			ICU Level of Service		C				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Intersection Delay, s/veh	47.4											
Intersection LOS	E											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	239	208	8	0	41	205	176	0	8	331	88
Peak Hour Factor	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	3	2	25	2	2	4	2	2	0	2	7
Mvmt Flow	0	244	212	8	0	42	209	180	0	8	338	90
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	25.9	58.7	75.3
HCM LOS	D	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	79%	0%	96%	0%	54%	0%	100%	0%
Vol Right, %	0%	21%	0%	4%	0%	46%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	419	239	216	41	381	90	62	67
LT Vol	8	0	239	0	41	0	90	0	0
Through Vol	0	331	0	208	0	205	0	62	0
RT Vol	0	88	0	8	0	176	0	0	67
Lane Flow Rate	8	428	244	220	42	389	92	63	68
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.022	1	0.651	0.555	0.112	0.953	0.27	0.178	0.179
Departure Headway (Hd)	9.891	9.251	9.609	9.07	9.605	8.822	10.593	10.126	9.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	364	398	376	397	373	412	339	354	379
Service Time	7.591	6.951	7.378	6.84	7.365	6.581	8.381	7.913	7.228
HCM Lane V/C Ratio	0.022	1.075	0.649	0.554	0.113	0.944	0.271	0.178	0.179
HCM Control Delay	12.8	76.5	28.7	22.7	13.6	63.6	17.3	15.1	14.3
HCM Lane LOS	B	F	D	C	B	F	C	C	B
HCM 95th-tile Q	0.1	12.1	4.4	3.3	0.4	10.9	1.1	0.6	0.6

Intersection



















Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	90	62	67
Peak Hour Factor	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	4	6	7
Mvmt Flow	0	92	63	68
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	15.8
HCM LOS	C

Lane

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	365	7	89	5	3	1	109	274	4	4	121	385
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	397	8	97	5	3	1	118	298	4	4	132	418
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2						
Volume Total (vph)	404	97	10	421	4	550						
Volume Left (vph)	397	0	5	118	4	0						
Volume Right (vph)	0	97	1	4	0	418						
Hadj (s)	0.57	-0.67	0.04	0.12	0.50	-0.43						
Departure Headway (s)	8.0	6.8	9.6	7.5	7.9	7.0						
Degree Utilization, x	0.90	0.18	0.03	0.88	0.01	1.0						
Capacity (veh/h)	437	521	352	463	442	519						
Control Delay (s)	49.1	10.1	12.8	44.6	9.8	84.2						
Approach Delay (s)	41.6		12.8	44.6	83.6							
Approach LOS	E		B	E	F							
Intersection Summary												
Delay			57.9									
Level of Service			F									
Intersection Capacity Utilization			88.0%		ICU Level of Service		E					
Analysis Period (min)			15									

Sagert Farms
1: SW Nyberg St & 65th Ave/Nyberg St

Existing PM Peak Hour
1/26/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	246	757	32	20	672	20	33	3	54	14	7	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1787	1868		1752	3516			1802	1615		1749	1599
Flt Permitted	0.27	1.00		0.24	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	503	1868		433	3516			1369	1615		1409	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	265	814	34	22	723	22	35	3	58	15	8	148
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	52	0	0	88
Lane Group Flow (vph)	265	847	0	22	743	0	0	38	6	0	23	60
Confl. Peds. (#/hr)	1		5	5		1	7					7
Heavy Vehicles (%)	1%	1%	0%	3%	2%	7%	0%	0%	0%	8%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4.5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.4	36.6		30.4	28.6			6.3	6.3		6.3	22.1
Effective Green, g (s)	44.4	36.6		30.4	28.6			6.3	6.3		6.3	22.1
Actuated g/C Ratio	0.71	0.58		0.48	0.46			0.10	0.10		0.10	0.35
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	556	1090		247	1603			137	162		141	563
v/s Ratio Prot	c0.07	c0.45		0.00	0.21				0.00			0.04
v/s Ratio Perm	0.26			0.04				c0.03			0.02	
v/c Ratio	0.48	0.78		0.09	0.46			0.28	0.04		0.16	0.11
Uniform Delay, d1	4.3	9.9		9.1	11.8			26.1	25.5		25.8	13.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	3.4		0.1	0.2			0.4	0.0		0.2	0.0
Delay (s)	4.7	13.3		9.3	11.9			26.5	25.5		26.0	13.7
Level of Service	A	B		A	B			C	C		C	B
Approach Delay (s)		11.3			11.8			25.9			15.3	
Approach LOS		B			B			C			B	

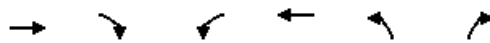
Intersection Summary

HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	11	7	204	3	198	1	262	335	373	374	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			6%	
Total Lost time (s)		6.1			5.8	5.8	5.3	5.3		5.3	5.3	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1757			1770	1599	1787	1658		1734	1822	
Flt Permitted		0.98			0.95	1.00	0.53	1.00		0.14	1.00	
Satd. Flow (perm)		1757			1770	1599	996	1658		252	1822	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	11	7	212	3	206	1	273	349	389	390	4
RTOR Reduction (vph)	0	7	0	0	0	129	0	31	0	0	0	0
Lane Group Flow (vph)	0	26	0	0	215	77	1	591	0	389	394	0
Confl. Peds. (#/hr)	10					10			4	4		
Heavy Vehicles (%)	6%	0%	0%	2%	25%	1%	0%	2%	2%	1%	1%	0%
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4	4.5	1	6		5	2	
Permitted Phases							6			2		
Actuated Green, G (s)		3.5			18.2	46.4	51.9	51.1		84.6	78.5	
Effective Green, g (s)		3.5			18.2	46.4	51.9	51.1		84.6	78.5	
Actuated g/C Ratio		0.03			0.15	0.38	0.42	0.41		0.69	0.64	
Clearance Time (s)		6.1			5.8		5.3	5.3		5.3	5.3	
Vehicle Extension (s)		1.0			2.0		1.0	3.0		2.5	3.0	
Lane Grp Cap (vph)		49			260	600	423	686		511	1158	
v/s Ratio Prot		c0.01			c0.12	0.05	0.00	c0.36		c0.17	0.22	
v/s Ratio Perm							0.00			0.35		
v/c Ratio		0.53			0.83	0.13	0.00	0.86		0.76	0.34	
Uniform Delay, d1		59.2			51.1	25.3	20.8	33.0		26.6	10.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.5			18.1	0.0	0.0	10.8		6.3	0.2	
Delay (s)		64.7			69.3	25.3	20.8	43.8		32.9	10.6	
Level of Service		E			E	C	C	D		C	B	
Approach Delay (s)		64.7			47.8			43.7			21.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	22.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Volume (veh/h)	733	43	7	339	18	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	814	48	8	377	20	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			862		1231	838
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			862		1231	838
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		90	100
cM capacity (veh/h)			789		196	369

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	862	8	377	21
Volume Left	0	8	0	20
Volume Right	48	0	0	1
cSH	1700	789	1700	201
Volume to Capacity	0.51	0.01	0.22	0.11
Queue Length 95th (ft)	0	1	0	9
Control Delay (s)	0.0	9.6	0.0	25.0
Lane LOS		A		D
Approach Delay (s)	0.0	0.2		25.0
Approach LOS				D

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Sagert Farms
5: SW 56th Terrace & Borland Rd

Existing PM Peak Hour
1/26/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	661	27	11	294	5	18	1	4	2	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1797	1869		1805	1876			1641			1641	
Flt Permitted	0.56	1.00		0.31	1.00			0.86			0.96	
Satd. Flow (perm)	1067	1869		584	1876			1463			1577	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	718	29	12	320	5	20	1	4	2	1	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	14	0
Lane Group Flow (vph)	16	746	0	12	325	0	0	21	0	0	4	0
Confl. Peds. (#/hr)	8		1	1		8	3		3	3		3
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	50%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	49.4	48.5		49.4	48.5			4.2			4.2	
Effective Green, g (s)	49.4	48.5		49.4	48.5			4.2			4.2	
Actuated g/C Ratio	0.71	0.70		0.71	0.70			0.06			0.06	
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0	
Lane Grp Cap (vph)	771	1309		432	1314			88			95	
v/s Ratio Prot	0.00	c0.40		c0.00	0.17							
v/s Ratio Perm	0.01			0.02				c0.01			0.00	
v/c Ratio	0.02	0.57		0.03	0.25			0.24			0.04	
Uniform Delay, d1	2.9	5.2		3.5	3.7			31.0			30.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.7		0.0	0.1			1.4			0.2	
Delay (s)	2.9	5.9		3.5	3.9			32.4			30.8	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		5.8			3.9			32.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	52.7											
Intersection LOS	F											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	132	283	13	0	61	181	128	0	6	163	91
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	0	2	2	1	4	2	0	1	2
Mvmt Flow	0	139	298	14	0	64	191	135	0	6	172	96
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	56.7	73.3	52.5
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	64%	0%	96%	0%	59%	0%	100%	0%
Vol Right, %	0%	36%	0%	4%	0%	41%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	254	132	296	61	309	237	283	224
LT Vol	6	0	132	0	61	0	237	0	0
Through Vol	0	163	0	283	0	181	0	283	0
RT Vol	0	91	0	13	0	128	0	0	224
Lane Flow Rate	6	267	139	312	64	325	249	298	236
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.021	0.845	0.445	0.951	0.213	1	0.751	0.853	0.632
Departure Headway (Hd)	12.1	11.373	11.518	10.988	11.938	11.092	10.844	10.311	9.647
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	299	324	317	333	304	332	337	357	380
Service Time	9.724	8.996	9.137	8.607	9.576	8.731	8.47	7.937	7.272
HCM Lane V/C Ratio	0.02	0.824	0.438	0.937	0.211	0.979	0.739	0.835	0.621
HCM Control Delay	15	53.4	23	71.8	17.8	84.2	39.8	50.7	27.3
HCM Lane LOS	B	F	C	F	C	F	E	F	D
HCM 95th-tile Q	0.1	7.4	2.2	9.9	0.8	11.1	5.8	7.9	4.2

Intersection

Intersection Delay, s/veh























Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	237	283	224
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	249	298	236
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	40.2
HCM LOS	E

Lane

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Sign Control		Stop			Stop			Stop			Stop				
Volume (vph)	457	1	108	6	4	5	51	136	0	3	248	334			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Hourly flow rate (vph)	486	1	115	6	4	5	54	145	0	3	264	355			
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2									
Volume Total (vph)	487	115	16	199	3	619									
Volume Left (vph)	486	0	6	54	3	0									
Volume Right (vph)	0	115	5	0	0	355									
Hadj (s)	0.53	-0.68	-0.12	0.11	0.50	-0.38									
Departure Headway (s)	7.4	6.2	8.5	7.7	7.5	6.6									
Degree Utilization, x	1.0	0.20	0.04	0.43	0.01	1.0									
Capacity (veh/h)	487	570	404	460	469	546									
Control Delay (s)	69.2	9.6	11.8	16.4	9.4	107.4									
Approach Delay (s)	57.8		11.8	16.4	106.9										
Approach LOS	F		B	C	F										
Intersection Summary															
Delay			72.8												
Level of Service			F												
Intersection Capacity Utilization			85.7%					ICU Level of Service			E				
Analysis Period (min)			15												

Appendix D Crash Data

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

SW 65th Avenue & SW Borland Road
 January 1, 2009 through December 31, 2013

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	0	2	2	0	2	0	0
2013 TOTAL	0	1	3	4	0	1	0	2	2	4	0	4	0	0
YEAR: 2010														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2010 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2009														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2009 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
FINAL TOTAL	0	3	3	6	0	3	0	4	2	6	0	6	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Borland Road
 January 1, 2009 through December 31, 2013

SER#	INVEST	S P E E	D R L L	C A U S E	O C C U R R E N C E	DATE DAY TIME	CLASS DIST FROM	CITY STREET FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFF-RD RDNBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	SPCL USE TRLR QTY OWNER V#	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E L I C N S	RES PED LOC	ERROR	ACTN	EVENT	CAUSE			
																											EX	RES	LOC
03617	CITY	N	N	N	N	07/07/2013	16	SW BORLAND RD SW 65TH AVE	INTER S	3-LEG	N		N CLR N DRY N DAY	S-STRGHT REAR INJ	01 UNKN UNKN UNKNOWN	0 STRGHT S N		01	DRVR	NONE	00	U	UNK	042	000	000	07	00	07
						Sun 3P	0		06	0					02 NONE PRVTE PSNGR CAR	0 STRGHT S N		01	DRVR	INJC	18	M	OR-Y OR<25	000	000	000	00	00	00
02560	NO RPT	N	N	N		05/10/2010	16	SW BORLAND RD SW 65TH AVE	INTER CN	3-LEG	N		N CLD N DRY N DAY	S-1STOP REAR INJ	01 NONE PRVTE PSNGR CAR	0 STRGHT N S		01	DRVR	INJC	20	F	OR-Y OR<25	026	000	000	07	00	07
						Mon 5P	0		01	0					02 NONE PRVTE PSNGR CAR	0 STOP N S		01	DRVR	NONE	26	M	OR-Y OR<25	000	000	000	00	00	00
92202	CITY	N	N	N	N	06/17/2009	16	SW BORLAND RD SW 65TH AVE	INTER CN	3-LEG	N		N CLR N DRY N DAY	ANGL-OTH TURN INJ	01 NONE PRVTE PSNGR CAR	0 STRGHT S N		01	DRVR	NONE	47	M	OR-Y OR<25	000	000	000	04	00	00
						Wed 12P	0		04	0					02 NONE PRVTE PSNGR CAR	0 TURN-L N E		01	DRVR	INJC	23	M	OR-Y OR<25	020	000	000	04	00	04
00603	NONE	N	N	N		02/01/2013	16	SW BORLAND RD SW 65TH AVE	INTER CN	3-LEG	N		N CLR N DRY Y DAY	ANGL-OTH ANGL PDO	01 NONE PRVTE PSNGR CAR	0 STRGHT W E		01	DRVR	NONE	44	F	OR-Y OR<25	097	000	000	04	00	00
						Fri 10A	0		04	0					02 NONE PRVTE PSNGR CAR	0 STRGHT S N		01	DRVR	NONE	37	M	OR-Y OR<25	097	000	000	00	00	00
06017	CITY	N	N	N	N	04/06/2013	16	SW BORLAND RD SW 65TH AVE	INTER CN	3-LEG	N		N RAIN N WET N DAY	O-1TURN TURN PDO	01 NONE PRVTE PSNGR CAR	0 STRGHT S N		01	DRVR	NONE	18	F	OR-Y OR<25	000	000	000	02	00	00
						Sat 8A	0		04	0					02 NONE PRVTE PSNGR CAR	0 TURN-L N E		01	DRVR	NONE	42	M	OTH-Y OR<25	028,004	000	000	00	00	02
81166	CITY	N	N	N	N	04/06/2013	16	SW BORLAND RD SW 65TH AVE	INTER CN	3-LEG	N		N RAIN N WET N DAY	O-1TURN TURN PDO	01 NONE PRVTE PSNGR CAR	0 STRGHT S N		01	DRVR	NONE	18	F	OR-Y OR<25	000	000	000	02	00	00

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Borland Road
 January 1, 2009 through December 31, 2013

SER#	INVEST	D	C	S	L	K	TIME	CLASS	CITY STREET	RD CHAR	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH TYP	SPCL USE	MOVE	A	S	G	E	LICNS	PED	ACTN	EVENT	CAUSE
E A U C O	E L G H R	D A T E	D I S T	F I R S T	S T R E E T	D I R E C T	(#LANES)	CONTL	DRVWY	L I G H T	S V R T Y	V#	VEH TYPE	T O	P#	T Y P E	S V R T Y	E X	R E S	L O C	E R R O R					
															02	NONE	0	TURN-L								
																PRVTE		N	E							000
																PSNGR CAR				01	DRVR	NONE	42	M	OR-Y	028,004
																									000	
																										02

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE
 SW 65th Avenue & SW Nyberg Lane / SW Nyberg Street
 January 1, 2009 through December 31, 2013

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2013														
REAR-END	0	1	1	2	0	2	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
2013 TOTAL	0	2	1	3	0	4	0	3	0	2	1	3	0	0
YEAR: 2012														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2012 TOTAL	0	2	1	3	0	2	0	3	0	3	0	3	0	1
YEAR: 2011														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2011 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2010														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	0	1	0	1	1	0	0
2010 TOTAL	0	2	0	2	0	3	0	1	1	1	1	2	0	0
FINAL TOTAL	0	7	2	9	0	10	0	8	1	7	2	9	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Nyberg Lane / SW Nyberg Street
January 1, 2009 through December 31, 2013

SER#	INVEST	S P E E	D R A L	C U G	O H R	DATE DAY TIME	CLASS DIST FROM	CITY STREET FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFF-RD RDNBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	SPCL USE TRLR QTY OWNER V#	MOVE FROM TO	PRTC P#	INJ SVRTY	A G E	S E LICNS RES	PED LOC ERROR	ACTN EVENT	CAUSE			
																								VEH TYPE	VEH TYPE	VEH TYPE
04780	CITY	N	N	N	N	09/05/2011	16	SW NYBERG LN SW 65TH AVE	INTER S	3-LEG	N		N CLR	S-1STOP REAR INJ	01 PRVTE PSNGR CAR	0 S N	STRGHT	01	DRVR	NONE	16	F	OR-Y OR<25	043,026	000 000	07 00 07
						Mon 1P	0		06	0			N DAY		02 PRVTE PSNGR CAR	0 S N	STOP	01	DRVR	INJC	18	F	OR-Y OR<25	000	011 000	00 00
07740	NONE	N	N	N	N	12/13/2012	16	SW NYBERG ST SW 65TH AVE	INTER N	3-LEG	N		N CLR	O-1STOP BACK PDO	01 PRVTE PSNGR CAR	0 S N	BACK	01	DRVR	NONE	29	F	OR-Y OR>25	016,011	000 000	27 00 27
						Thu 1P	0		06	0			N DAY		02 PRVTE PSNGR CAR	N S	STOP	01	DRVR	NONE	43	M	OR-Y OR<25	000	011 000	00 00
06010	NONE	N	N	N		10/19/2013	16	SW NYBERG ST SW 65TH AVE	INTER E	3-LEG	N		N CLR	S-1STOP REAR PDO	01 PRVTE PSNGR CAR	0 E W	STRGHT	01	DRVR	NONE	44	F	OR-Y OR<25	016,026	000 038	27,07 00 27,07
						Sat 3P	0		06	0			N DAY		02 PRVTE PSNGR CAR	E W	STOP	01	DRVR	NONE	00	F	UNK OR<25	000	011 000	00 00
03376	CITY	N	N	N	N	07/02/2012	16	SW NYBERG ST SW 65TH AVE	INTER S	3-LEG	N		Y UNK	BIKE TURN INJ											001,110 00 001,110 00	02 00 02
						Mon 5P	0		05	0			Y DAY		01 PRVTE PSNGR CAR	TURN-R W S	STRGHT W E	01	BIKE	INJC	22	M		01 000	000	001,110 00
															01 PRVTE PSNGR CAR			01	DRVR	NONE	41	M	OR-Y OR<25	027	019 000	110 00 02
06315	CITY	N	N	N	N	11/13/2012	16	SW NYBERG ST SW 65TH AVE	INTER W	3-LEG	N		N CLD	S-1STOP REAR INJ	01 UNKN UNKNOWN	0 W E	STRGHT	01	DRVR	NONE	00	M	UNK UNK	026	000 000	07 00 07
						Tue 9A	0		06	0			N DAY		02 PRVTE PSNGR CAR	W E	STOP	01	DRVR	INJC	43	F	OR-Y OR<25	000	011 000	00 00
00843	CITY	N	N	N	N	02/17/2013	16	SW NYBERG ST SW 65TH AVE	INTER CN	3-LEG	N		N CLR	O-1TURN TURN INJ	01 PRVTE PSNGR CAR	0 E S	TURN-L	01	DRVR	INJC	37	M	EXP OR<25	028,004	019 000	02 00 02

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Nyberg Lane / SW Nyberg Street

January 1, 2009 through December 31, 2013

SER#	INVEST	E L G H R DAY	DATE	CLASS	CITY STREET	RD CHAR	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH TYP	SPCL USE	MOVE	PRTC	INJ	A S	PED	ACTN	EVENT	CAUSE			
		D C S L K TIME		DIST	FIRST STREET	DIRECT	(MEDIAN)	LEGS	TRAF-	RNDBT	SURF	TRLR QTY	FROM	P#	SVR TY	E X RES	LOC						
				FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVR TY	V#	VEH TYPE	TO			ERROR						
												02	NONE PRVTE PSNGR CAR	0	STRGHT W E						000 000		00 00
03323	N N N N N	07/07/2010	16	SW NYBERG ST	INTER	3-LEG	N		N CLR	S-1STOP	01	NONE PRVTE PSNGR CAR	0	STRGHT W E							000 000		07 00 07
		Wed	0	SW NYBERG LN	W			TRF SIGNAL	N DRY	REAR				01	DRVR	NONE	62 M	OTH-Y		026	000		07
		10A			06	0			N DAY	INJ													
												02	NONE PRVTE PSNGR CAR	0	STOP W E						011 000		00 00
														01	DRVR	INJC	49 M	OR-Y		000			00
03391	N N N	06/26/2013	16	SW NYBERG ST	INTER	3-LEG	N		N CLR	S-1STOP	01	NONE PRVTE PSNGR CAR	0	STRGHT W E							000 000		07 00 07
		Wed	0	SW NYBERG LN	W			TRF SIGNAL	N DRY	REAR				01	DRVR	NONE	23 M	OR-Y		026	000		07
		2P			06	0			N DAY	INJ													
												02	NONE PRVTE PSNGR CAR	0	STOP W E						011 000		00 00
														01	DRVR	INJC	32 F	OR-Y		000			00
														02	PSNG	INJC	87 F	OR<25		000			00
06824	N N N N N	12/07/2010	16	SW NYBERG ST	INTER	3-LEG	N		N RAIN	ANGL-OTH	01	NONE PRVTE PSNGR CAR	0	STRGHT E W							000 000		04 00 04
		Tue	0	SW NYBERG LN	CN			TRF SIGNAL	N WET	TURN				01	DRVR	NONE	63 M	OR-Y		020	000		04
		5A			02	0			Y DLIT	INJ													
												02	NONE PRVTE PSNGR CAR	0	TURN-L SW W						018 000		00 00
														01	DRVR	INJC	38 F	OR-Y		000			00
														02	PSNG	INJC	00 M	OR<25		000			00

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

SW 65th Avenue & SW Sagert Street
 January 1, 2009 through December 31, 2013

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2013														
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
2013 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	0	1	1	0	1	0	0
2012 TOTAL	0	1	1	2	0	2	0	0	2	1	1	2	0	0
YEAR: 2011														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2011 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR: 2010														
TURNING MOVEMENTS	0	3	1	4	0	4	0	2	2	3	1	4	0	0
2010 TOTAL	0	3	1	4	0	4	0	2	2	3	1	4	0	0
YEAR: 2009														
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
2009 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	0
FINAL TOTAL	0	6	5	11	0	8	0	4	7	8	3	11	0	0

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Sagert Street
 January 1, 2009 through December 31, 2013

SER#	INVEST	S P E E	D R A L	C O U N T Y	DATE	CLASS DIST	CITY STREET FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFF-RD RDNBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	SPCL USE		MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE			
														TRLR QTY OWNER	VEH TYPE														
80055	NO RPT	N	N	N	01/06/2012	16	SW SAGERT ST SW 65TH AVE	INTER CN 01	CROSS	N		N RAIN WET DLIT	ANGL-OTH ANGL PDO	01	NONE PRVTE PSNGR CAR	0	STRGHT N S	01	DRVR	NONE	60	F	OR-Y	028	000	000	02	00	02
					Fri 5P	0			0					02	NONE PRVTE PSNGR CAR	0	STRGHT E W	01	DRVR	NONE	41	M	OR-Y	000	000	000	00	00	00
03948	CITY	N	N	N	07/31/2012	16	SW SAGERT ST SW 65TH AVE	INTER CN 01	3-LEG	N		N CLR WET DAY	O-1TURN TURN INJ	01	NONE PRVTE PSNGR CAR	0	STRGHT N S	01	DRVR	INJC	54	M	OR-Y	000	000	000	02	00	00
					Tue 11A	0			0					02	NONE PRVTE PSNGR CAR	0	TURN-L S W	01	DRVR	INJC	40	F	OR-Y	004,028	000	000	02	00	02
05893	NONE	N	N	N	10/15/2013	16	SW SAGERT ST SW 65TH AVE	INTER CN 01	CROSS	N		N CLR DRY DAY	O-1TURN TURN PDO	01	NONE PRVTE PSNGR CAR	0	STRGHT N S	01	DRVR	NONE	48	M	OR-Y	000	000	000	02	00	00
					Tue 5P	0			0					02	NONE PRVTE PSNGR CAR	0	TURN-L S W	01	DRVR	NONE	27	M	OR-Y	028	000	000	02	00	02
00414	NONE	N	N	N	01/22/2011	16	SW SAGERT ST SW 65TH AVE	INTER CN 03	3-LEG	N		N CLR DRY DAY	ANGL-OTH TURN PDO	01	UNKN PRVTE PSNGR CAR	0	TURN-L W N	01	DRVR	NONE	00	M	OR-Y	028	000	000	02	00	02
					Sat 1P	0			0					02	NONE PRVTE PSNGR CAR	0	TURN-L S W	01	DRVR	NONE	41	M	OR-Y	000	000	000	00	00	00
04939	CITY	N	N	N	09/05/2013	16	SW SAGERT ST SW 65TH AVE	INTER CN 03	3-LEG	N		N RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE PRVTE PSNGR CAR	0	STRGHT N S	01	DRVR	NONE	49	M	OR-Y	021	000	000	03	00	03
					Thu 12P	0			0					02	NONE PRVTE PSNGR CAR	0	TURN-L W N	01	DRVR	INJC	25	F	OR-Y	000	000	000	00	00	00
07559	NONE	N	N	N	12/31/2010	16	SW SAGERT ST SW 65TH AVE	INTER CN 04	3-LEG	N		N CLD WET DAY	ANGL-OTH TURN PDO	01	NONE PRVTE PSNGR CAR	0	STRGHT S N	01	DRVR	NONE	58	M	OR-Y	000	000	000	02	00	00

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
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URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW 65th Avenue & SW Sagert Street
January 1, 2009 through December 31, 2013

SER#	INVEST	D C S L K	DATE	CLASS	CITY STREET	RD CHAR	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH TYP	SPCL USE	MOVE	A S	PED	ACTN	EVENT	CAUSE						
E A U C O	E L G H R	D C S L K	DATE	DIST	FIRST STREET	DIRECT	(MEDIAN)	TRAF-	RNDBT	SURF	COLL TYP	TRLR QTY	FROM	G E LICNS	LOC	ERROR								
			TIME	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	VEH TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACTN	EVENT	CAUSE	
												02	NONE	TURN-L										
													PRVTE	W N									015	00
													PSNGR CAR		01	DRVR	NONE	20	F	OR-Y		028	000	02
																								OR<25

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

SW Martinazzi Avenue & SW Sagert Street
 January 1, 2009 through December 31, 2013

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2013														
ANGLE	0	2	0	2	0	3	0	1	1	1	1	2	0	0
2013 TOTAL	0	2	0	2	0	3	0	1	1	1	1	2	0	0
YEAR: 2012														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	1	0	1	0	1
2012 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0	1
YEAR: 2010														
ANGLE	0	1	1	2	0	1	0	1	1	2	0	2	0	0
2010 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR: 2009														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
2009 TOTAL	0	1	1	2	0	1	0	2	0	1	1	2	0	0
FINAL TOTAL	0	5	3	8	0	6	0	5	3	6	2	8	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

SW Martinazzi Avenue & SW Sagert Street
 January 1, 2009 through December 31, 2013

SER#	INVEST	S P E E	D R A L	C O U G	DATE	CLASS DIST	CITY STREET FIRST STREET	RD CHAR DIRECT	INT-TYP (MEDIAN) LEGS	INT-REL TRAF-	OFF-RD RDNBT	WTHR SURF	CRASH TYP COLL TYP	SPCL USE TRLR QTY	MOVE OWNER	FROM	A G	S E	LICNS	PED	ACTN	EVENT	CAUSE			
																								LOC	ERROR	LOC
01992	NO RPT	N	N	N	04/26/2010	17	SW MARTINAZZI AVE	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	0	STRGHT						02			
					Mon	0	SW SAGERT ST	CN				WET	ANGL		PRVTE	N	S					015	00			
					4P			03	0			DAY	PDO		PSNGR CAR			01	DRVR	NONE	58	M	OR-Y	028	000	02
														02	UNKN	9	STRGHT									
															UNKN		W E						015	00		
															PSNGR CAR			01	DRVR	NONE	16	F	OR-Y	000	000	00
03881	CITY	N	N	N	08/03/2010	17	SW MARTINAZZI AVE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0	STRGHT						010	02		
					Tue	0	SW SAGERT ST	CN				DRY	ANGL		PRVTE	S	N						015	00		
					5P			04	0			DAY	INJ		PSNGR CAR			01	DRVR	NONE	56	M	OR-Y	000	000	00
														02	NONE	0	STRGHT									
															PRVTE		W E						015	010	00	
															MTRCYCLE			01	DRVR	INJB	52	F	OR-Y	028	000	02

Appendix E
*2018 Background
Conditions Worksheets*

Sagert Farms
1: SW Nyberg Ln & SW Nyberg St/SW 65th Ave

2018 Background AM Peak Hour

4/1/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	621	18	47	817	14	26	0	27	15	14	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	1.00
Satd. Flow (prot)	1787	1817		1686	3496			1727	1442		1786	1583
Flt Permitted	0.20	1.00		0.25	1.00			0.74	1.00		0.85	1.00
Satd. Flow (perm)	374	1817		446	3496			1337	1442		1558	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	690	20	52	908	16	29	0	30	17	16	320
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	25	0	0	49
Lane Group Flow (vph)	127	709	0	52	923	0	0	29	5	0	33	271
Confl. Peds. (#/hr)			6	6			4		1	1		4
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	4%	6%	7%	3%	0%	4%	0%	12%	7%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	42.7	35.0		33.7	30.5			12.0	12.0		12.0	25.7
Effective Green, g (s)	42.7	35.0		33.7	30.5			12.0	12.0		12.0	25.7
Actuated g/C Ratio	0.63	0.51		0.49	0.45			0.18	0.18		0.18	0.38
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	393	932		278	1563			235	253		274	596
v/s Ratio Prot	0.04	c0.39		0.01	0.26				0.00			c0.17
v/s Ratio Perm	0.17			0.08				0.02			0.02	
v/c Ratio	0.32	0.76		0.19	0.59			0.12	0.02		0.12	0.46
Uniform Delay, d1	6.6	13.3		10.0	14.2			23.7	23.2		23.7	16.0
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	3.5		0.3	0.5			0.1	0.0		0.1	0.2
Delay (s)	6.9	16.8		10.2	14.7			23.8	23.3		23.7	16.2
Level of Service	A	B		B	B			C	C		C	B
Approach Delay (s)		15.3			14.4			23.5			16.9	
Approach LOS		B			B			C			B	

Intersection Summary

HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	40	5	4	323	6	377	1	437	221	190	198	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			2%			6%		
Total Lost time (s)		6.1			5.8	5.8	5.3	5.3		5.3	5.3		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Flt		0.99			1.00	0.85	1.00	0.95		1.00	1.00		
Flt Protected		0.96			0.95	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1631			1743	1568	1787	1712		1636	1711		
Flt Permitted		0.96			0.95	1.00	0.63	1.00		0.13	1.00		
Satd. Flow (perm)		1631			1743	1568	1177	1712		223	1711		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	42	5	4	336	6	393	1	455	230	198	206	5	
RTOR Reduction (vph)	0	2	0	0	0	224	0	11	0	0	0	0	
Lane Group Flow (vph)	0	49	0	0	342	169	1	674	0	198	211	0	
Heavy Vehicles (%)	13%	0%	0%	4%	0%	3%	0%	3%	7%	7%	7%	20%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	8	8		4	4	4 5	1	6		5	2		
Permitted Phases							6			2			
Actuated Green, G (s)		6.1			20.8	40.8	58.2	57.4		82.7	76.6		
Effective Green, g (s)		6.1			20.8	40.8	58.2	57.4		82.7	76.6		
Actuated g/C Ratio		0.05			0.16	0.32	0.46	0.45		0.65	0.60		
Clearance Time (s)		6.1			5.8		5.3	5.3		5.3	5.3		
Vehicle Extension (s)		1.0			2.0		1.0	3.0		2.5	3.0		
Lane Grp Cap (vph)		78			285	504	544	774		368	1033		
v/s Ratio Prot		c0.03			c0.20	0.11	0.00	c0.39		c0.08	0.12		
v/s Ratio Perm							0.00			0.27			
v/c Ratio		0.63			1.20	0.33	0.00	0.87		0.54	0.20		
Uniform Delay, d1		59.2			53.0	32.7	18.6	31.3		18.7	11.3		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		10.9			118.7	0.1	0.0	10.5		1.2	0.1		
Delay (s)		70.1			171.7	32.8	18.6	41.8		19.9	11.4		
Level of Service		E			F	C	B	D		B	B		
Approach Delay (s)		70.1			97.5			41.8			15.5		
Approach LOS		E			F			D			B		
Intersection Summary													
HCM 2000 Control Delay			58.6									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			126.8									Sum of lost time (s)	22.5
Intersection Capacity Utilization			81.2%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Volume (veh/h)	340	15	5	784	40	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	405	18	6	933	48	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked					0.71	
vC, conflicting volume			423		1359	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			423		1302	414
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		62	99
cM capacity (veh/h)			1147		127	643

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	423	6	933	57
Volume Left	0	6	0	48
Volume Right	18	0	0	10
cSH	1700	1147	1700	146
Volume to Capacity	0.25	0.01	0.55	0.39
Queue Length 95th (ft)	0	0	0	42
Control Delay (s)	0.0	8.2	0.0	44.5
Lane LOS		A		E
Approach Delay (s)	0.0	0.1		44.5
Approach LOS				E

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		51.3%	ICU Level of Service A
Analysis Period (min)		15	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	234	7	5	630	5	31	14	20	8	5	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Frt	1.00	1.00		1.00	1.00			0.96			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1597	1804		1504	1842			1701			1611	
Flt Permitted	0.24	1.00		0.59	1.00			0.86			0.95	
Satd. Flow (perm)	404	1804		938	1842			1506			1545	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	88	263	8	6	708	6	35	16	22	9	6	51
RTOR Reduction (vph)	0	1	0	0	0	0	0	16	0	0	46	0
Lane Group Flow (vph)	88	270	0	6	714	0	0	57	0	0	20	0
Confl. Peds. (#/hr)	3						3		40	40		
Heavy Vehicles (%)	13%	5%	0%	20%	3%	0%	0%	0%	5%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	59.5	53.4		47.8	46.9			7.9			7.9	
Effective Green, g (s)	59.5	53.4		47.8	46.9			7.9			7.9	
Actuated g/C Ratio	0.76	0.69		0.61	0.60			0.10			0.10	
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0	
Lane Grp Cap (vph)	422	1238		582	1110			152			156	
v/s Ratio Prot	c0.02	0.15		0.00	c0.39							
v/s Ratio Perm	0.14			0.01				c0.04			0.01	
v/c Ratio	0.21	0.22		0.01	0.64			0.37			0.13	
Uniform Delay, d1	5.3	4.5		5.8	10.0			32.6			31.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	1.4			1.5			0.4	
Delay (s)	5.6	4.6		5.8	11.5			34.2			32.2	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		4.9			11.4			34.2			32.2	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			77.8			Sum of lost time (s)			15.6			
Intersection Capacity Utilization			65.2%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Intersection Delay, s/veh	50.7											
Intersection LOS	F											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	246	214	8	0	42	211	181	0	8	341	91
Peak Hour Factor	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	3	2	25	2	2	4	2	2	0	2	7
Mvmt Flow	0	251	218	8	0	43	215	185	0	8	348	93
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	27.6	68	76.1
HCM LOS	D	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	79%	0%	96%	0%	54%	0%	100%	0%
Vol Right, %	0%	21%	0%	4%	0%	46%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	432	246	222	42	392	93	64	69
LT Vol	8	0	246	0	42	0	93	0	0
Through Vol	0	341	0	214	0	211	0	64	0
RT Vol	0	91	0	8	0	181	0	0	69
Lane Flow Rate	8	441	251	227	43	400	95	65	70
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.023	1	0.679	0.579	0.116	0.994	0.284	0.187	0.188
Departure Headway (Hd)	10.005	9.364	9.745	9.207	9.73	8.946	10.777	10.309	9.624
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	357	388	372	392	369	408	334	348	372
Service Time	7.784	7.142	7.498	6.96	7.474	6.691	8.537	8.069	7.384
HCM Lane V/C Ratio	0.022	1.137	0.675	0.579	0.117	0.98	0.284	0.187	0.188
HCM Control Delay	13	77.3	30.9	23.9	13.8	73.8	17.8	15.4	14.6
HCM Lane LOS	B	F	D	C	B	F	C	C	B
HCM 95th-tile Q	0.1	12	4.8	3.5	0.4	12.1	1.1	0.7	0.7

Intersection



















Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	93	64	69
Peak Hour Factor	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	4	6	7
Mvmt Flow	0	95	65	70
Number of Lanes	0	1	1	1




















Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	16.1
HCM LOS	C

Lane

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	376	7	92	5	3	1	112	282	4	4	125	397
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	409	8	100	5	3	1	122	307	4	4	136	432
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2						
Volume Total (vph)	416	100	10	433	4	567						
Volume Left (vph)	409	0	5	122	4	0						
Volume Right (vph)	0	100	1	4	0	432						
Hadj (s)	0.57	-0.67	0.04	0.12	0.50	-0.43						
Departure Headway (s)	8.1	6.8	9.7	7.6	8.0	7.1						
Degree Utilization, x	0.93	0.19	0.03	0.91	0.01	1.0						
Capacity (veh/h)	438	518	352	464	437	519						
Control Delay (s)	55.1	10.2	13.0	50.2	9.9	101.1						
Approach Delay (s)	46.4		13.0	50.2	100.4							
Approach LOS	E		B	F	F							
Intersection Summary												
Delay			67.4									
Level of Service			F									
Intersection Capacity Utilization			90.2%		ICU Level of Service		E					
Analysis Period (min)			15									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	780	33	21	692	21	34	3	56	14	7	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1787	1868		1752	3516			1801	1615		1749	1599
Flt Permitted	0.27	1.00		0.22	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	508	1868		411	3516			1367	1615		1406	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	272	839	35	23	744	23	37	3	60	15	8	153
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	54	0	0	86
Lane Group Flow (vph)	272	873	0	23	765	0	0	40	6	0	23	67
Confl. Peds. (#/hr)	1		5	5		1	7					7
Heavy Vehicles (%)	1%	1%	0%	3%	2%	7%	0%	0%	0%	8%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4.5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	48.2	40.3		34.7	32.8			6.3	6.3		6.3	21.7
Effective Green, g (s)	48.2	40.3		34.7	32.8			6.3	6.3		6.3	21.7
Actuated g/C Ratio	0.72	0.61		0.52	0.49			0.09	0.09		0.09	0.33
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	548	1132		252	1734			129	153		133	521
v/s Ratio Prot	c0.07	c0.47		0.00	0.22				0.00			0.04
v/s Ratio Perm	0.29			0.04				c0.03			0.02	
v/c Ratio	0.50	0.77		0.09	0.44			0.31	0.04		0.17	0.13
Uniform Delay, d1	4.2	9.7		8.7	10.9			28.1	27.3		27.7	15.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	3.2		0.1	0.1			0.5	0.0		0.2	0.0
Delay (s)	4.6	12.9		8.8	11.0			28.6	27.4		27.9	15.8
Level of Service	A	B		A	B			C	C		C	B
Approach Delay (s)		10.9			11.0			27.9			17.4	
Approach LOS		B			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			66.5		Sum of lost time (s)			18.0				
Intersection Capacity Utilization			71.0%		ICU Level of Service			C				
Analysis Period (min)			15									
c Critical Lane Group												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	11	7	210	3	204	1	270	345	384	385	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			6%	
Total Lost time (s)		6.1			5.8	5.8	5.3	5.3		5.3	5.3	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1757			1770	1599	1787	1658		1734	1822	
Flt Permitted		0.98			0.95	1.00	0.52	1.00		0.13	1.00	
Satd. Flow (perm)		1757			1770	1599	986	1658		236	1822	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	11	7	219	3	212	1	281	359	400	401	4
RTOR Reduction (vph)	0	7	0	0	0	132	0	31	0	0	0	0
Lane Group Flow (vph)	0	26	0	0	222	80	1	609	0	400	405	0
Confl. Peds. (#/hr)	10					10			4	4		
Heavy Vehicles (%)	6%	0%	0%	2%	25%	1%	0%	2%	2%	1%	1%	0%
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4	4.5	1	6		5	2	
Permitted Phases							6			2		
Actuated Green, G (s)		3.6			19.1	48.3	54.8	53.9		88.4	82.2	
Effective Green, g (s)		3.6			19.1	48.3	54.8	53.9		88.4	82.2	
Actuated g/C Ratio		0.03			0.15	0.38	0.43	0.42		0.69	0.64	
Clearance Time (s)		6.1			5.8		5.3	5.3		5.3	5.3	
Vehicle Extension (s)		1.0			2.0		1.0	3.0		2.5	3.0	
Lane Grp Cap (vph)		49			263	601	426	696		503	1167	
v/s Ratio Prot		c0.01			c0.13	0.05	0.00	c0.37		c0.18	0.22	
v/s Ratio Perm							0.00			0.37		
v/c Ratio		0.53			0.84	0.13	0.00	0.88		0.80	0.35	
Uniform Delay, d1		61.5			53.2	26.3	21.1	34.1		29.8	10.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.5			20.4	0.0	0.0	11.9		8.2	0.2	
Delay (s)		67.0			73.6	26.3	21.1	46.0		38.0	10.8	
Level of Service		E			E	C	C	D		D	B	
Approach Delay (s)		67.0			50.5			46.0			24.3	
Approach LOS		E			D			D			C	

Intersection Summary

HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	128.3	Sum of lost time (s)	22.5
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Volume (veh/h)	755	44	7	349	19	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	839	49	8	388	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			888		1267	863
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			888		1267	863
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		89	100
cM capacity (veh/h)			771		186	357

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	888	8	388	22
Volume Left	0	8	0	21
Volume Right	49	0	0	1
cSH	1700	771	1700	191
Volume to Capacity	0.52	0.01	0.23	0.12
Queue Length 95th (ft)	0	1	0	10
Control Delay (s)	0.0	9.7	0.0	26.3
Lane LOS		A		D
Approach Delay (s)	0.0	0.2		26.3
Approach LOS				D

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Sagert Farms
5: SW 56th Terrace & Borland Rd

2018 Background PM Peak Hour
4/1/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	681	28	11	303	5	19	1	4	2	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1797	1869		1805	1876			1647			1640	
Flt Permitted	0.56	1.00		0.30	1.00			0.84			0.96	
Satd. Flow (perm)	1058	1869		567	1876			1440			1577	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	740	30	12	329	5	21	1	4	2	1	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	14	0
Lane Group Flow (vph)	16	769	0	12	334	0	0	22	0	0	4	0
Confl. Peds. (#/hr)	8		1	1		8	3		3	3		3
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	50%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	52.3	51.4		52.3	51.4			4.3				4.3
Effective Green, g (s)	52.3	51.4		52.3	51.4			4.3				4.3
Actuated g/C Ratio	0.72	0.71		0.72	0.71			0.06				0.06
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2				5.2
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0				3.0
Lane Grp Cap (vph)	775	1330		426	1335			85				93
v/s Ratio Prot	0.00	c0.41		c0.00	0.18							
v/s Ratio Perm	0.01			0.02				c0.02				0.00
v/c Ratio	0.02	0.58		0.03	0.25			0.26				0.04
Uniform Delay, d1	2.8	5.1		3.5	3.6			32.4				32.0
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.0	0.7		0.0	0.1			1.6				0.2
Delay (s)	2.8	5.8		3.5	3.8			34.1				32.2
Level of Service	A	A		A	A			C				C
Approach Delay (s)		5.8			3.8			34.1				32.2
Approach LOS		A			A			C				C

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	57.6											
Intersection LOS	F											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	136	291	13	0	63	186	132	0	6	168	94
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	0	2	2	1	4	2	0	1	2
Mvmt Flow	0	143	306	14	0	66	196	139	0	6	177	99
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	64.8	74.2	59.2
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	64%	0%	96%	0%	58%	0%	100%	0%
Vol Right, %	0%	36%	0%	4%	0%	42%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	262	136	304	63	318	244	291	231
LT Vol	6	0	136	0	63	0	244	0	0
Through Vol	0	168	0	291	0	186	0	291	0
RT Vol	0	94	0	13	0	132	0	0	231
Lane Flow Rate	6	276	143	320	66	335	257	306	243
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.021	0.882	0.463	0.995	0.225	1	0.782	0.888	0.665
Departure Headway (Hd)	12.24	11.512	11.644	11.078	12.197	11.35	10.965	10.432	9.739
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	295	317	312	330	297	325	334	349	374
Service Time	9.92	9.192	9.307	8.778	9.846	8.999	8.637	8.104	7.439
HCM Lane V/C Ratio	0.02	0.871	0.458	0.97	0.222	1.031	0.769	0.877	0.65
HCM Control Delay	15.2	60.2	23.9	83.1	18.3	85.3	43.7	57.1	29.8
HCM Lane LOS	C	F	C	F	C	F	E	F	D
HCM 95th-tile Q	0.1	8.1	2.3	10.9	0.8	10.9	6.3	8.6	4.6

Intersection




















Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	244	291	231
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	257	306	243
Number of Lanes	0	1	1	1

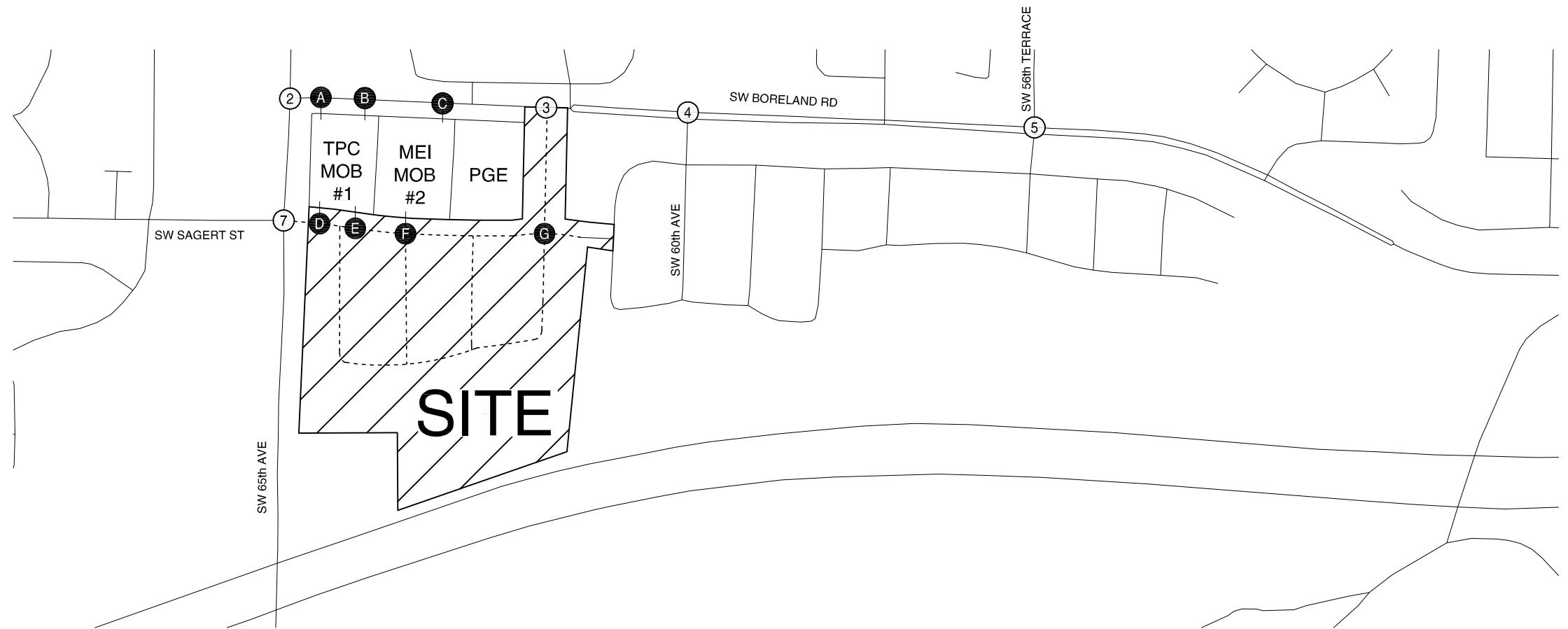
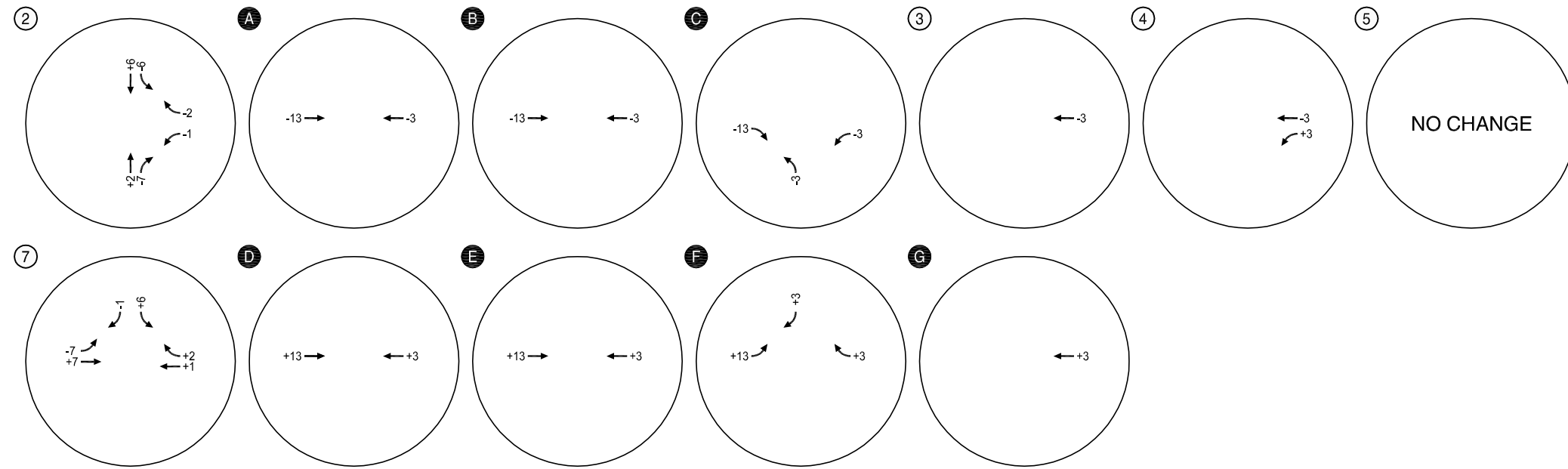
Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	44.6
HCM LOS	E

Lane

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	471	1	111	6	4	5	53	140	0	3	255	344
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	501	1	118	6	4	5	56	149	0	3	271	366
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2						
Volume Total (vph)	502	118	16	205	3	637						
Volume Left (vph)	501	0	6	56	3	0						
Volume Right (vph)	0	118	5	0	0	366						
Hadj (s)	0.53	-0.68	-0.12	0.12	0.50	-0.38						
Departure Headway (s)	7.5	6.3	8.5	7.7	7.5	6.7						
Degree Utilization, x	1.0	0.21	0.04	0.44	0.01	1.0						
Capacity (veh/h)	487	568	402	460	468	546						
Control Delay (s)	78.4	9.7	11.9	16.7	9.4	120.8						
Approach Delay (s)	65.3		11.9	16.7	120.2							
Approach LOS	F		B	C	F							
Intersection Summary												
Delay			81.7									
Level of Service			F									
Intersection Capacity Utilization			87.8%		ICU Level of Service		E					
Analysis Period (min)			15									

Appendix F
Assumed Re-routing of
Trips

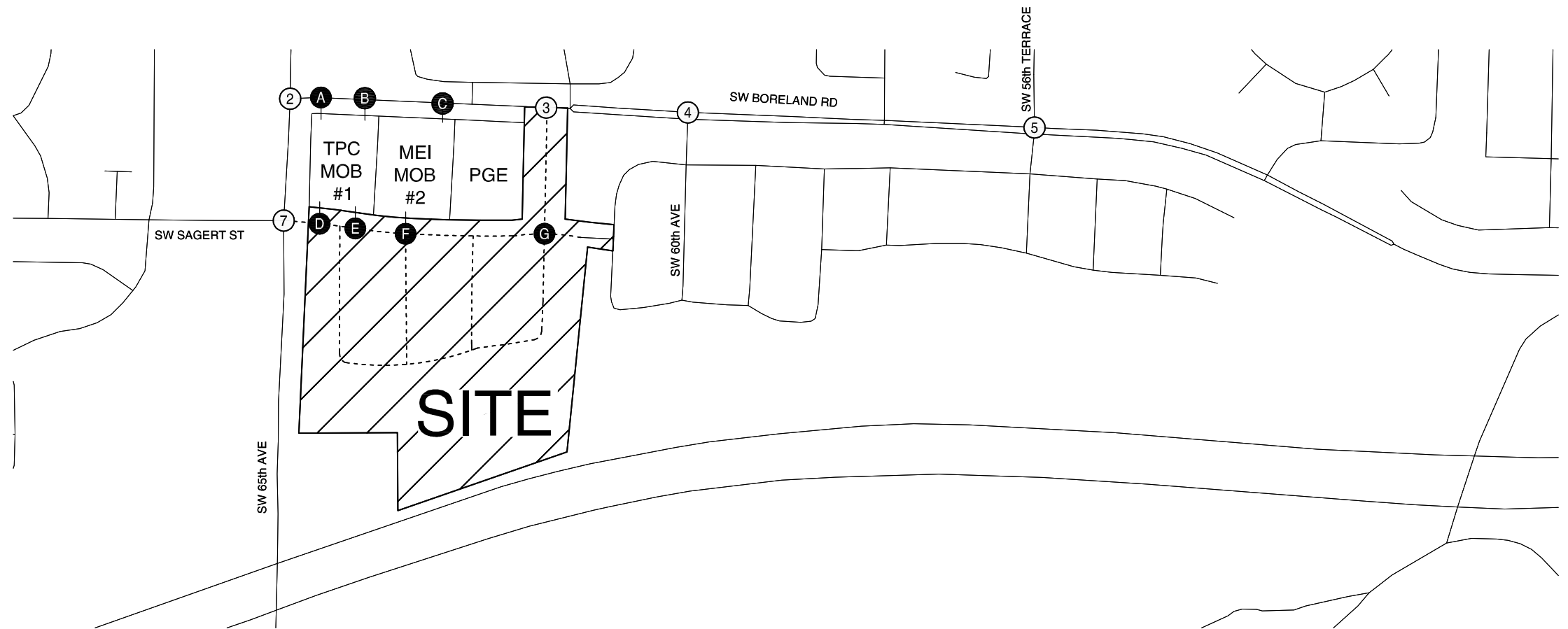
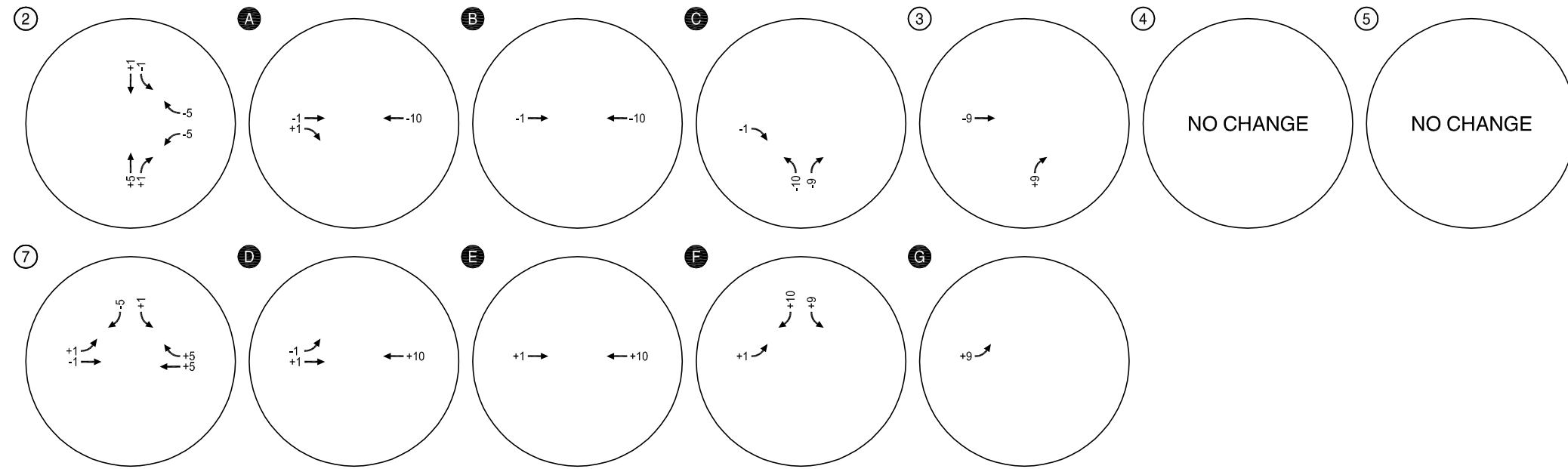


- LEGEND**
- ① - STUDY INTERSECTIONS
 - A - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING MEDICAL OFFICE BUILDING TRIPS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
F1

H:\proj\17299 - Sagert Farms\dwgs\figs\17299_fig_3.19.2015.dwg Mar 20, 2015 - 3:29pm - pmarnell Layout Tab: A1

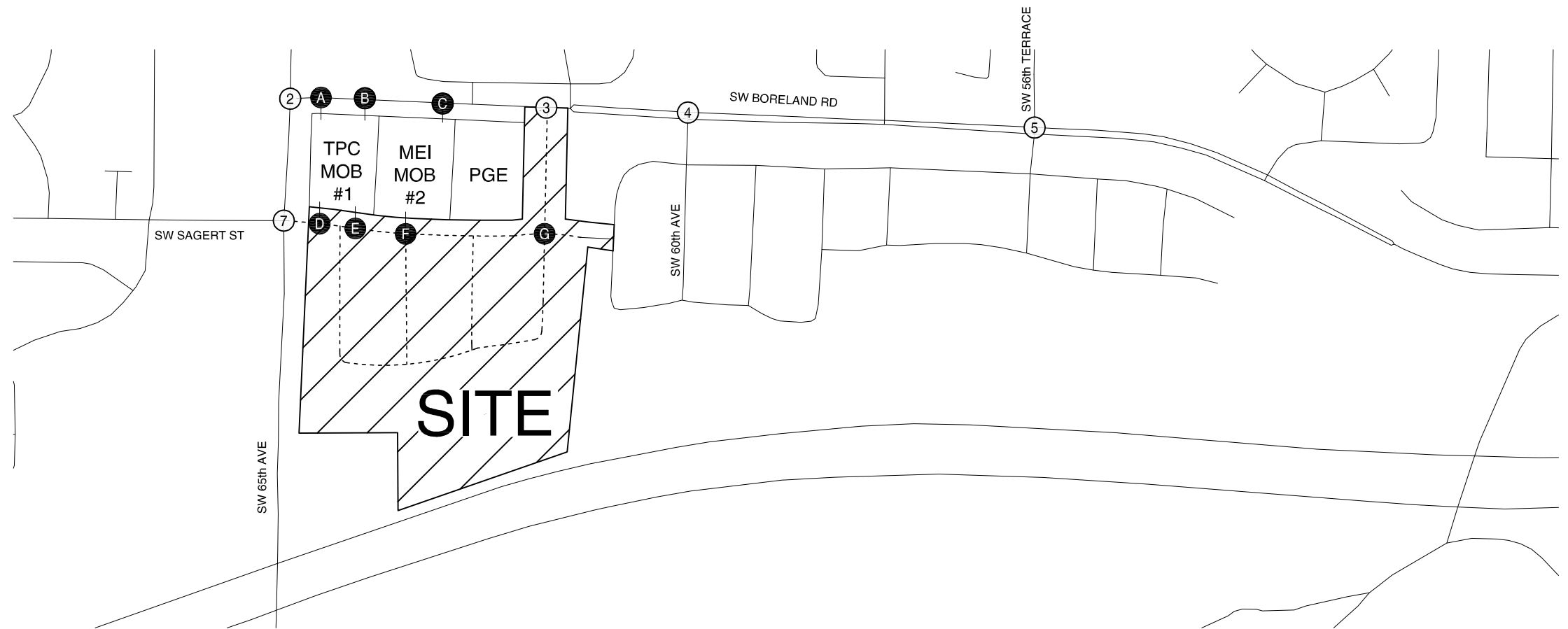
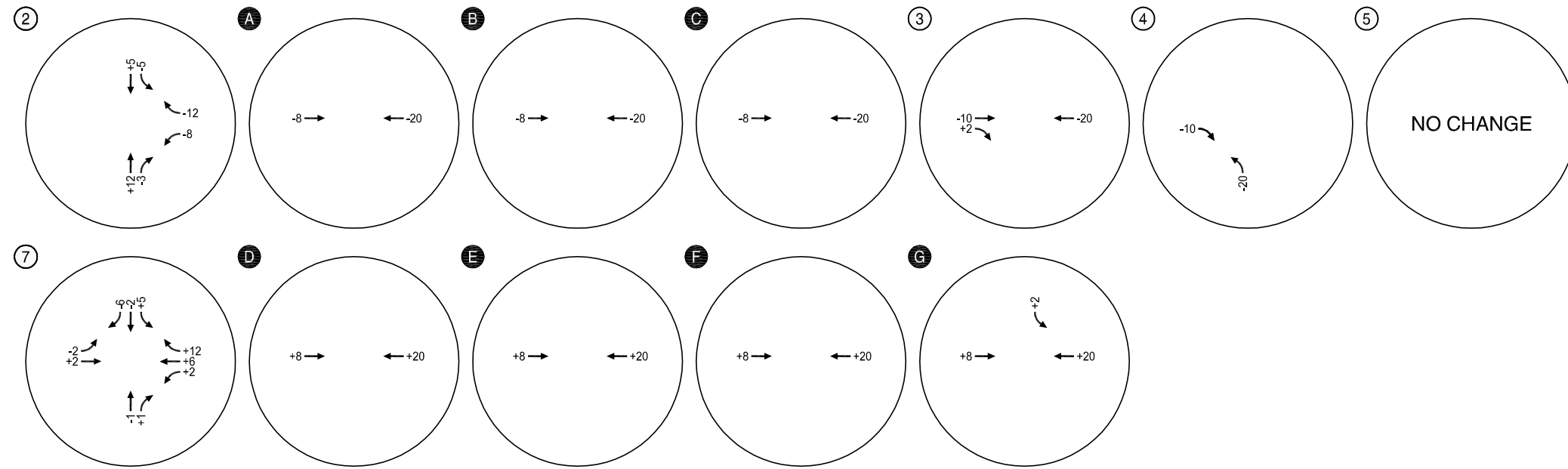
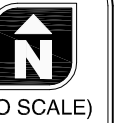


- LEGEND**
- ① - STUDY INTERSECTIONS
 - A - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING MEDICAL OFFICE BUILDING TRIPS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
F2

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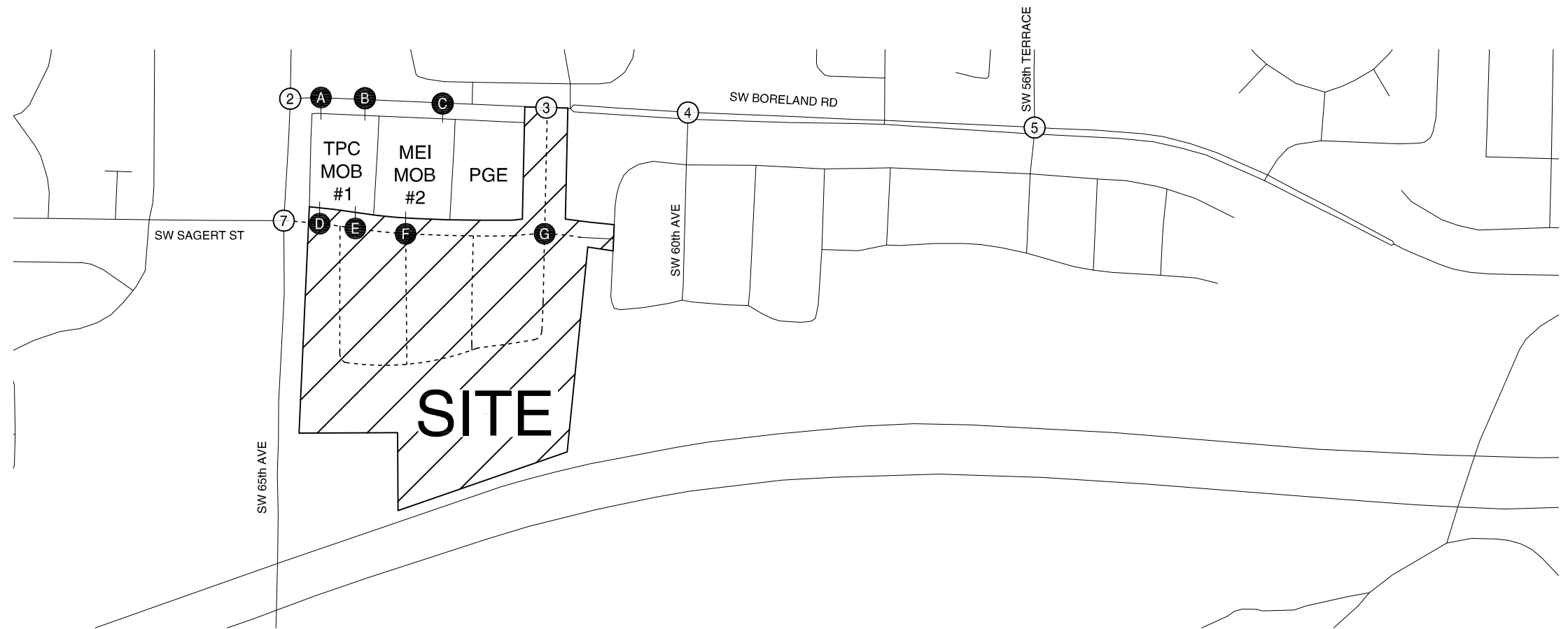
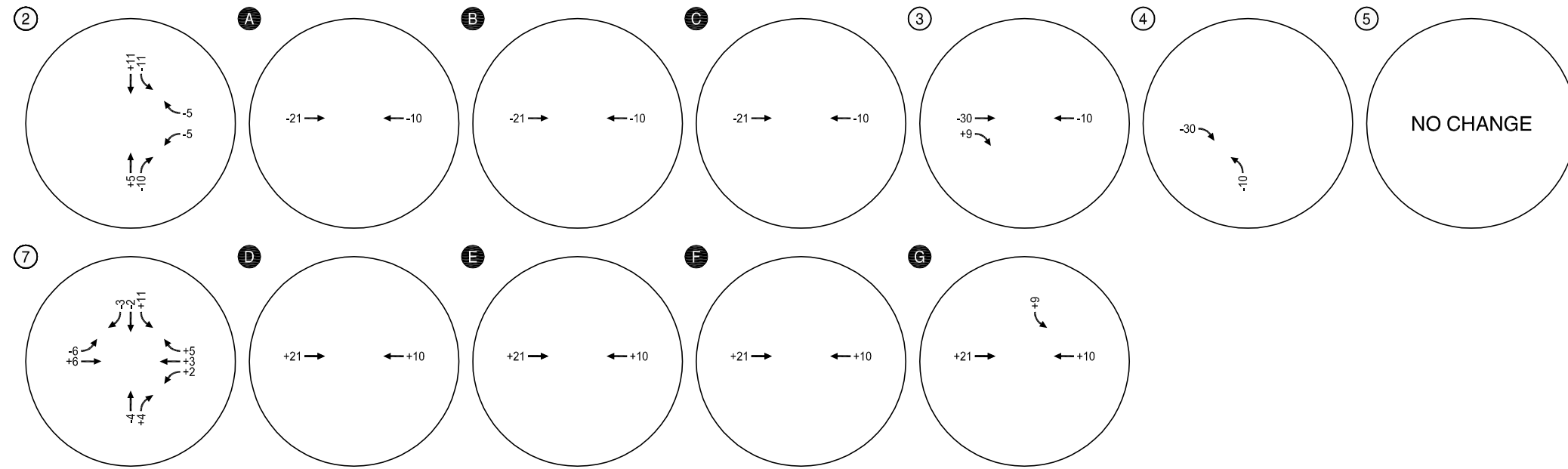


- LEGEND**
- ① - STUDY INTERSECTIONS
 - Ⓐ - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING SEQUOIA RIDGE TRIPS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
F3

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- LEGEND**
- ① - STUDY INTERSECTIONS
 - Ⓐ - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

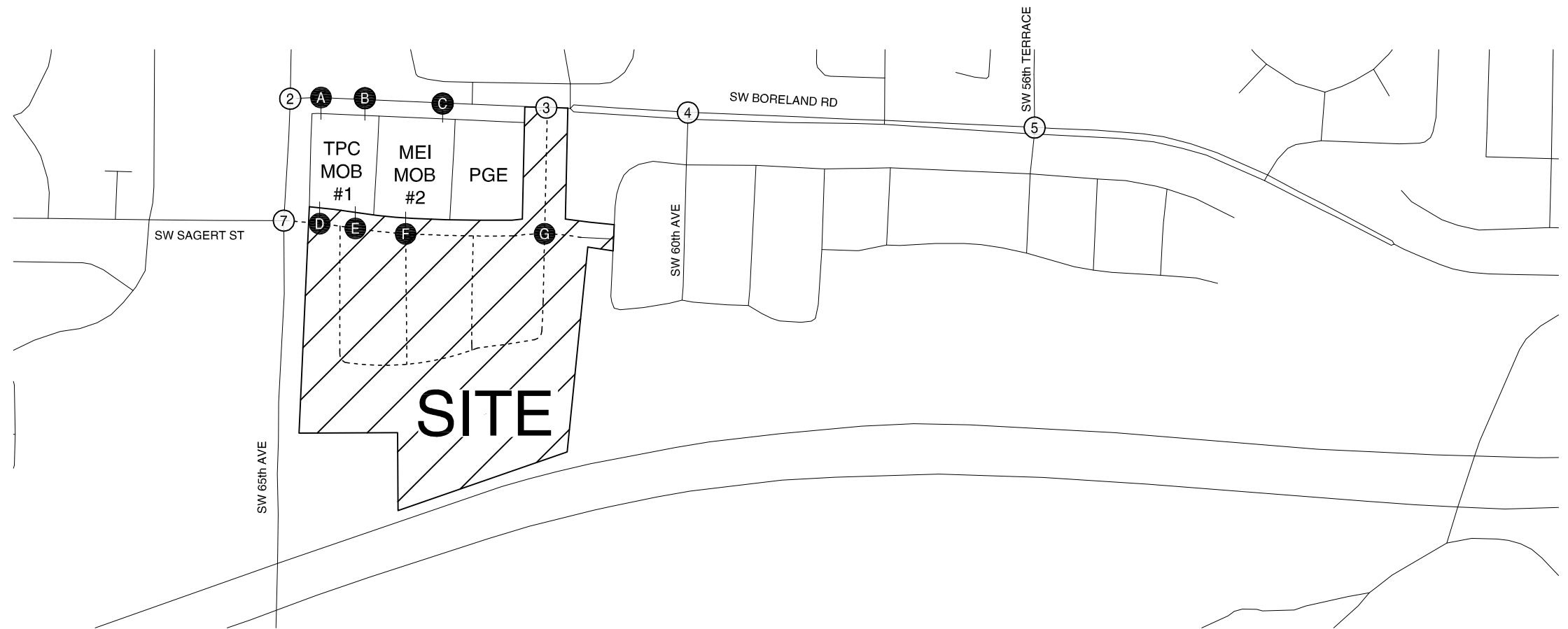
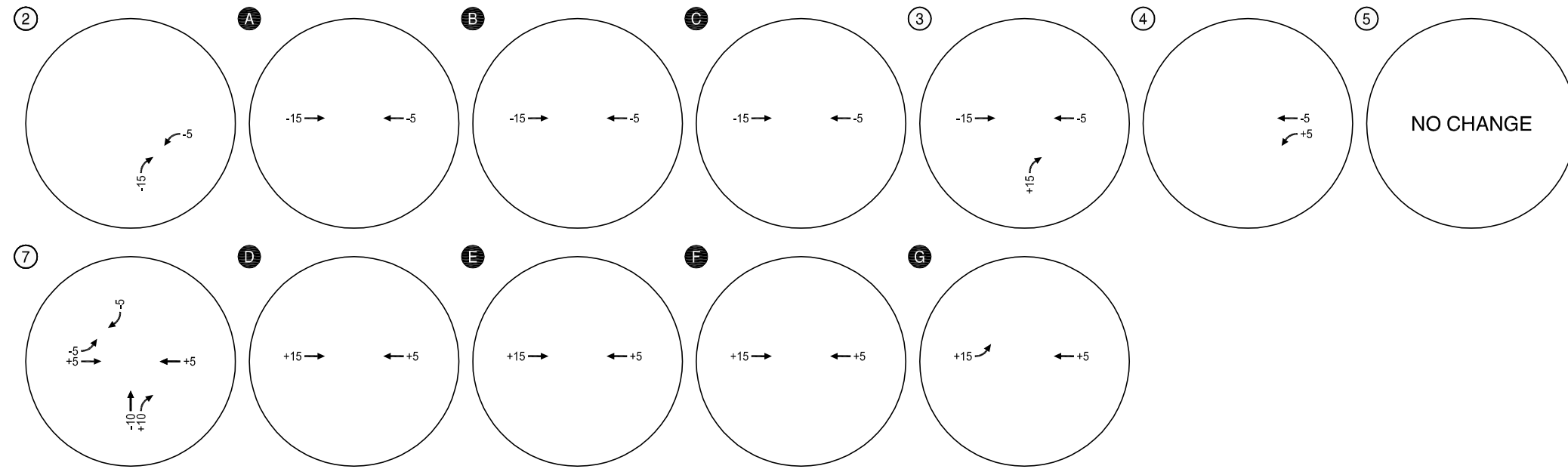
RE-ROUTE OF EXISTING SEQUOIA RIDGE TRIPS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
F4

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(NO SCALE)



LEGEND

- ① - STUDY INTERSECTIONS
- Ⓐ - EXISTING/PROPOSED ACCESS
- MOB - MEDICAL OFFICE BUILDINGS

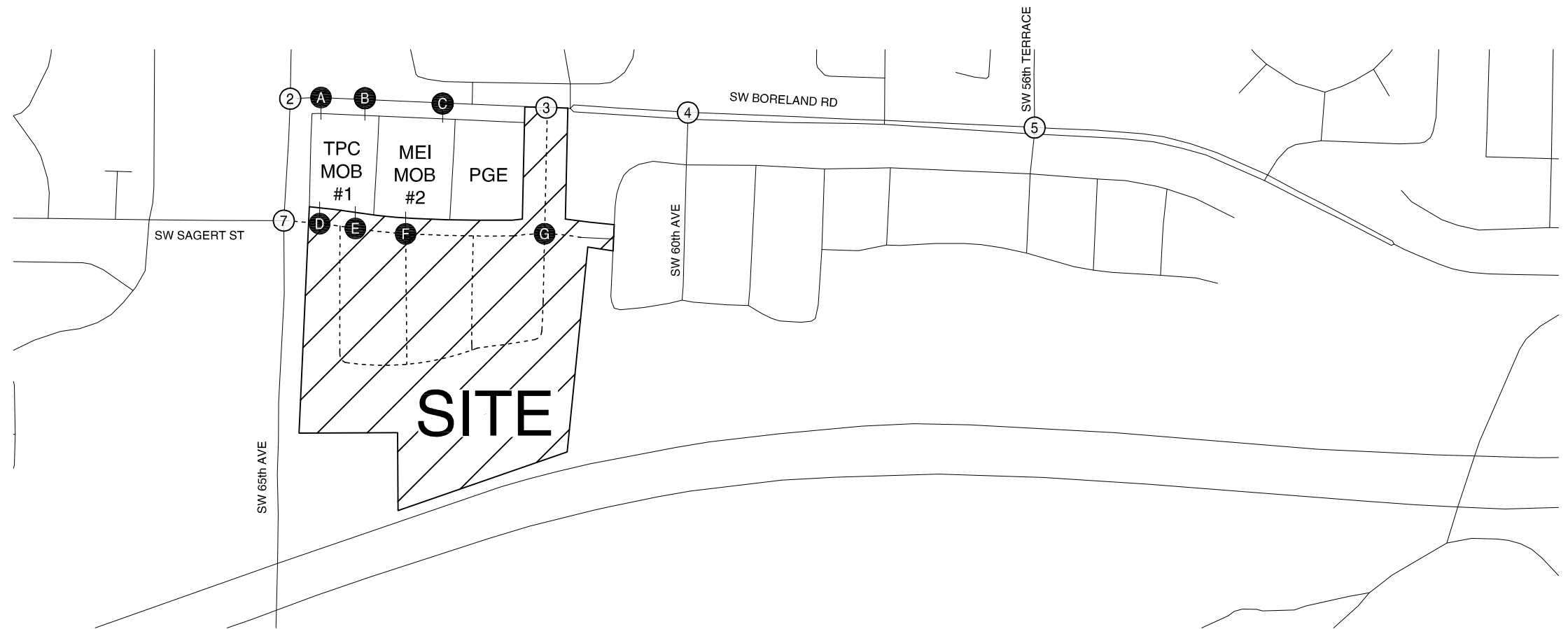
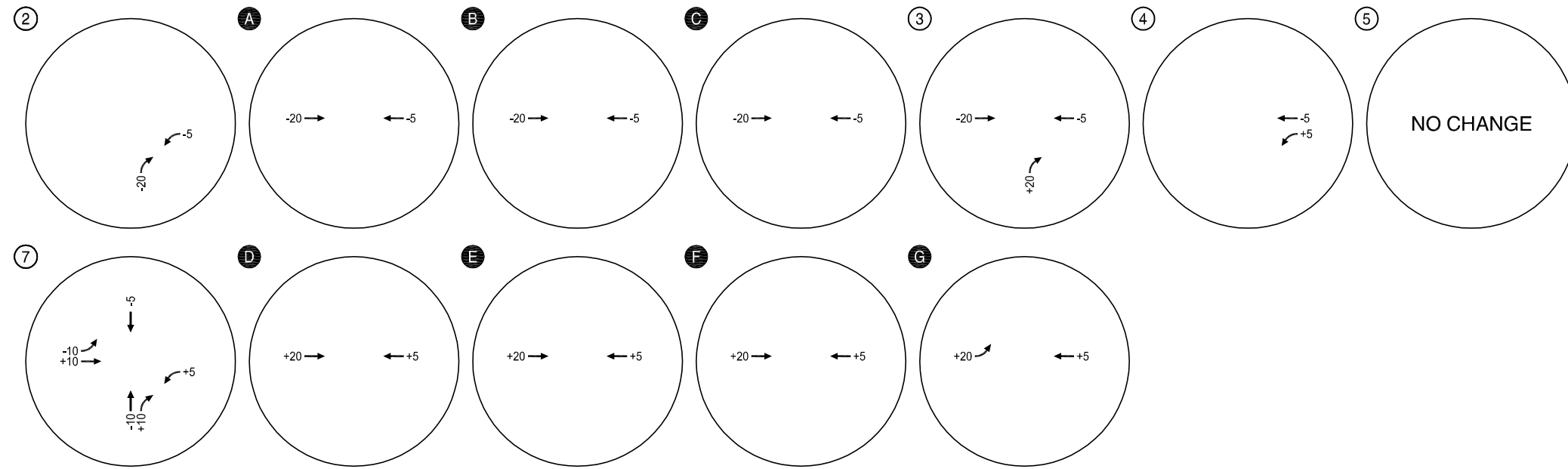
RE-ROUTE OF EXISTING REGIONAL TRAFFIC
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
F5

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(NO SCALE)



LEGEND

- ① - STUDY INTERSECTIONS
- A - EXISTING/PROPOSED ACCESS
- MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING REGIONAL TRAFFIC
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
F6

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Appendix G
*2018 Total Traffic
Conditions Worksheets*

2018 Total Traffic AM Peak Hour
1: SW Nyberg Ln & SW Nyberg St/SW 65th Ave

Sagert Farms
4/14/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	629	18	47	841	14	26	0	27	15	14	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	1.00
Satd. Flow (prot)	1787	1817		1686	3496			1726	1442		1786	1583
Flt Permitted	0.19	1.00		0.24	1.00			0.74	1.00		0.85	1.00
Satd. Flow (perm)	356	1817		433	3496			1337	1442		1561	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	699	20	52	934	16	29	0	30	17	16	320
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	25	0	0	45
Lane Group Flow (vph)	127	718	0	52	949	0	0	29	5	0	33	275
Confl. Peds. (#/hr)			6	6			4		1	1		4
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	4%	6%	7%	3%	0%	4%	0%	12%	7%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4 5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.4	35.6		34.2	31.0			12.3	12.3		12.3	26.1
Effective Green, g (s)	43.4	35.6		34.2	31.0			12.3	12.3		12.3	26.1
Actuated g/C Ratio	0.63	0.52		0.49	0.45			0.18	0.18		0.18	0.38
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	385	936		272	1568			237	256		277	597
v/s Ratio Prot	0.04	c0.40		0.01	0.27				0.00			c0.17
v/s Ratio Perm	0.17			0.09				0.02			0.02	
v/c Ratio	0.33	0.77		0.19	0.61			0.12	0.02		0.12	0.46
Uniform Delay, d1	6.8	13.4		10.2	14.4			23.9	23.4		23.9	16.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	3.6		0.3	0.6			0.1	0.0		0.1	0.2
Delay (s)	7.1	17.1		10.4	15.0			23.9	23.4		23.9	16.4
Level of Service	A	B		B	B			C	C		C	B
Approach Delay (s)		15.6			14.7			23.7			17.1	
Approach LOS		B			B			C			B	

Intersection Summary		
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	69.1	Sum of lost time (s) 18.0
Intersection Capacity Utilization	62.1%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

2018 Total Traffic AM Peak Hour
2: SW 65th Ave & SW Borland Rd

Sagert Farms
4/14/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	40	5	4	309	6	363	1	475	196	181	215	5	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Grade (%)		0%			0%			2%			6%		
Total Lost time (s)		5.6			5.3	5.3	3.5	4.8		4.8	4.8		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Fr _t		0.99			1.00	0.85	1.00	0.96		1.00	1.00		
Fl _t Protected		0.96			0.95	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1502			1605	1444	1646	1590		1507	1577		
Fl _t Permitted		0.96			0.95	1.00	0.62	1.00		0.16	1.00		
Satd. Flow (perm)		1502			1605	1444	1067	1590		260	1577		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	42	5	4	322	6	378	1	495	204	189	224	5	
RTOR Reduction (vph)	0	2	0	0	0	218	0	11	0	0	0	0	
Lane Group Flow (vph)	0	49	0	0	328	160	1	688	0	189	229	0	
Heavy Vehicles (%)	13%	0%	0%	4%	0%	3%	0%	3%	7%	7%	7%	20%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	8	8		4	4	4 5	1	6 9		5	2 10		
Permitted Phases							6 9			2 10			
Actuated Green, G (s)		5.2			27.5	34.2	64.9	64.1		76.1	71.3		
Effective Green, g (s)		5.7			28.0	35.2	66.4	65.1		77.1	72.3		
Actuated g/C Ratio		0.04			0.22	0.27	0.51	0.50		0.59	0.56		
Clearance Time (s)		6.1			5.8		4.0			5.3			
Vehicle Extension (s)		1.0			2.0		3.0			2.5			
Lane Grp Cap (vph)		65			345	390	550	796		223	877		
v/s Ratio Prot		c0.03			c0.20	0.11	0.00	c0.43		c0.05	0.14		
v/s Ratio Perm							0.00			c0.46			
v/c Ratio		0.76			0.95	0.41	0.00	0.86		0.85	0.26		
Uniform Delay, d1		61.5			50.3	38.9	15.6	28.6		44.9	15.0		
Progression Factor		1.00			1.00	1.00	1.10	0.93		1.00	1.00		
Incremental Delay, d2		35.0			35.3	0.3	0.0	8.0		24.3	0.2		
Delay (s)		96.5			85.6	39.1	17.1	34.7		69.2	15.1		
Level of Service		F			F	D	B	C		E	B		
Approach Delay (s)		96.5			60.7			34.6			39.6		
Approach LOS		F			E			C			D		
Intersection Summary													
HCM 2000 Control Delay			47.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	25.0
Intersection Capacity Utilization			84.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

2018 Total Traffic AM Peak Hour
3: Proposed Road & SW Borland Rd

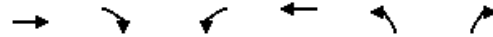
Sagert Farms
4/14/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷		↷
Volume (veh/h)	365	4	0	691	0	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	435	5	0	823	0	32
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage (veh)	2					
Upstream signal (ft)	929					
pX, platoon unblocked			0.98		0.98	0.98
vC, conflicting volume			440		1261	438
vC1, stage 1 conf vol					438	
vC2, stage 2 conf vol					823	
vCu, unblocked vol			418		1255	416
tC, single (s)			4.1		6.7	6.2
tC, 2 stage (s)					5.7	
tF (s)			2.2		3.8	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			1127		341	628
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	439	823	32			
Volume Left	0	0	0			
Volume Right	5	0	32			
cSH	1700	1700	628			
Volume to Capacity	0.26	0.48	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.0	0.0	11.0			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			39.7%	ICU Level of Service		A
Analysis Period (min)			15			

2018 Total Traffic AM Peak Hour
4: SW 60th Ave & SW Borland Rd

Sagert Farms
4/14/2015






















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Volume (veh/h)	342	15	17	776	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	407	18	20	924	24	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				1220		
pX, platoon unblocked					0.72	
vC, conflicting volume			425		1380	416
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			425		1333	416
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		80	99
cM capacity (veh/h)			1145		121	641

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	425	20	924	33
Volume Left	0	20	0	24
Volume Right	18	0	0	10
cSH	1700	1145	1700	157
Volume to Capacity	0.25	0.02	0.54	0.21
Queue Length 95th (ft)	0	1	0	19
Control Delay (s)	0.0	8.2	0.0	34.0
Lane LOS		A		D
Approach Delay (s)	0.0	0.2		34.0
Approach LOS				D

Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		50.8%	ICU Level of Service A
Analysis Period (min)		15	

2018 Total Traffic AM Peak Hour
5: SW 56th Ter & SW Borland Rd

Sagert Farms
4/14/2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	78	246	7	5	634	5	31	14	20	8	5	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00		
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99		
Frt	1.00	1.00		1.00	1.00			0.96			0.90		
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99		
Satd. Flow (prot)	1597	1804		1504	1842			1700			1611		
Flt Permitted	0.24	1.00		0.59	1.00			0.87			0.95		
Satd. Flow (perm)	402	1804		927	1842			1509			1546		
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Adj. Flow (vph)	88	276	8	6	712	6	35	16	22	9	6	51	
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	46	0	
Lane Group Flow (vph)	88	284	0	6	718	0	0	57	0	0	20	0	
Confl. Peds. (#/hr)	3						3		40	40			
Heavy Vehicles (%)	13%	5%	0%	20%	3%	0%	0%	0%	5%	0%	0%	5%	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases	5	2		1	6			8			4		
Permitted Phases	2			6			8			4			
Actuated Green, G (s)	60.1	54.0		48.3	47.4			7.9			7.9		
Effective Green, g (s)	60.1	54.0		48.3	47.4			7.9			7.9		
Actuated g/C Ratio	0.77	0.69		0.62	0.60			0.10			0.10		
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2		
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0		
Lane Grp Cap (vph)	422	1242		577	1113			152			155		
v/s Ratio Prot	c0.02	0.16		0.00	c0.39								
v/s Ratio Perm	0.14			0.01				c0.04			0.01		
v/c Ratio	0.21	0.23		0.01	0.65			0.37			0.13		
Uniform Delay, d1	5.4	4.5		5.8	10.0			32.9			32.1		
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2	0.2	0.1		0.0	1.4			1.5			0.4		
Delay (s)	5.6	4.6		5.8	11.5			34.5			32.5		
Level of Service	A	A		A	B			C			C		
Approach Delay (s)		4.9			11.4			34.5			32.5		
Approach LOS		A			B			C			C		
Intersection Summary													
HCM 2000 Control Delay			12.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			78.4			Sum of lost time (s)		15.6					
Intersection Capacity Utilization			65.4%			ICU Level of Service		C					
Analysis Period (min)			15										
c Critical Lane Group													

Intersection												
Intersection Delay, s/veh	51.1											
Intersection LOS	F											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	246	216	8	0	42	219	181	0	8	341	91
Peak Hour Factor	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	3	2	25	2	2	4	2	2	0	2	7
Mvmt Flow	0	251	220	8	0	43	223	185	0	8	348	93
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	28.1	69.5	75.1
HCM LOS	D	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	79%	0%	96%	0%	55%	0%	100%	0%
Vol Right, %	0%	21%	0%	4%	0%	45%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	432	246	224	42	400	93	64	69
LT Vol	8	0	246	0	42	0	93	0	0
Through Vol	0	341	0	216	0	219	0	64	0
RT Vol	0	91	0	8	0	181	0	0	69
Lane Flow Rate	8	441	251	229	43	408	95	65	70
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.022	1	0.685	0.589	0.116	1	0.285	0.187	0.189
Departure Headway (Hd)	9.787	9.178	9.822	9.283	9.75	8.972	10.799	10.334	9.653
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	366	397	369	391	368	404	334	348	372
Service Time	7.532	6.923	7.543	7.003	7.494	6.717	8.529	8.065	7.384
HCM Lane V/C Ratio	0.022	1.111	0.68	0.586	0.117	1.01	0.284	0.187	0.188
HCM Control Delay	12.8	76.3	31.4	24.5	13.8	75.4	17.8	15.4	14.6
HCM Lane LOS	B	F	D	C	B	F	C	C	B
HCM 95th-tile Q	0.1	12.1	4.9	3.6	0.4	12.2	1.2	0.7	0.7

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	93	64	69
Peak Hour Factor	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	4	6	7
Mvmt Flow	0	95	65	70
Number of Lanes	0	1	1	1






















Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	16.1
HCM LOS	C

Lane

2018 Total Traffic AM Peak Hour
7: SW 65th Ave & SW Sagert St

Sagert Farms
4/14/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	362	23	92	12	23	39	112	271	17	21	123	390
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			6%			-2%	
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.88		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	1484		1662	1585		1581	1605		1674	1652	1417
Flt Permitted	0.95	1.00		0.95	1.00		0.67	1.00		0.49	1.00	1.00
Satd. Flow (perm)	1583	1484		1662	1585		1111	1605		862	1652	1417
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	393	25	100	13	25	42	122	295	18	23	134	424
RTOR Reduction (vph)	0	69	0	0	40	0	0	2	0	0	0	208
Lane Group Flow (vph)	393	56	0	13	27	0	122	311	0	23	134	216
Confl. Peds. (#/hr)			2	2					2	2		
Heavy Vehicles (%)	5%	0%	2%	0%	0%	0%	2%	5%	0%	0%	7%	6%
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2 10			6 9	
Permitted Phases							2 10			6 9		6 9
Actuated Green, G (s)	40.7	40.7		5.8	5.8		63.5	63.5		63.5	63.5	63.5
Effective Green, g (s)	40.7	40.7		5.8	5.8		63.5	63.5		63.5	63.5	63.5
Actuated g/C Ratio	0.31	0.31		0.04	0.04		0.49	0.49		0.49	0.49	0.49
Clearance Time (s)	5.0	5.0		5.0	5.0							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Lane Grp Cap (vph)	495	464		74	70		542	783		421	806	692
v/s Ratio Prot	c0.25	0.04		0.01	c0.02			c0.19			0.08	
v/s Ratio Perm							0.11			0.03		0.15
v/c Ratio	0.79	0.12		0.18	0.38		0.23	0.40		0.05	0.17	0.31
Uniform Delay, d1	40.8	31.9		59.8	60.4		19.1	21.1		17.5	18.5	20.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.74	0.71	4.27
Incremental Delay, d2	8.5	0.1		1.1	3.5		0.2	0.3		0.0	0.1	0.2
Delay (s)	49.4	32.0		60.9	63.8		19.3	21.4		12.9	13.3	85.9
Level of Service	D	C		E	E		B	C		B	B	F
Approach Delay (s)		45.2			63.4			20.8			66.3	
Approach LOS		D			E			C			E	





















Intersection Summary

HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2018 Total Traffic PM Peak Hour
1: SW Nyberg St & 65th Ave/Nyberg St

Sagert Farms
4/14/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	807	33	21	708	21	34	3	56	14	7	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1787	1869		1752	3516			1800	1615		1749	1599
Flt Permitted	0.27	1.00		0.21	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	513	1869		384	3516			1366	1615		1406	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	272	868	35	23	761	23	37	3	60	15	8	153
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	55	0	0	84
Lane Group Flow (vph)	272	902	0	23	782	0	0	40	5	0	23	69
Confl. Peds. (#/hr)	1		5	5		1	7					7
Heavy Vehicles (%)	1%	1%	0%	3%	2%	7%	0%	0%	0%	8%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4.5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.4	43.5		38.5	36.6			6.3	6.3		6.3	21.1
Effective Green, g (s)	51.4	43.5		38.5	36.6			6.3	6.3		6.3	21.1
Actuated g/C Ratio	0.74	0.62		0.55	0.53			0.09	0.09		0.09	0.30
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	539	1166		249	1846			123	145		127	484
v/s Ratio Prot	c0.06	c0.48		0.00	0.22				0.00			0.04
v/s Ratio Perm	0.31			0.05				c0.03			0.02	
v/c Ratio	0.50	0.77		0.09	0.42			0.33	0.04		0.18	0.14
Uniform Delay, d1	4.0	9.5		8.4	10.1			29.7	28.9		29.3	17.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	3.1		0.1	0.1			0.6	0.0		0.3	0.0
Delay (s)	4.5	12.6		8.6	10.2			30.3	29.0		29.6	17.8
Level of Service	A	B		A	B			C	C		C	B
Approach Delay (s)		10.8			10.2			29.5			19.3	
Approach LOS		B			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			12.0		HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			69.7		Sum of lost time (s)				18.0			
Intersection Capacity Utilization			72.4%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												

2018 Total Traffic PM Peak Hour
2: SW 65th Ave & Borland Rd

Sagert Farms
4/14/2015

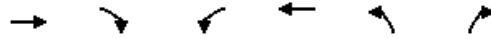
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	11	7	195	3	194	1	296	316	377	419	4
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			2%			6%	
Total Lost time (s)		5.6			5.3	5.3	4.8	4.8		4.8	4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1618			1630	1473	1646	1542		1597	1679	
Flt Permitted		0.98			0.95	1.00	0.17	1.00		0.14	1.00	
Satd. Flow (perm)		1618			1630	1473	289	1542		236	1679	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	11	7	203	3	202	1	308	329	393	436	4
RTOR Reduction (vph)	0	7	0	0	0	123	0	32	0	0	0	0
Lane Group Flow (vph)	0	26	0	0	206	79	1	605	0	393	440	0
Confl. Peds. (#/hr)	10					10			4	4		
Heavy Vehicles (%)	6%	0%	0%	2%	25%	1%	0%	2%	2%	1%	1%	0%
Turn Type	Split	NA		Split	NA	pt+ov	custom	NA		pm+pt	NA	
Protected Phases	8	8		4	4	4 5	1	6 9		5	2	
Permitted Phases							6			2		
Actuated Green, G (s)		3.3			16.8	49.0	29.5	40.2		55.4	55.4	
Effective Green, g (s)		3.8			17.3	44.7	30.0	41.2		55.9	55.9	
Actuated g/C Ratio		0.03			0.15	0.39	0.26	0.36		0.49	0.49	
Clearance Time (s)		6.1			5.8		5.3			5.3	5.3	
Vehicle Extension (s)		1.0			2.0		1.0			2.5	3.0	
Lane Grp Cap (vph)		53			245	572	93	552		438	816	
v/s Ratio Prot		c0.02			c0.13	0.05	0.00	c0.39		c0.21	0.26	
v/s Ratio Perm							0.00			0.22		
v/c Ratio		0.49			0.84	0.14	0.01	1.10		0.90	0.54	
Uniform Delay, d1		54.7			47.5	22.7	33.0	36.9		38.9	20.6	
Progression Factor		1.00			1.00	1.00	0.59	0.43		1.00	1.00	
Incremental Delay, d2		2.6			21.3	0.0	0.0	59.8		20.5	2.5	
Delay (s)		57.3			68.8	22.7	19.5	75.7		59.4	23.1	
Level of Service		E			E	C	B	E		E	C	
Approach Delay (s)		57.3			46.0			75.6			40.2	
Approach LOS		E			D			E			D	

Intersection Summary

HCM 2000 Control Delay	53.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.3
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

2018 Total Traffic PM Peak Hour
3: Proposed Road & SW Borland Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷		↷
Volume (veh/h)	687	15	0	388	10	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	755	16	0	426	11	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		None			
Median storage (veh)	2					
Upstream signal (ft)	929					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			771		1190	763
vC1, stage 1 conf vol					763	
vC2, stage 2 conf vol					426	
vCu, unblocked vol			697		1158	687
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	88
cM capacity (veh/h)			824		404	408
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	771	426	60			
Volume Left	0	0	11			
Volume Right	16	0	49			
cSH	1700	1700	407			
Volume to Capacity	0.45	0.25	0.15			
Queue Length 95th (ft)	0	0	13			
Control Delay (s)	0.0	0.0	15.4			
Lane LOS	C					
Approach Delay (s)	0.0	0.0	15.4			
Approach LOS	C					
Intersection Summary						
Average Delay	0.7					
Intersection Capacity Utilization	Err%		ICU Level of Service			H
Analysis Period (min)	15					

2018 Total Traffic PM Peak Hour
4: SW 60th Ave & SW Borland Rd

Sagert Farms
4/14/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Volume (veh/h)	762	14	25	344	9	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	847	16	28	382	10	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLT		
Median storage (veh)				2		
Upstream signal (ft)				1220		
pX, platoon unblocked						
vC, conflicting volume			862		1292	854
vC1, stage 1 conf vol					854	
vC2, stage 2 conf vol					438	
vCu, unblocked vol			862		1292	854
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		97	100
cM capacity (veh/h)			789		373	361

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	862	28	382	11
Volume Left	0	28	0	10
Volume Right	16	0	0	1
cSH	1700	789	1700	371
Volume to Capacity	0.51	0.04	0.22	0.03
Queue Length 95th (ft)	0	3	0	2
Control Delay (s)	0.0	9.7	0.0	15.0
Lane LOS		A		B
Approach Delay (s)	0.0	0.7		15.0
Approach LOS				B

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		51.0%	ICU Level of Service A
Analysis Period (min)		15	

2018 Total Traffic PM Peak Hour
5: SW 56th Terrace & Borland Rd

Sagert Farms
4/14/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	688	28	11	316	5	19	1	4	2	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1797	1869		1805	1876			1647			1640	
Flt Permitted	0.55	1.00		0.29	1.00			0.82			0.96	
Satd. Flow (perm)	1045	1869		560	1876			1408			1577	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	748	30	12	343	5	21	1	4	2	1	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	14	0
Lane Group Flow (vph)	16	777	0	12	348	0	0	22	0	0	4	0
Confl. Peds. (#/hr)	8		1	1		8	3		3	3		3
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	50%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	53.0	52.1		53.0	52.1			4.4			4.4	
Effective Green, g (s)	53.0	52.1		53.0	52.1			4.4			4.4	
Actuated g/C Ratio	0.73	0.71		0.73	0.71			0.06			0.06	
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0	
Lane Grp Cap (vph)	767	1333		421	1338			84			95	
v/s Ratio Prot	0.00	c0.42		c0.00	0.19							
v/s Ratio Perm	0.01			0.02				c0.02			0.00	
v/c Ratio	0.02	0.58		0.03	0.26			0.26			0.04	
Uniform Delay, d1	2.8	5.1		3.6	3.7			32.8			32.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.8		0.0	0.1			1.7			0.2	
Delay (s)	2.8	5.9		3.6	3.8			34.4			32.5	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		5.8			3.8			34.4			32.5	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	244	291	231
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	257	306	243
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	43.6
HCM LOS	E

Lane

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	244	291	231
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	257	306	243
Number of Lanes	0	1	1	1























Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	43.6
HCM LOS	E

Lane

2018 Total Traffic PM Peak Hour
7: 65th Ave & Sagert St

Sagert Farms
4/14/2015










													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	456	25	111	16	17	31	53	126	19	36	249	336	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Grade (%)		0%			0%			6%			-2%		
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.90		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1630	1495		1662	1580		1536	1617		1671	1733	1488	
Flt Permitted	0.95	1.00		0.95	1.00		0.53	1.00		0.64	1.00	1.00	
Satd. Flow (perm)	1630	1495		1662	1580		864	1617		1127	1733	1488	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	485	27	118	17	18	33	56	134	20	38	265	357	
RTOR Reduction (vph)	0	77	0	0	32	0	0	3	0	0	0	79	
Lane Group Flow (vph)	485	68	0	17	19	0	56	151	0	38	265	278	
Confl. Peds. (#/hr)			1	1					2	2			
Heavy Vehicles (%)	2%	0%	1%	0%	0%	0%	5%	3%	0%	0%	2%	1%	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	4	4		8	8			2			6		
Permitted Phases							2			6		6	
Actuated Green, G (s)	45.7	45.7		5.3	5.3		67.0	67.0		67.0	67.0	67.0	
Effective Green, g (s)	45.7	45.7		5.3	5.3		67.0	67.0		67.0	67.0	67.0	
Actuated g/C Ratio	0.35	0.35		0.04	0.04		0.52	0.52		0.52	0.52	0.52	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	573	525		67	64		445	833		580	893	766	
v/s Ratio Prot	c0.30	0.05		0.01	c0.01			0.09			0.15		
v/s Ratio Perm							0.06			0.03		c0.19	
v/c Ratio	0.85	0.13		0.25	0.30		0.13	0.18		0.07	0.30	0.36	
Uniform Delay, d1	38.9	28.6		60.4	60.6		16.3	16.8		15.8	18.0	18.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.74	0.71	0.52	
Incremental Delay, d2	11.1	0.1		2.0	2.7		0.6	0.5		0.2	0.8	1.2	
Delay (s)	50.0	28.8		62.4	63.2		16.9	17.3		11.8	13.5	10.9	
Level of Service	D	C		E	E		B	B		B	B	B	
Approach Delay (s)		45.1			63.0			17.2			12.0		
Approach LOS		D			E			B			B		

Intersection Summary

HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

10:

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

2018 Total Traffic PM Peak Hour
11: West Dwy & SW Borland Rd

Sagert Farms
4/14/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Volume (veh/h)	0	739	0	0	393	0	0	0	0	0	0	0	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	0	786	0	0	418	0	0	0	0	0	0	0	
Pedestrians												11	
Lane Width (ft)												12.0	
Walking Speed (ft/s)												4.0	
Percent Blockage												1	
Right turn flare (veh)													
Median type								None				None	
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	220	0	0	393	0	11	0			0			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	220	0	0	393	0	11	0			0			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	12	100	100	53	100	100			100			
cM capacity (veh/h)	465	898	1091	144	896	1066	1636			1636			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	786	418	0	0									
Volume Left	0	0	0	0									
Volume Right	0	0	0	0									
cSH	898	896	1700	1700									
Volume to Capacity	0.88	0.47	0.00	0.00									
Queue Length 95th (ft)	289	63	0	0									
Control Delay (s)	29.6	12.5	0.0	0.0									
Lane LOS	D	B											
Approach Delay (s)	29.6	12.5	0.0	0.0									
Approach LOS	D	B											
Intersection Summary													
Average Delay				23.7									
Intersection Capacity Utilization			42.2%		ICU Level of Service					A			
Analysis Period (min)				15									

Appendix H
*2018 Total Traffic
Queuing Worksheets*

Queuing and Blocking Report
 2018 Total Traffic AM Peak Hour

4/13/2015

Intersection: 2: SW 65th Ave & SW Borland Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	160	374	764	12	358	209	162
Average Queue (ft)	60	259	247	1	198	98	51
95th Queue (ft)	132	394	542	7	336	173	120
Link Distance (ft)	348		1295		356		1689
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					2		
Storage Bay Dist (ft)		350		150		800	
Storage Blk Time (%)		8	1		15		
Queuing Penalty (veh)		28	2		0		

Intersection: 7: SW 65th Ave & SW Sagert St

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	99	569	52	96	125	241	72	139	76
Average Queue (ft)	96	303	13	41	53	90	8	33	45
95th Queue (ft)	105	537	39	77	106	184	31	87	81
Link Distance (ft)		4160		387		2242		356	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	75		150		100		150		50
Storage Blk Time (%)	54	1			0	6		2	3
Queuing Penalty (veh)	59	6			1	7		8	4

Zone Summary

Zone wide Queuing Penalty: 116

Queuing and Blocking Report
 2016 Total Traffic PM Peak Hour

4/13/2015

Intersection: 2: SW 65th Ave & Borland Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	89	257	207	6	318	430	328
Average Queue (ft)	32	142	102	0	178	211	132
95th Queue (ft)	70	229	179	4	273	352	258
Link Distance (ft)	334		2590		357		1689
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)		400		150		575	
Storage Blk Time (%)					20	0	
Queuing Penalty (veh)					0	0	

Intersection: 7: 65th Ave & Sagert St

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	100	946	51	85	92	128	154	303	75
Average Queue (ft)	98	546	12	33	31	46	25	135	67
95th Queue (ft)	101	983	39	70	69	95	87	264	90
Link Distance (ft)		4159		691		2242		357	
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	75		500		100		150		50
Storage Blk Time (%)	60	2			0	1	0	14	6
Queuing Penalty (veh)	82	10			0	0	0	54	16

Zone Summary

Zone wide Queuing Penalty: 163



MEMORANDUM

Date: August 6, 2015

Project #: 17299

To: Tony Doran
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

From: Chris Brehmer, P.E.; Matt Hughart; and Patrick Marnell

Project: Sagert Farms Housing Development

Subject: Updated Borland Road Access Design

This memorandum updates the previously submitted *Sagert Farms Development Transportation Impact Analysis (TIA)* dated June 2, 2015. The TIA was prepared under the development assumption of a limited-access (right-in/right-out) local street connection to SW Borland Road. Based on review comments from Clackamas County Staff, an alternate full-movement local street connection to SW Borland Road has been evaluated. As shown in Figures 1 and 2, the alternate local street connection (herein referred to as SW 61st Terrace) would intersect SW Borland Road opposite the existing Meridian Park Hospital access. This memorandum presents a summary of the updated operations analysis for the Sagert Farms Development under this revised local street connection. For ease of comparison, the figure numbers in this memorandum are consistent with the figure numbers in the previous TIA.

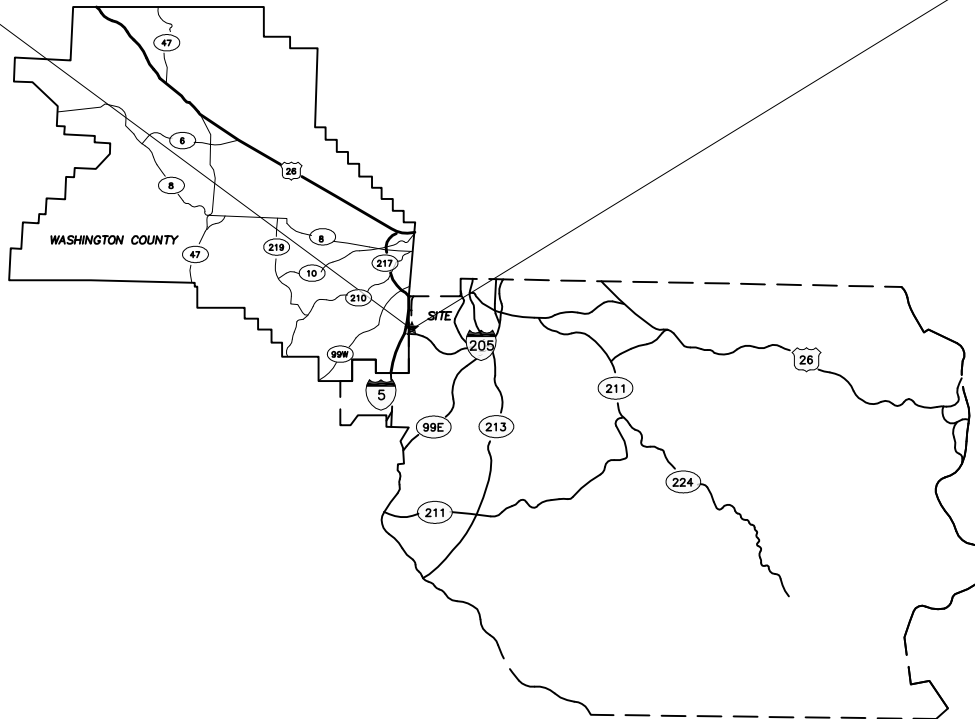
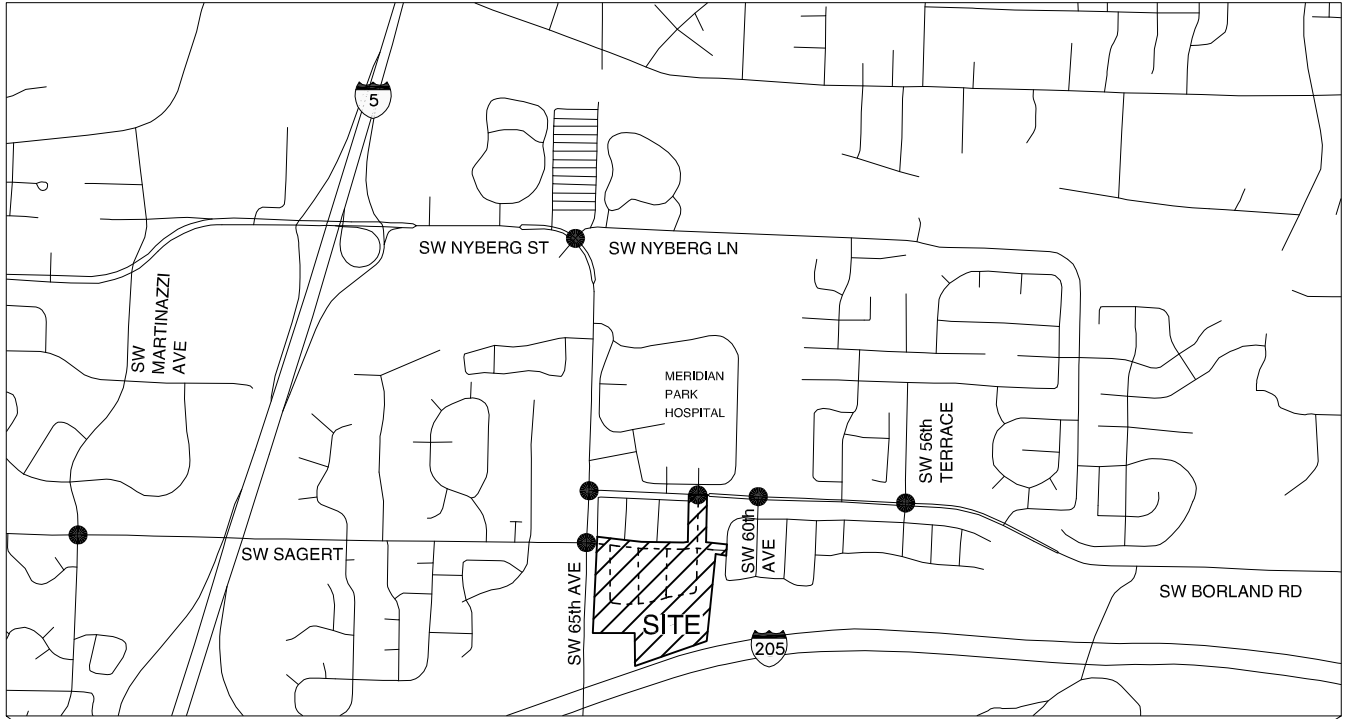
Existing Operations

Supplemental manual turning movement counts were collected at the Meridian Park Hospital accesses located on the north side of Borland Road in July 2015. These traffic counts were collected during the morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak time periods. These counts were combined with the January 2015 turning movement counts presented in the previously submitted TIA to estimate existing traffic conditions at the existing hospital driveways. *Attachment "A" contains the additional traffic count worksheets.*

Figure 3 illustrates the existing lane configurations and traffic control devices at the study intersections, including the SW Borland Road/Meridian Park Hospital access intersection. Figures 4 and 5 summarize the operational analyses for the updated study intersections during the existing weekday AM and PM peak hours. As shown in these figures, the existing SW Borland Road/Meridian Park Hospital access intersection operates within acceptable LOS and V/C ratio standards during the existing a.m. and p.m. peak hours. *Attachment "B" contains the additional existing traffic operation worksheets.*



(NO SCALE)



LEGEND

- - STUDY INTERSECTION

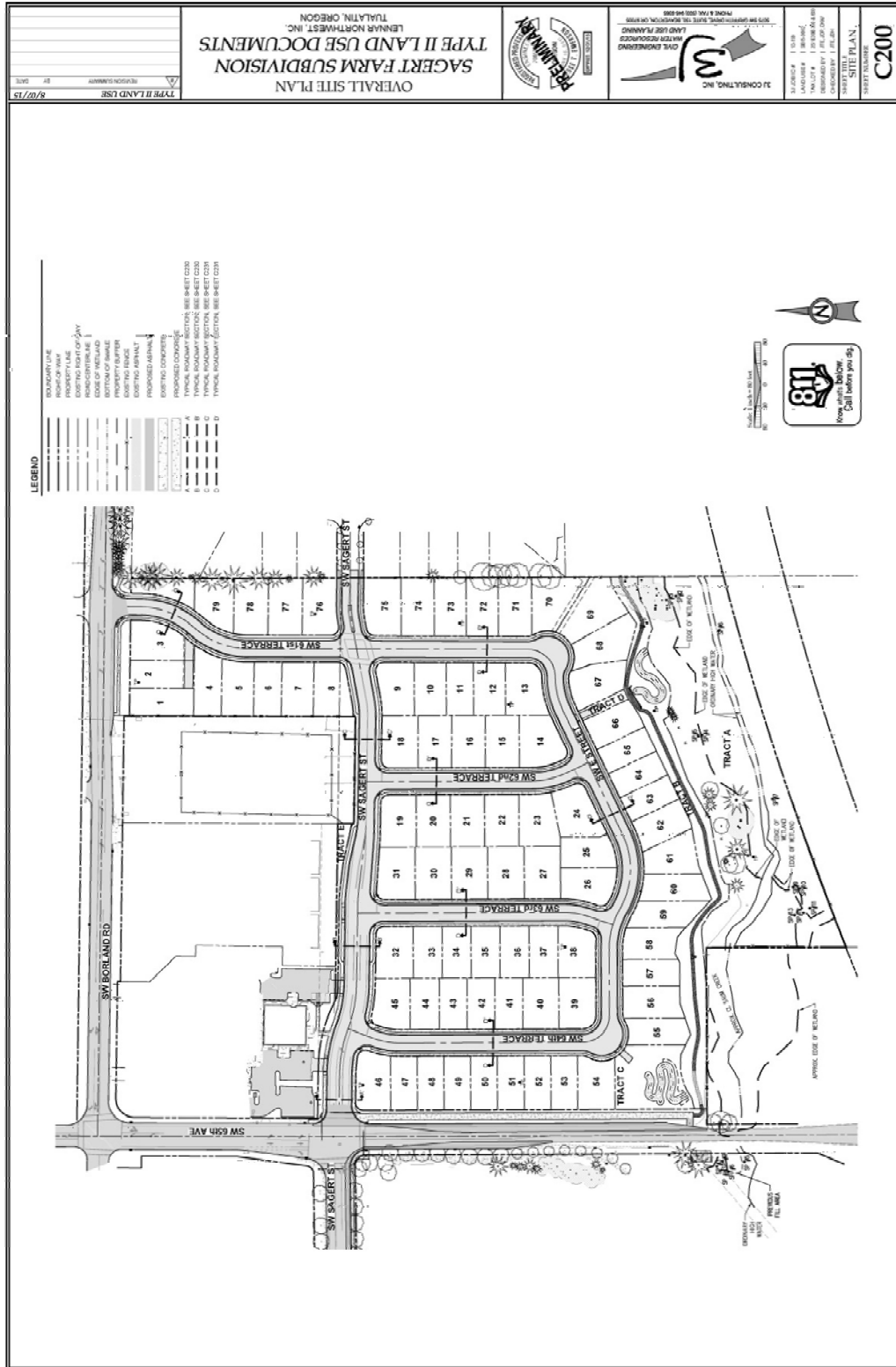
**SITE VICINITY MAP
TUALATIN, OREGON**

FIGURE

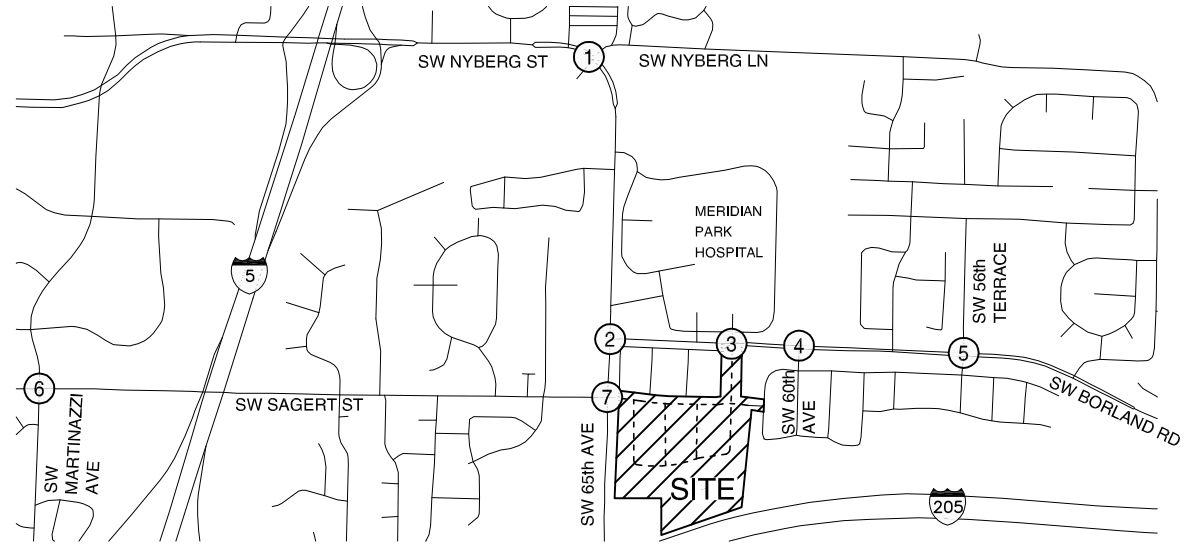
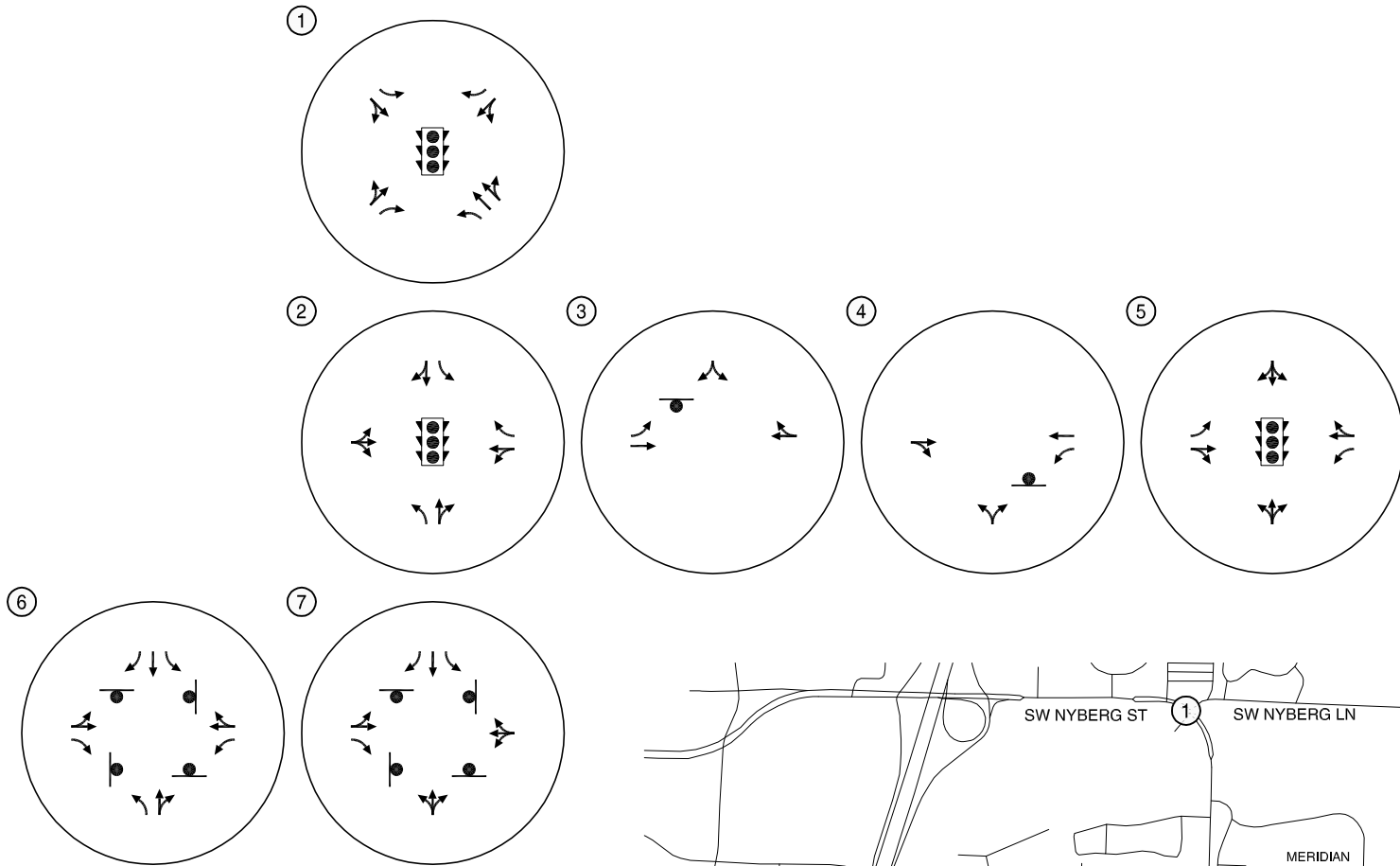
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Figure 2 – Sagert Farms Site Plan (as prepared by 3J Consulting 8/6/15)



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LEGEND

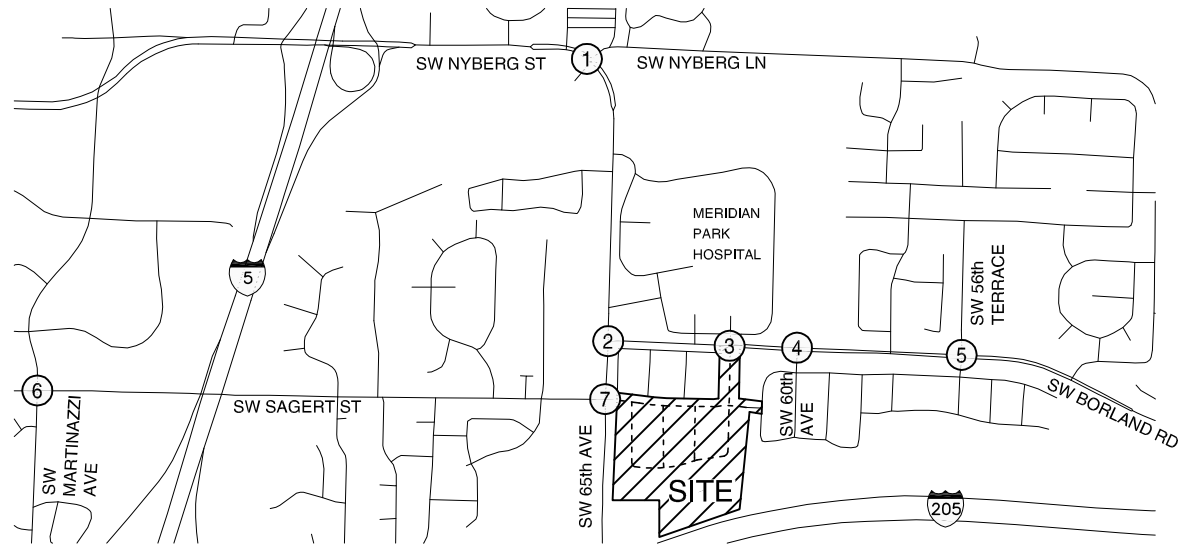
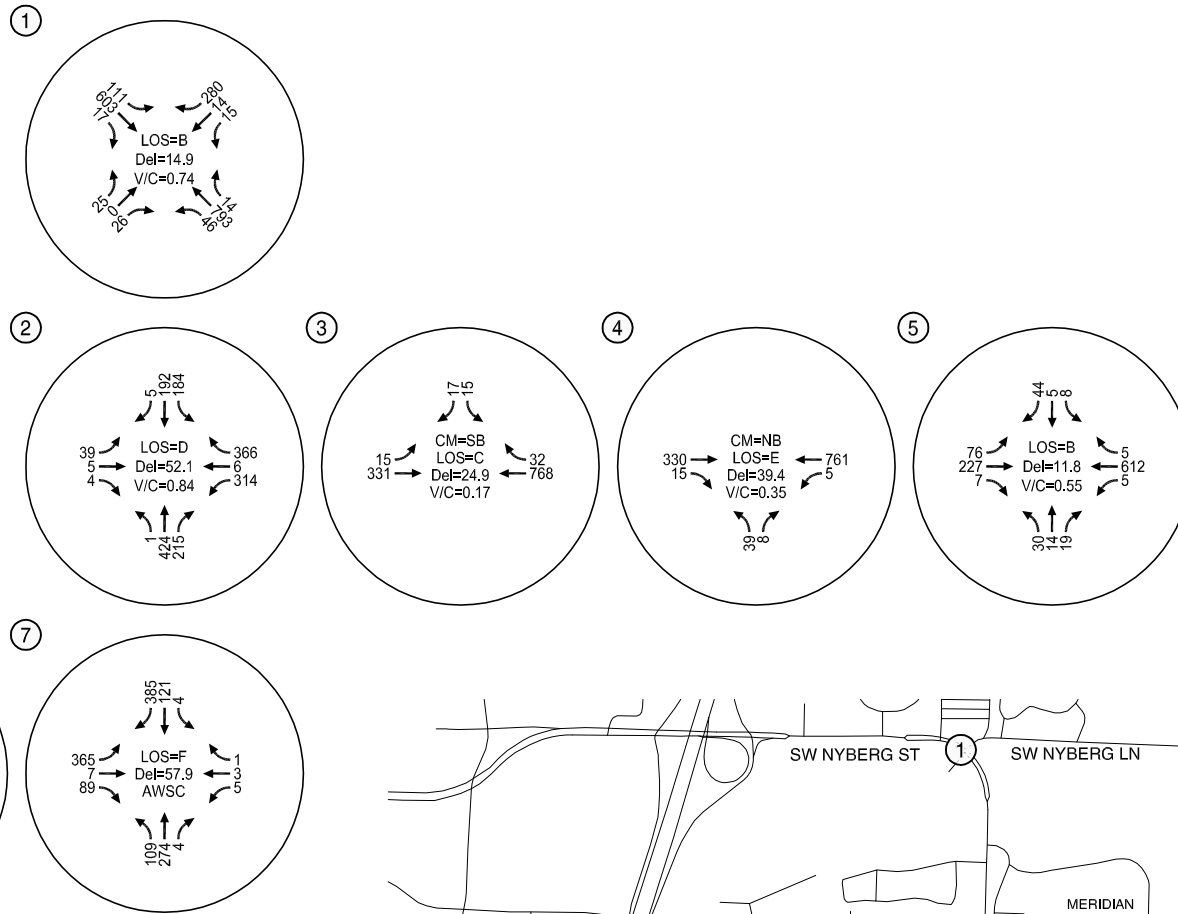
- STOP SIGN
- TRAFFIC SIGNAL

EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES TUALATIN, OREGON

FIGURE 3



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LEGEND

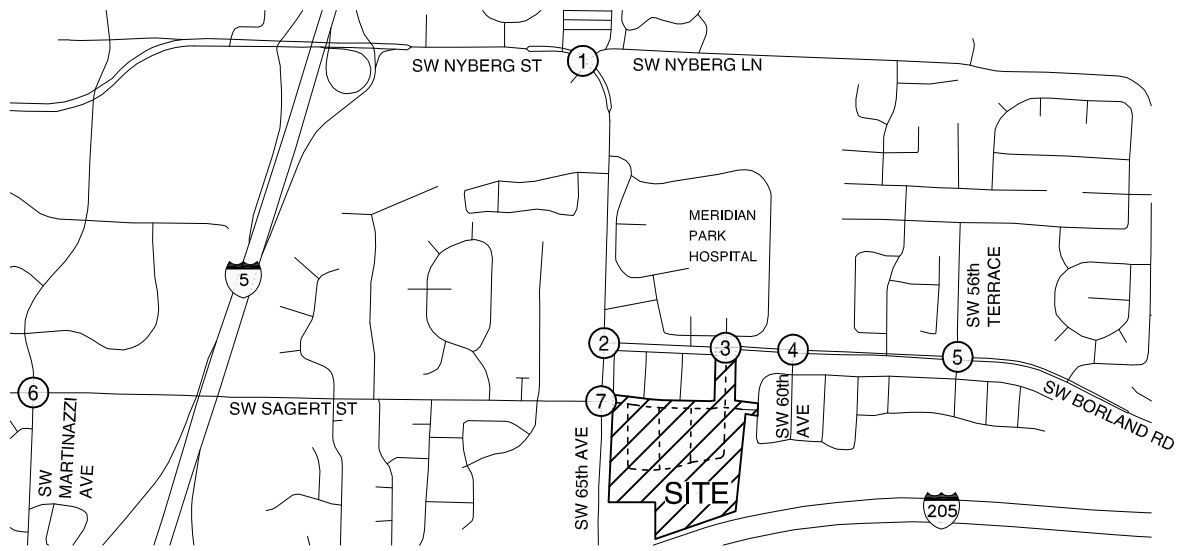
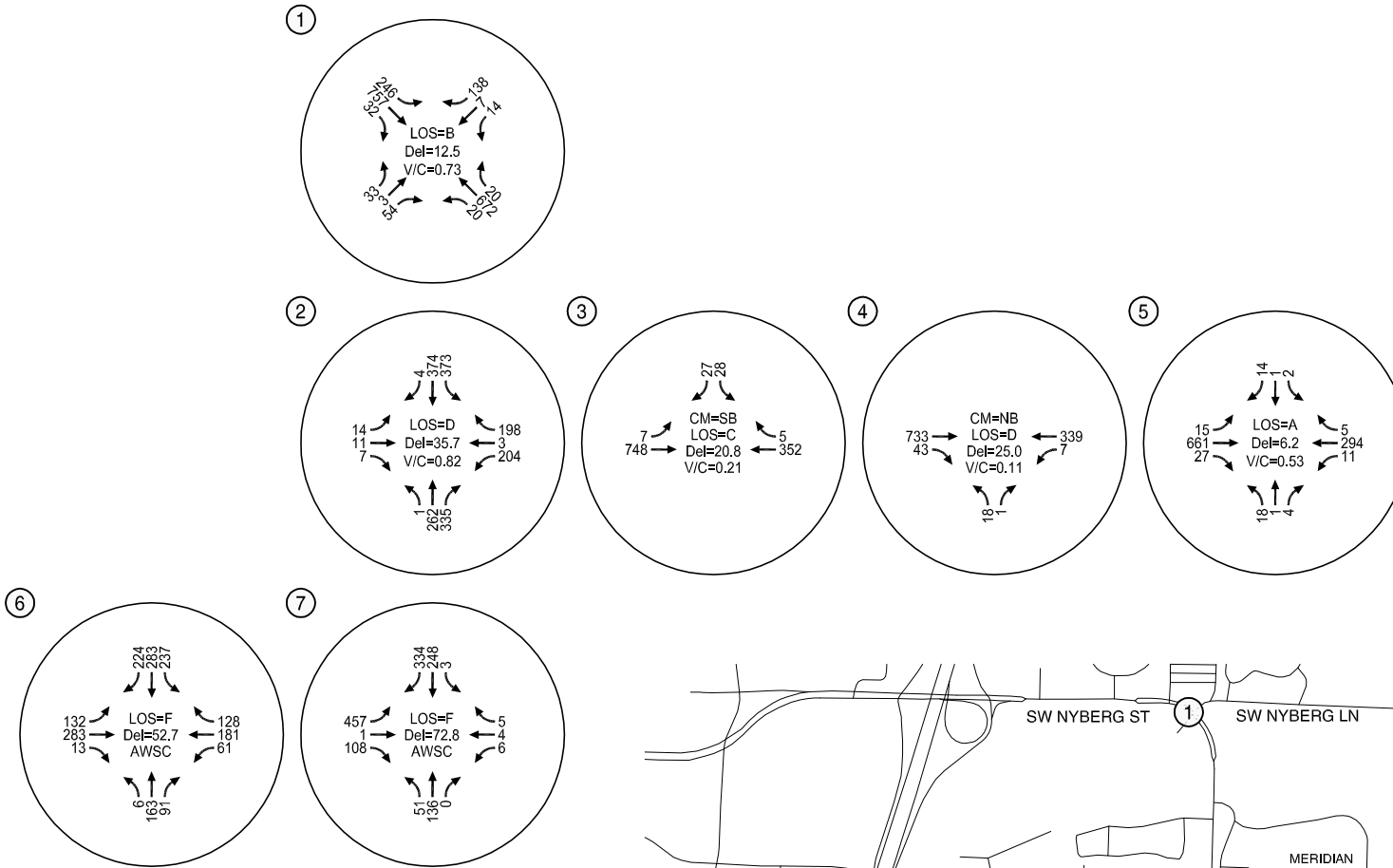
- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

**EXISTING TRAFFIC CONDITIONS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON**

**FIGURE
4**



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LEGEND

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
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- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

**EXISTING TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON**

**FIGURE
5**

2018 Background Operations

Year 2018 forecast background traffic volumes were developed as described in the previously submitted TIA. Figures 6 and 7 summarize the operational analyses for the updated study intersections during the forecast year 2018 background weekday a.m. and p.m. peak hours. As shown in these figures, the SW Borland Road/Meridian Park Hospital access intersection is forecast to operate within acceptable LOS and V/C ratio standards during the forecast year 2018 background a.m. and p.m. peak hours. *Attachment "C" contains the additional background traffic operation worksheets.*

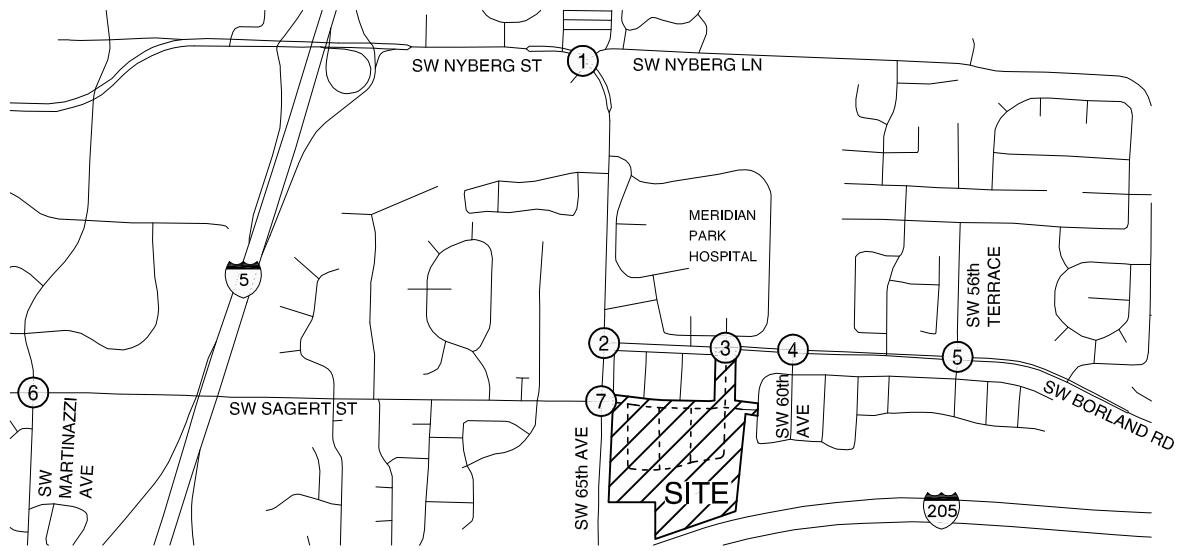
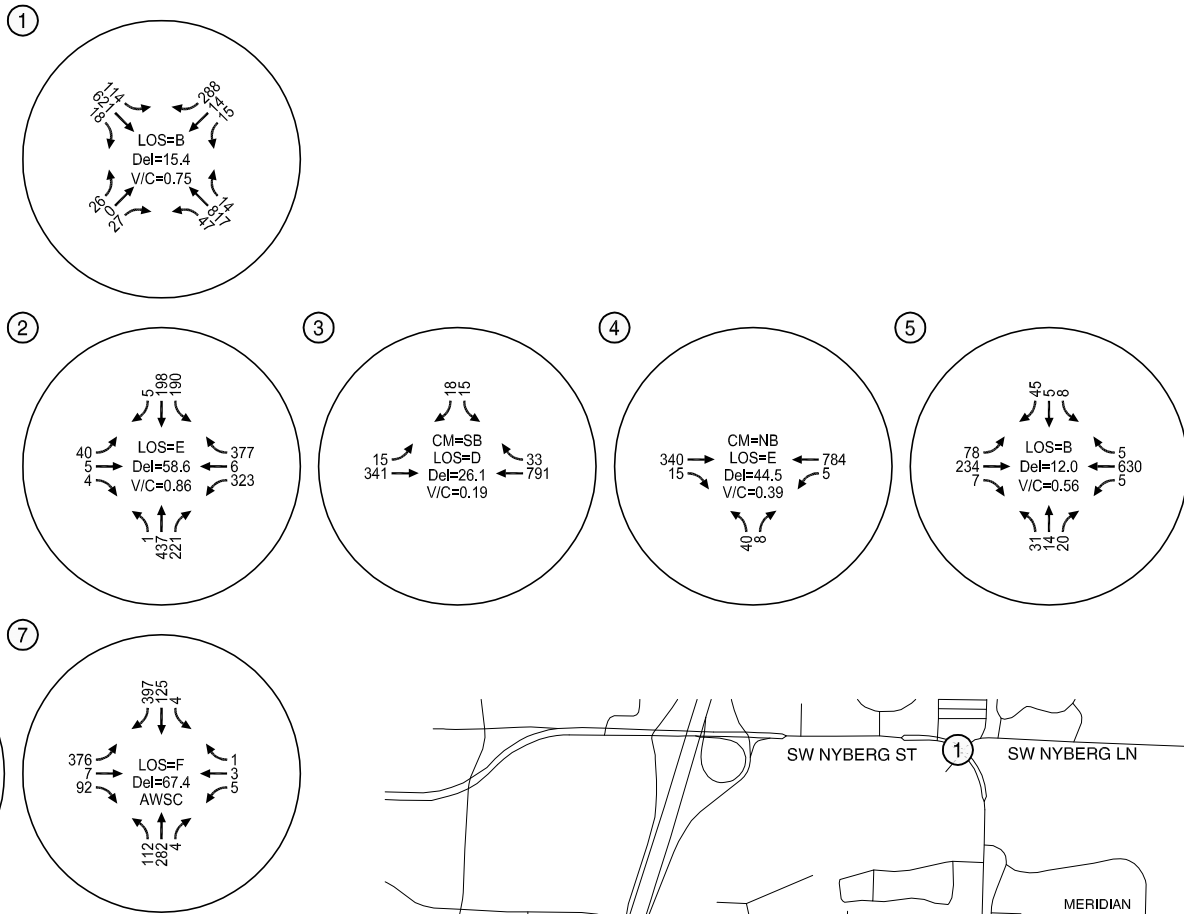
Proposed Development Plan

The proposed 79-home subdivision development remains as described in the previously submitted TIA, except for the access to SW Borland Road. Instead of a RIRO access to SW Borland Road, the updated development plan proposes the construction SW 61st Terrace with a full-movement public intersection at SW Borland Road. This local street would align with the existing Meridian Park access creating the SW Borland Road/Meridian Park Hospital access/SW 61st Terrace intersection.

A left-turn lane warrant analysis was performed to determine if a westbound left-turn lane would be needed at the SW Borland Road/Meridian Park Hospital access/Proposed SW 61st Terrace intersection. Based on the methodology from *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* by Harmelink, a westbound left-turn lane is warranted at this intersection under p.m. peak hour conditions. *Attachment "D" contains the additional background traffic operation worksheets.* Figure 8 illustrates the proposed/assumed lane configurations and traffic control devices at all of the study intersections.

Re-Routing of Existing Volumes and Generated Trips

The previously submitted TIA accounted for changes to study area travel patterns for a proposed RIRO access to SW Borland Road. The proposed SW Borland Road/Meridian Park Hospital access/SW 61st Terrace intersection will allow for left-turn movements which will result in further changes to the study area travel patterns. Figures 9 and 10 summarize the more detailed rerouting of existing traffic shown in Appendix F at the formal study area intersections during the weekday a.m. and p.m. peak hours. Figures 11 and 12 illustrate the trip distribution pattern and the updated assignment of site-generated trips to the study area intersections during the weekday a.m. and p.m. peak hours, respectively.



LEGEND

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
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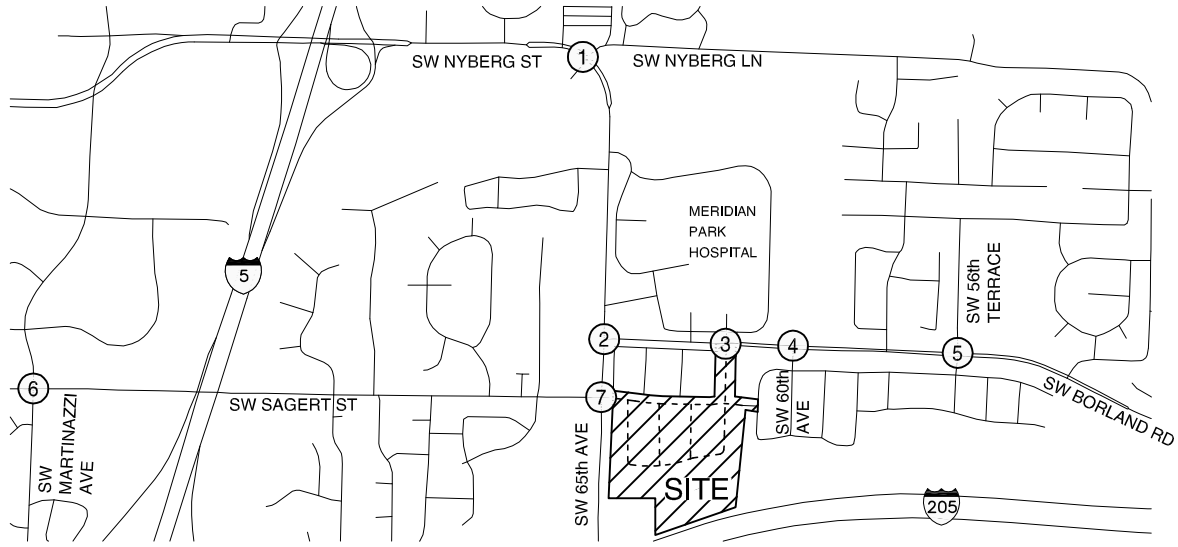
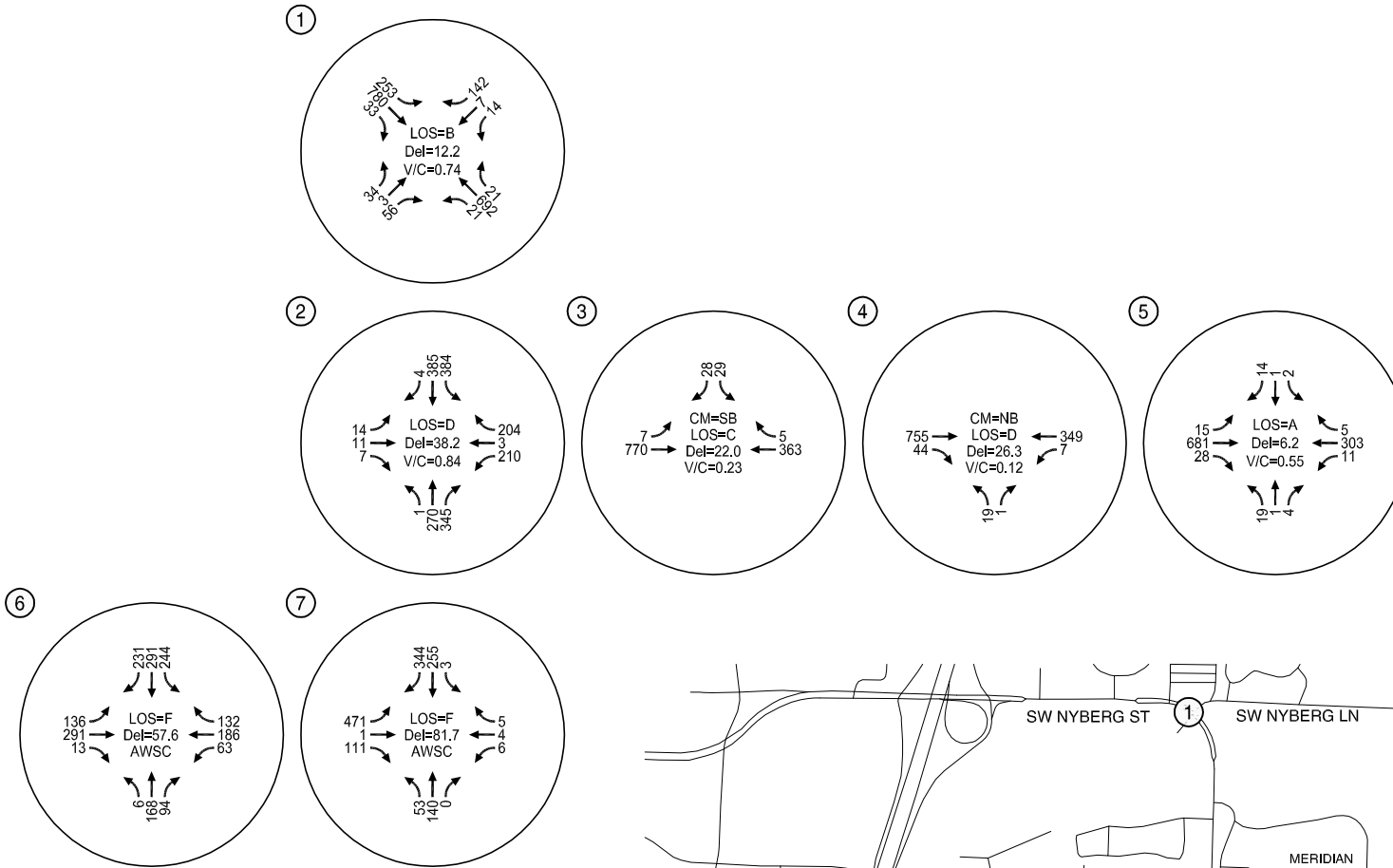
2018 BACKGROUND TRAFFIC CONDITIONS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
6

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LEGEND

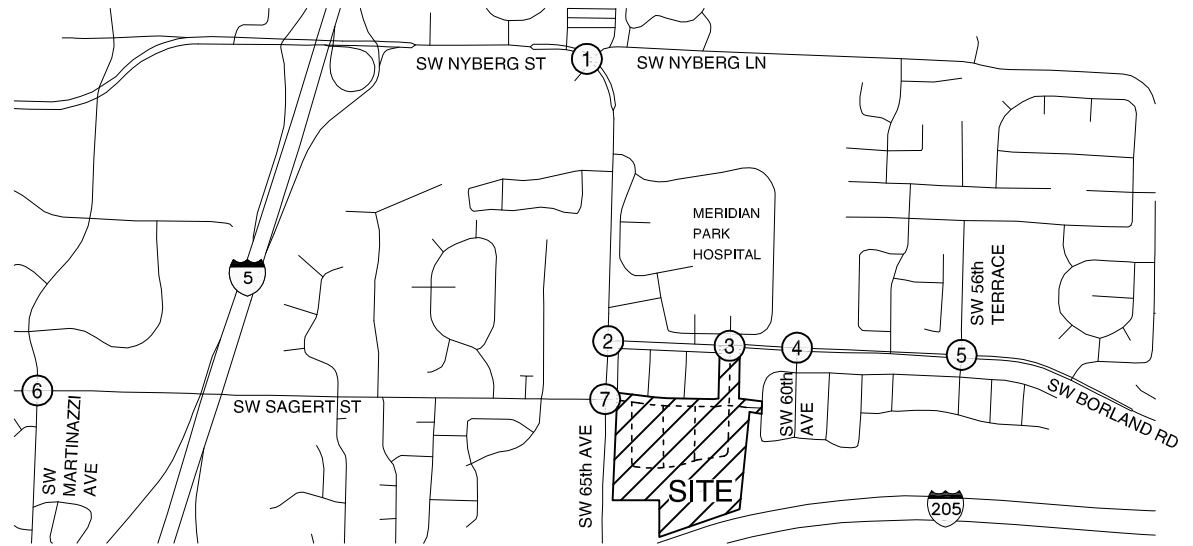
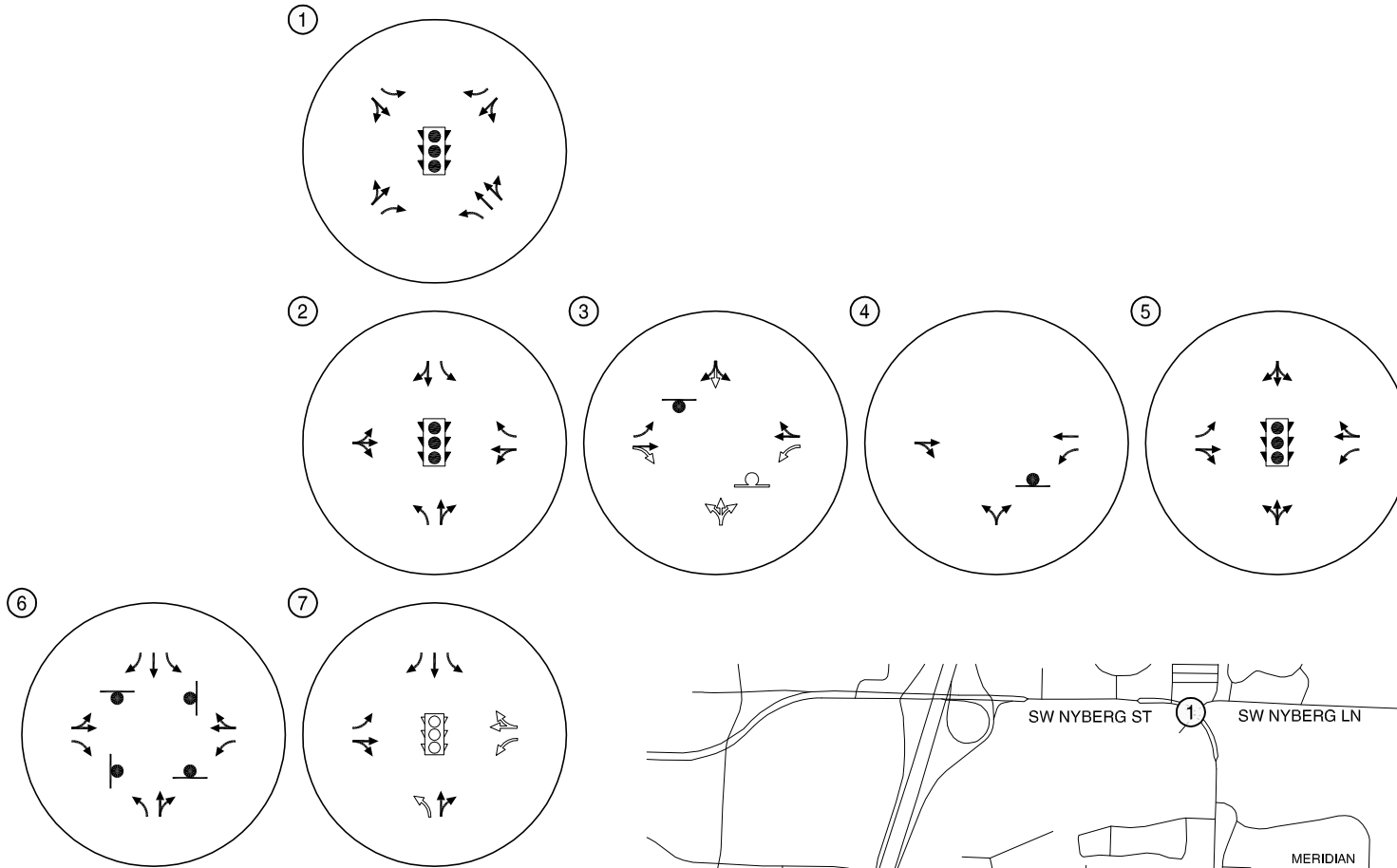
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- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
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- TWSC = TWO-WAY STOP CONTROL
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**2018 BACKGROUND TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON**




**FIGURE
7**



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LEGEND

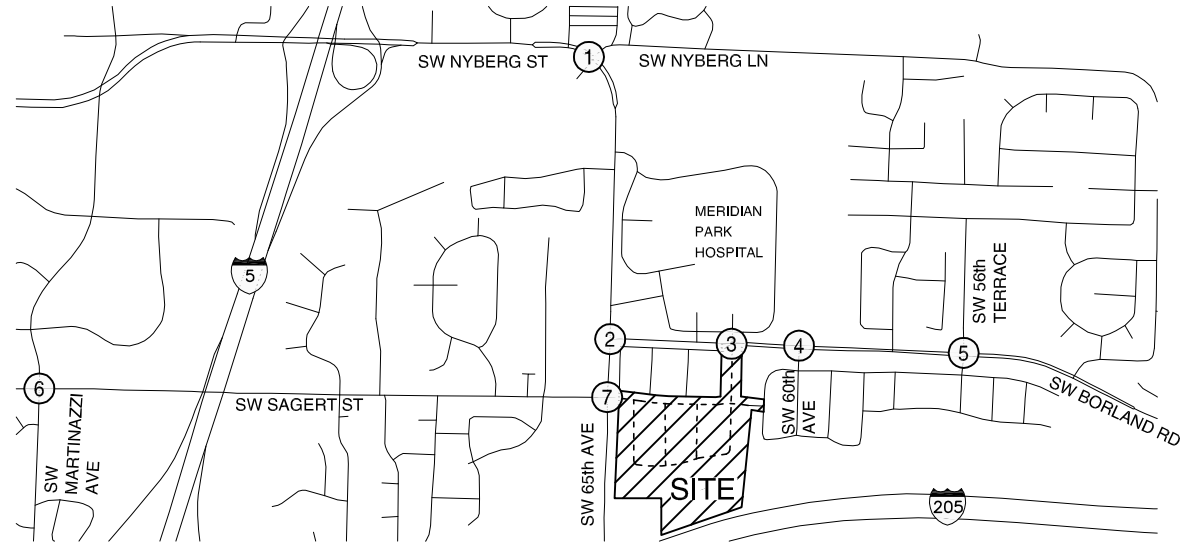
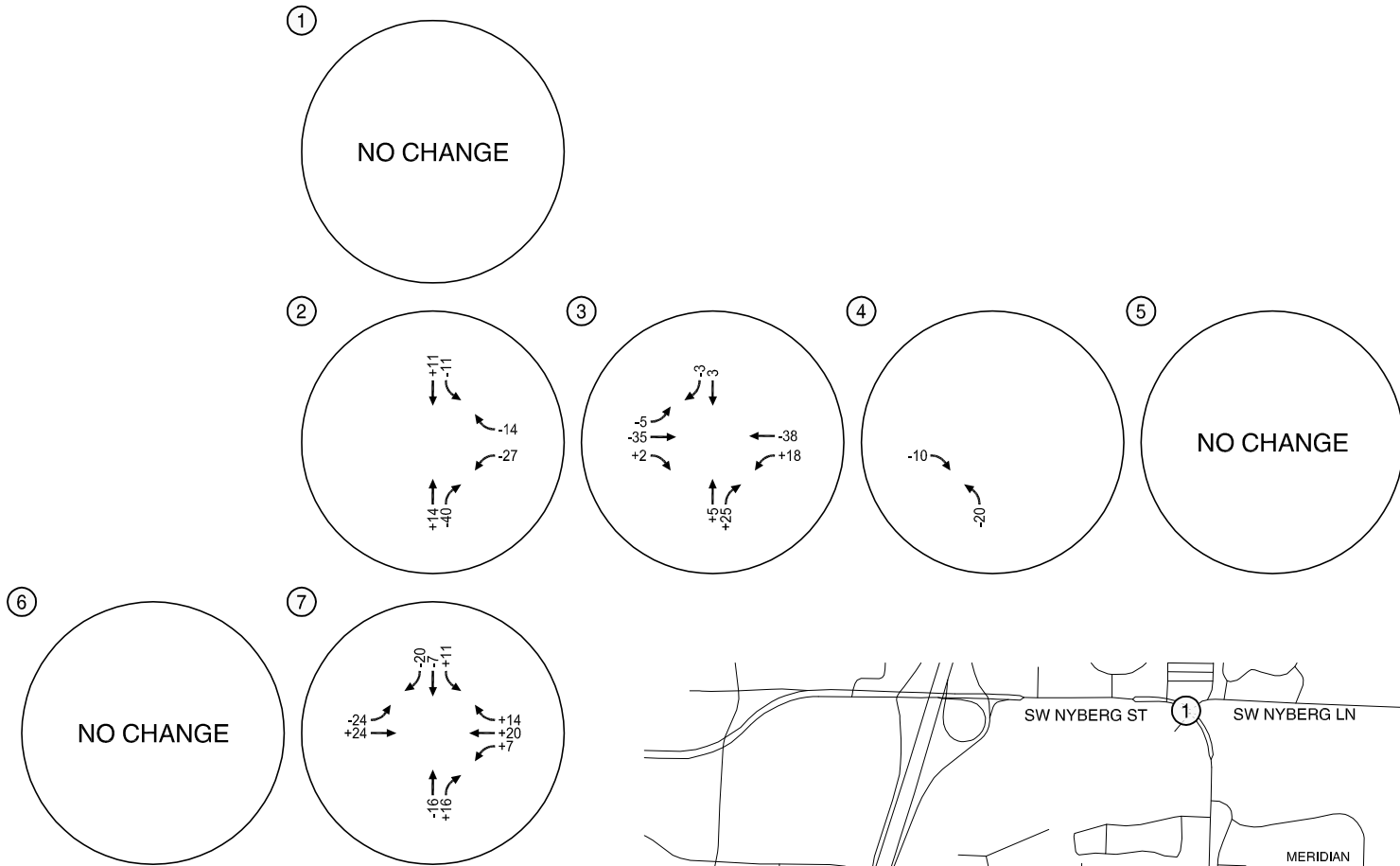
-  - STOP SIGN
-  - TRAFFIC SIGNAL
-  - PROPOSED

PROPOSED LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES TUALATIN, OREGON

FIGURE 8



H:\profile\17299 - Sagert Farms\dwg\figs\17299_fig_7_27_2015.dwg Aug 06, 2015 - 3:54pm - pmairnell Layout Tab: 09 AM REROUTE

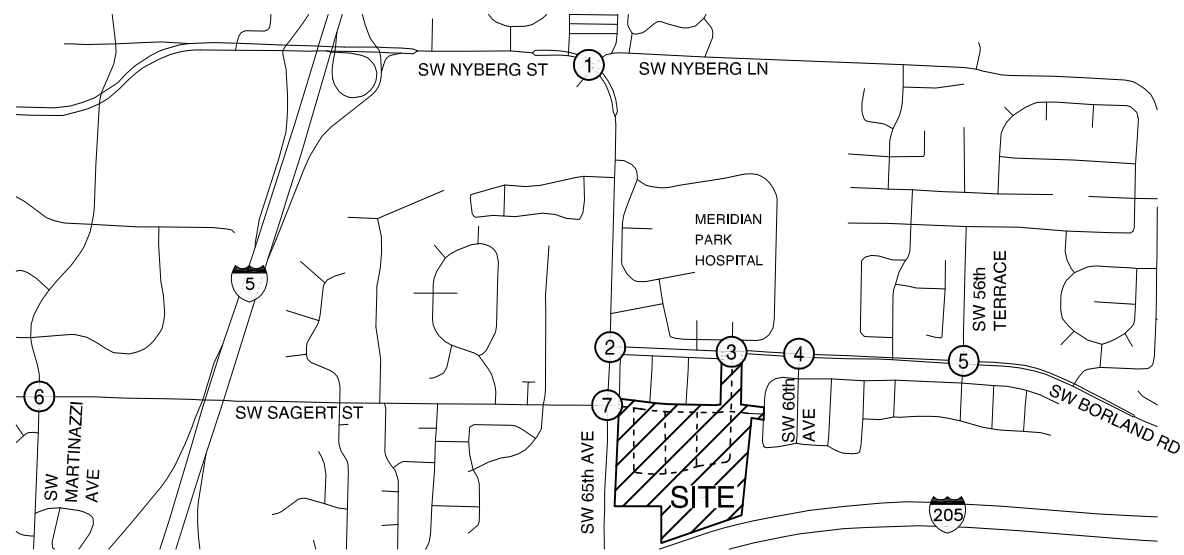
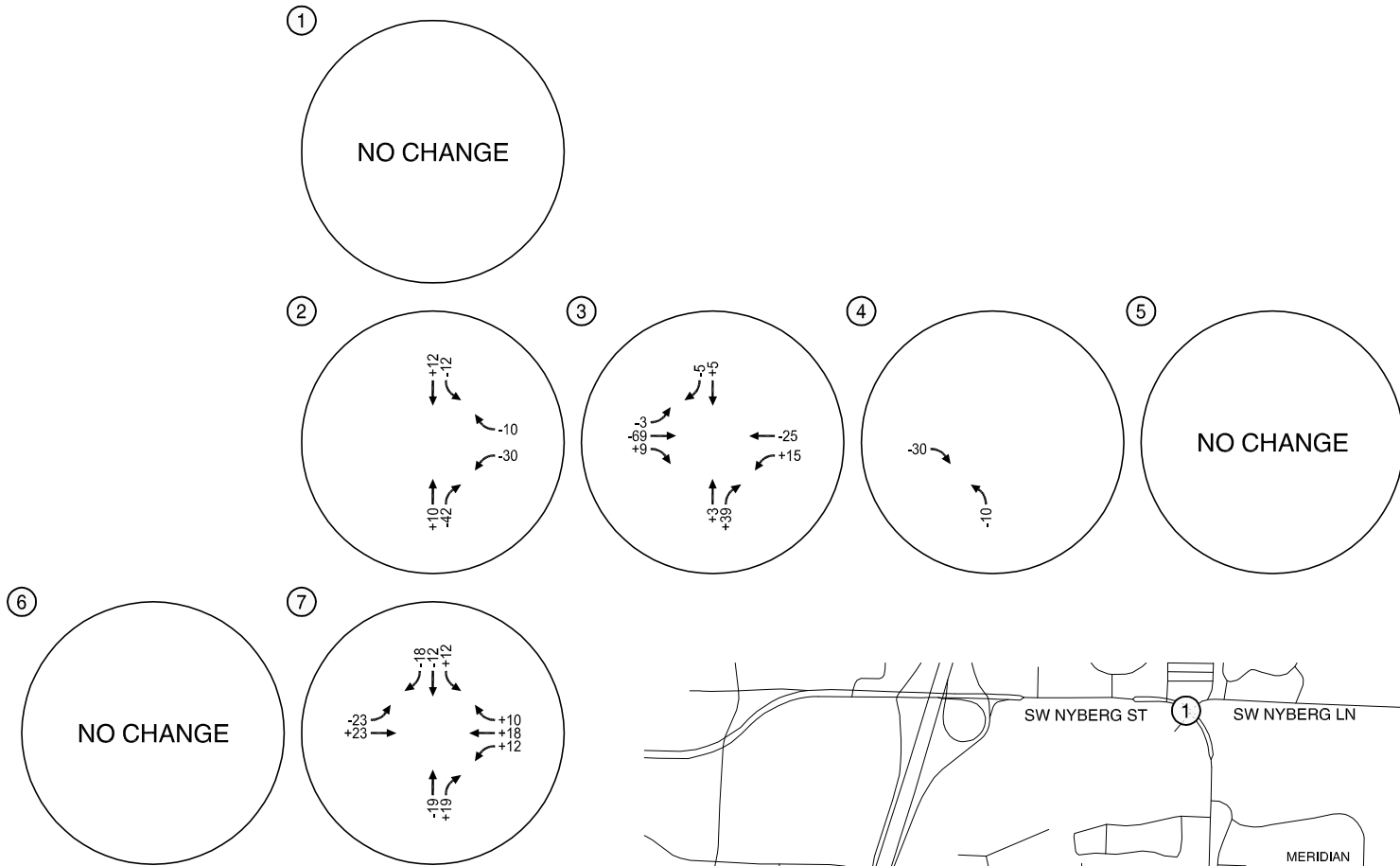


2018 RE-ROUTED TRAFFIC
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
9



H:\profile\17299 - Sagert Farms\dwg\figs\17299_fig_7_27_2015.dwg Aug 06, 2015 - 3:54pm - pmairnell Layout Tab: 10 PM REROUTE

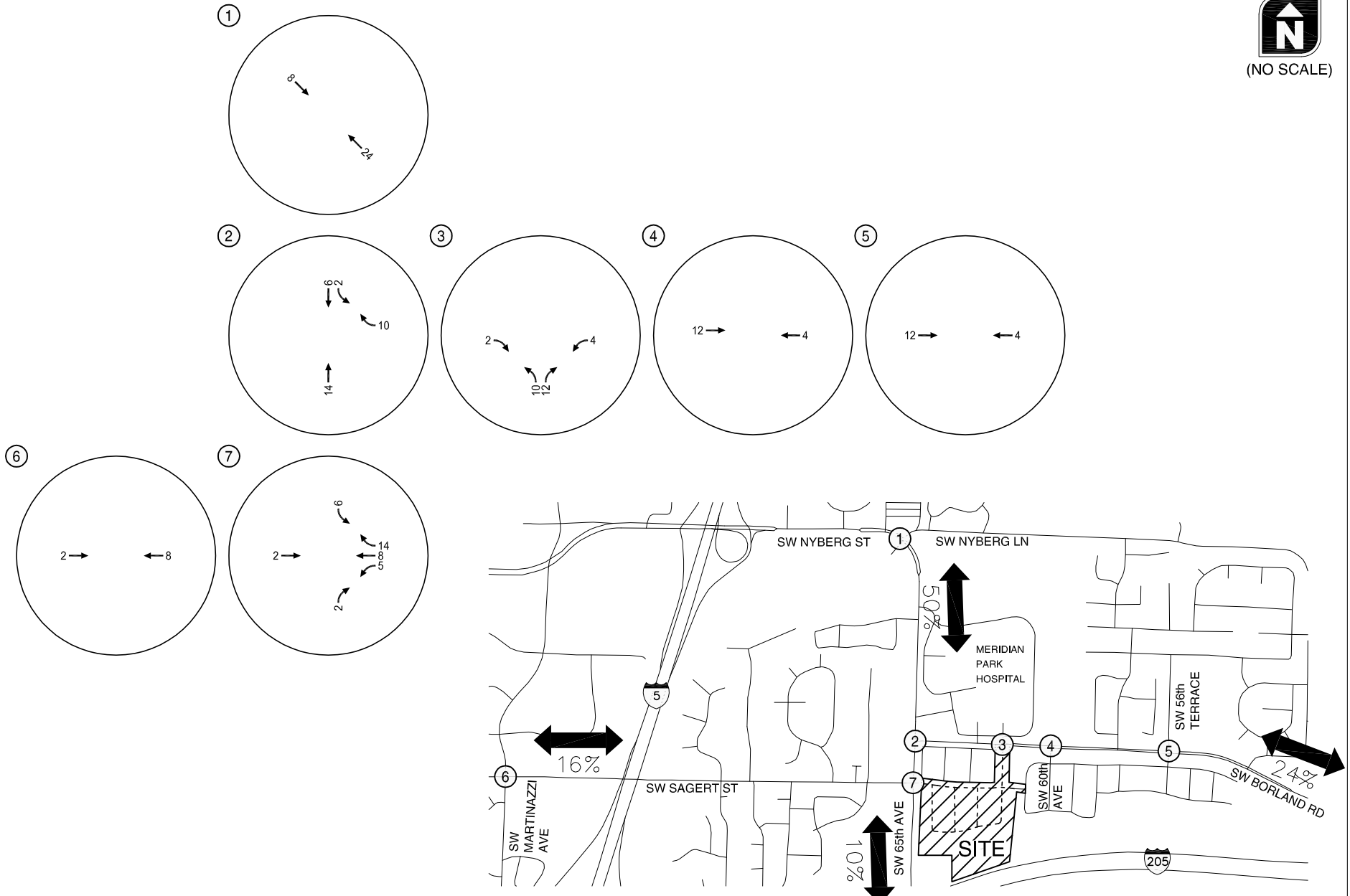


2018 RE-ROUTED TRAFFIC
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
10



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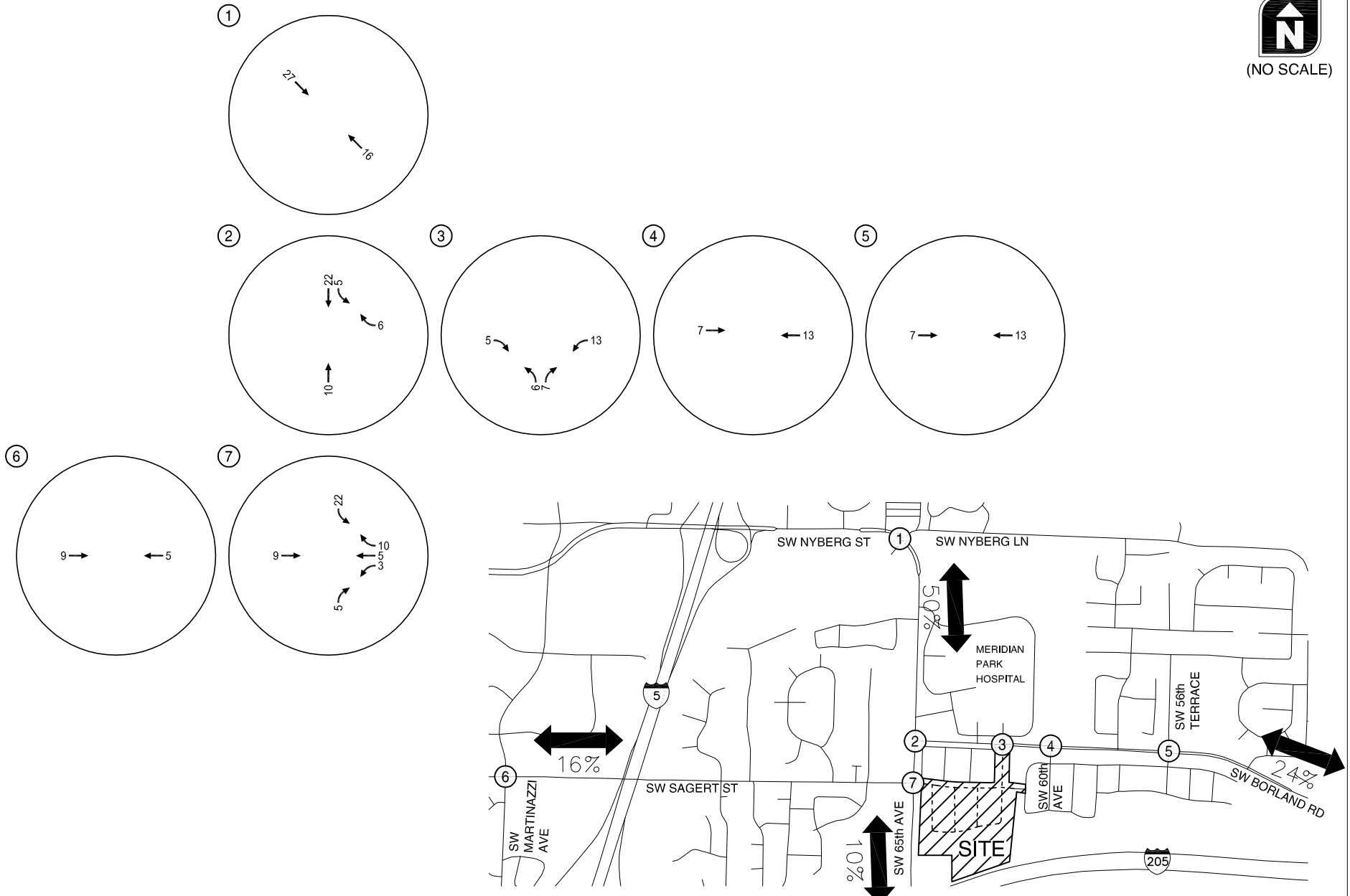


**SITE-GENERATED TRIPS AND TRIP DISTRIBUTION
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON**

**FIGURE
11**



H:\profile\17299 - Sagert Farms\dwg\figs\17299_fig_7_27_2015.dwg Aug 06, 2015 - 3:54pm - pmarmell Layout Tab. 12 Trip Gen PM



**SITE-GENERATED TRIPS AND TRIP DISTRIBUTION
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON**

**FIGURE
12**

2018 Total Traffic Operations

Year 2018 forecast total traffic volumes were developed as described in the previously submitted TIA, but accounting for the above described changes in travel patterns resulting from the proposed SW Borland Road/Meridian Park Hospital access/Proposed SW 61st Terrace intersection. Figures 13 and 14 summarize the operational analysis for all study intersections during the forecast year 2018 total traffic weekday a.m. and p.m. peak hours.

As shown in these figures, all study intersections, with the exception of the SW Martinazzi Avenue/SW Sagert Street intersection, are forecast to operate within acceptable LOS and V/C ratio standards during the forecast year 2018 total traffic a.m. and p.m. peak hours (consistent with the June 2, 2015 TIA). The SW Martinazzi Avenue/SW Sagert Street intersection is forecast to continue to operate at LOS F and is addressed in the previously submitted TIA. *Attachment "E" contains the updated total traffic operation worksheets.*

Queuing

Synchro was used to estimate the 95th percentile queue length in the proposed westbound left-turn lane at the newly proposed SW Borland Road local street connection. The resulting 95th percentile queue is forecast to be 25 feet or less during the weekday a.m. and p.m. total traffic conditions. *The total traffic operation worksheets (Attachment "E") display the results of the 95th percentile queuing analysis.*

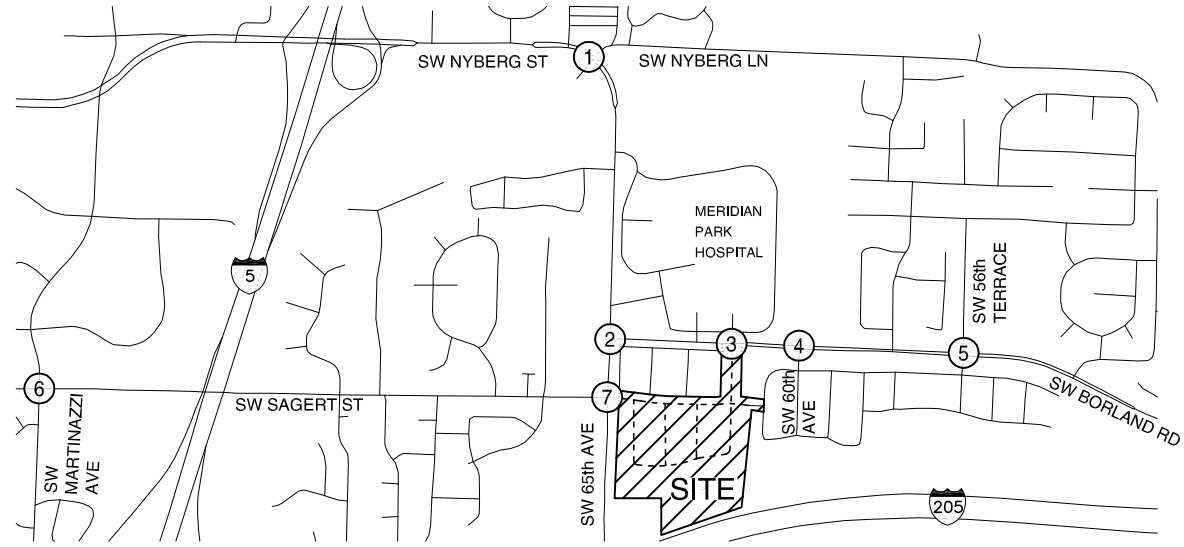
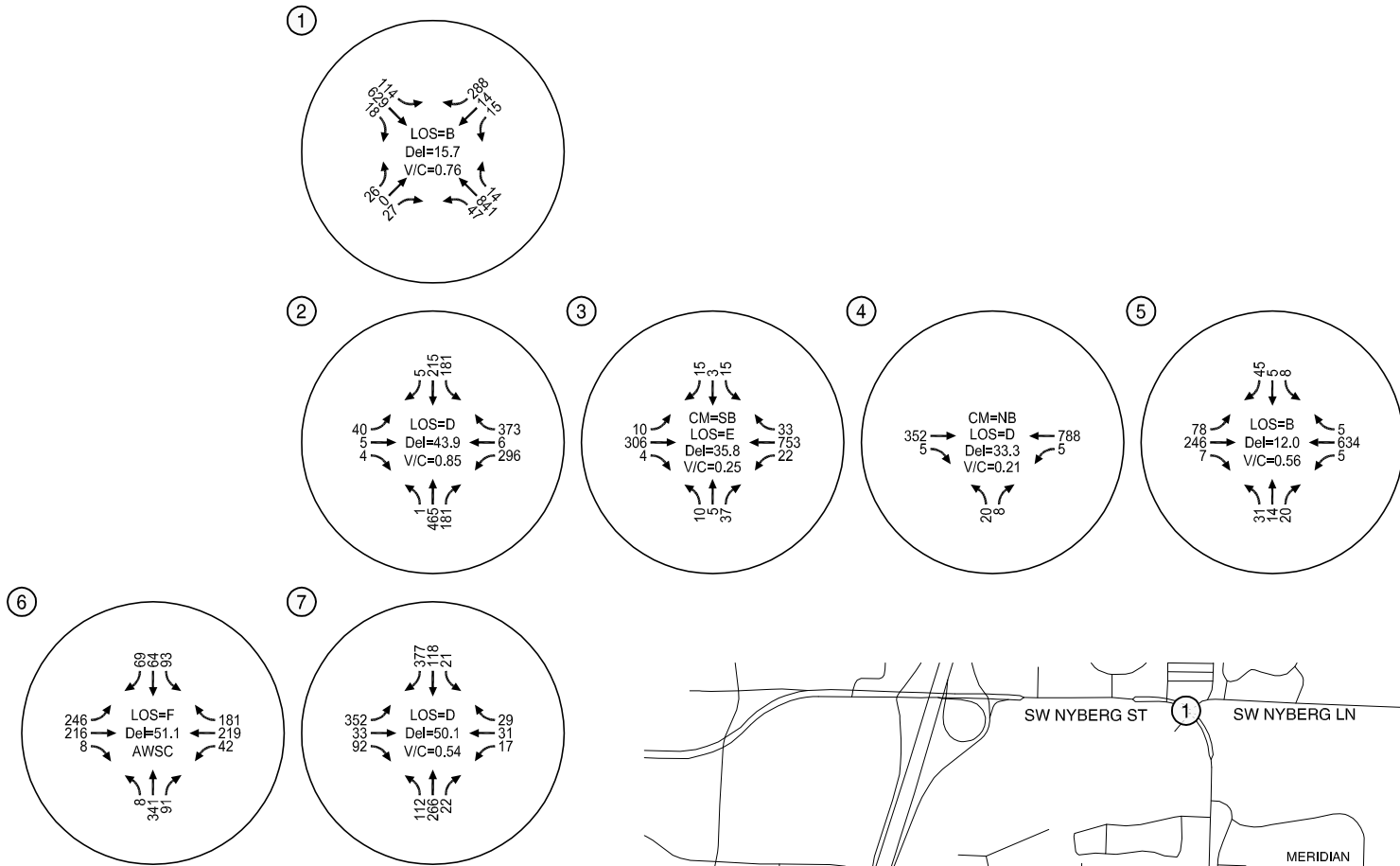
Preliminary Sight Distance Measurement

Preliminary intersection sight distance measurements were made at the proposed SW 61st Terrace connection to SW Borland Road in recognition that there are a large grove of sequoia trees located in the southeast quadrant of the future intersection. Using field measurements and detailed survey information, it was preliminarily determined that sufficient¹ intersection sight distance exists for vehicles on the northbound approach. This is illustrated in Exhibit 1.

¹¹ Clackamas County measures intersection sight distance using a design speed that is equal to the existing posted speed plus 5 mph. This section of SW Borland Road is posted at 35 mph, so the intersection sight distance calculations are based on a 40 mph speed. Using 40 mph, the County-required intersection sight distance looking to the east along SW Borland Road (for left-turns) would be 445 feet. The county-required intersection sight distance looking to the west along Borland Road (for right-turns) would be 385 feet.



H:\profiles\17299 - Sagert Farms\dwg\figs\17299_fig_7_27.2015.dwg Aug 06, 2015 - 3:54pm - pmarnell Layout Tab: 13 TT AM



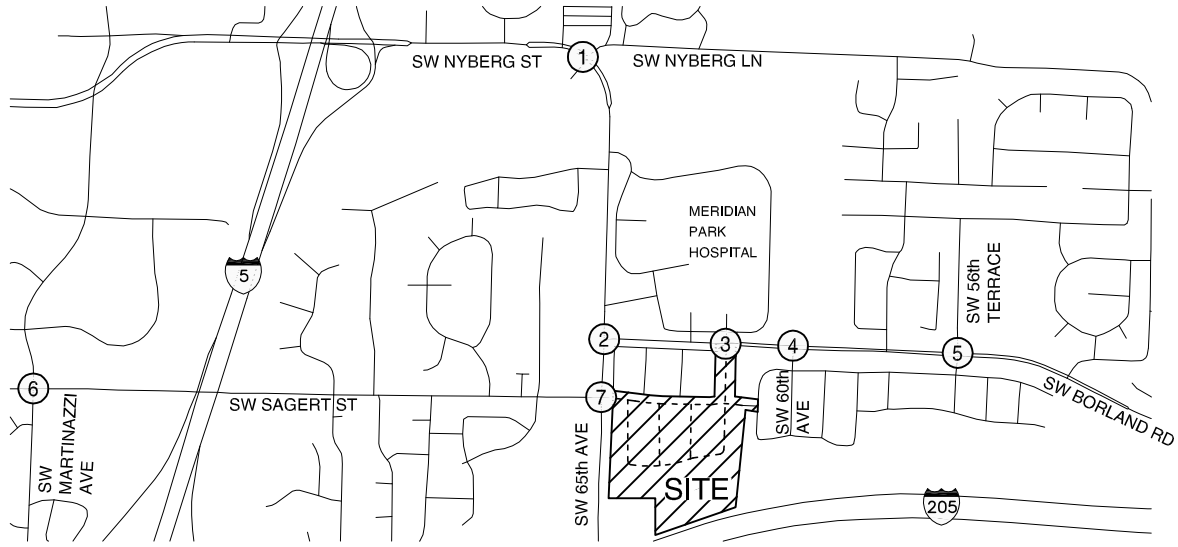
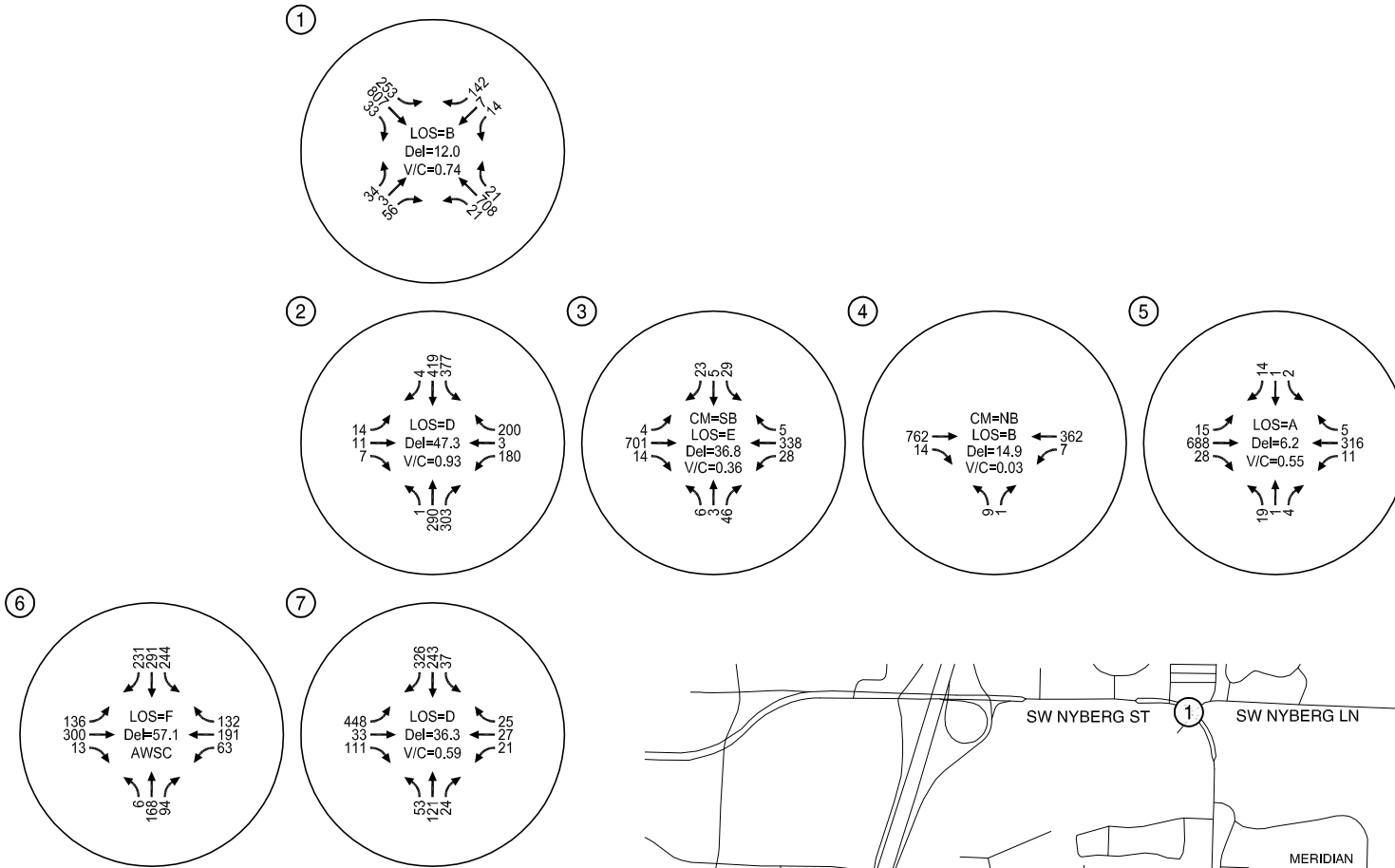
LEGEND

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

**2018 TOTAL TRAFFIC CONDITIONS
 WEEKDAY AM PEAK HOUR
 TUALATIN, OREGON** **FIGURE 13**



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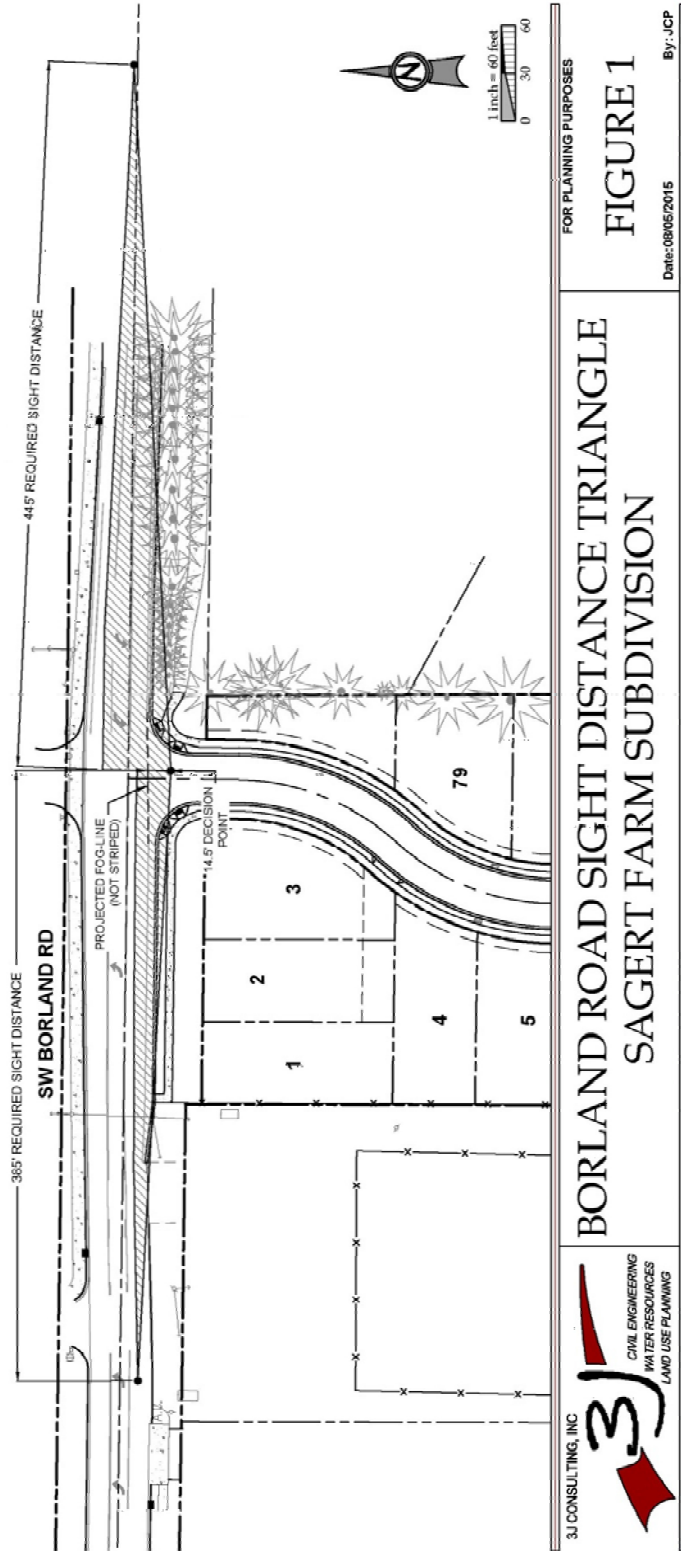
LEGEND

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

2018 TOTAL TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
14

Exhibit 1 – SW Borland Road/SW 61st Terrace Preliminary Sight Distance Exhibit (as prepared by 3J Consulting, Inc. 8/6/15)



Findings

The following list replaces the findings presented previously submitted TIA.

- The existing SW Borland Road/Meridian Park Hospital access intersection operates at acceptable levels of service during the existing weekday a.m. and p.m. peak hours.
- The SW Borland Road/Meridian Park Hospital access intersection is forecast to operate at acceptable levels of service during the forecast year 2018 background weekday a.m. and p.m. peak hours.
- The proposed SW Borland Road/Meridian Park Hospital access intersection/SW 61st Terrace intersection meets the volume-based warrants a westbound left-turn lane.
- The SW Borland Road/Meridian Park Hospital access intersection/SW 61st Terrace intersection is forecast to operate at acceptable levels of service during forecast year 2018 total traffic weekday a.m. and p.m. peak hours.
- All other study intersections are forecast to operate at levels of service and V/C ratios similar to those as described in the previously submitted TIA.
- Preliminary measurements have indicated that sufficient intersection sight distance exists at the proposed northbound approach of SW 61st Terrace at SW Borland Road.

Recommendations

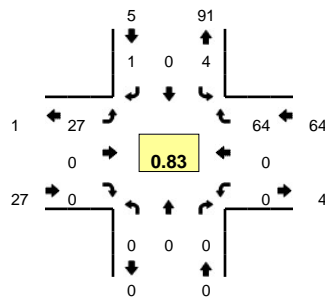
The following list supplements the mitigation measures recommended in the presented previously submitted TIA.

- The SW Borland Road/Meridian Park Hospital access intersection/SW 61st Terrace intersection should be constructed with a westbound left-turn lane.
- Landscaping, signage, and above ground utilities near the SW Borland Road/Meridian Park Hospital access intersection/SW 61st Terrace intersection should be located and maintained to ensure adequate sight distance.

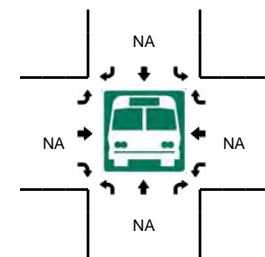
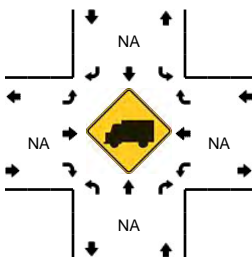
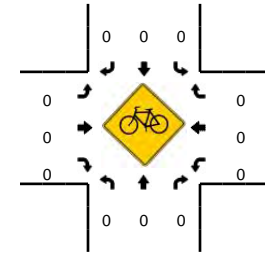
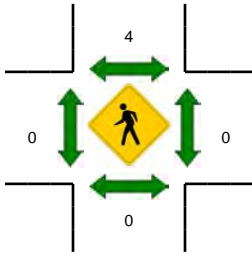
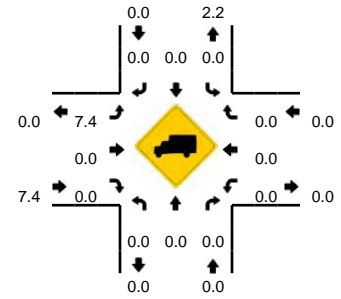
Attachment A
*Additional Traffic Count
Worksheets*

LOCATION: Meridian Park Hospital Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13541803
DATE: Wed, Jul 15 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

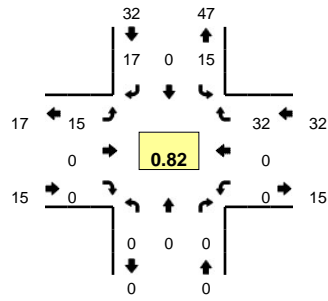


5-Min Count Period Beginning At	Meridian Park Hospital Dwy (Northbound)				Meridian Park Hospital Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5	0	8	
7:35 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5	0	7	
7:40 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	6	
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	0	8	
7:50 AM	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	0	9	
7:55 AM	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	4	0	8	
8:00 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6	0	9	
8:05 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	6	0	8	
8:10 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	9	0	12	
8:15 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5	0	8	
8:20 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	0	6	
8:25 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	6	0	7	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
9:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
9:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
9:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
9:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
All Vehicles	0	0	0	0	4	0	4	0	24	0	0	0	0	0	84	0	116		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pedestrians	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

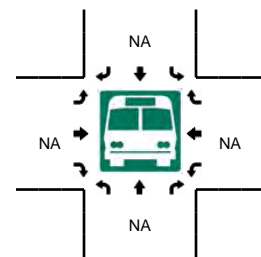
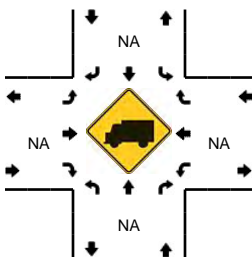
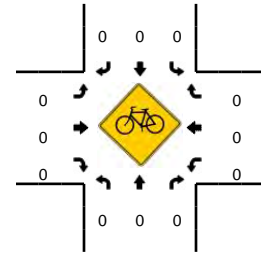
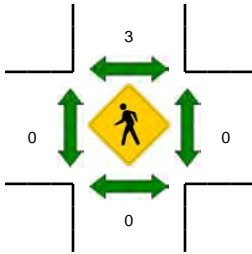
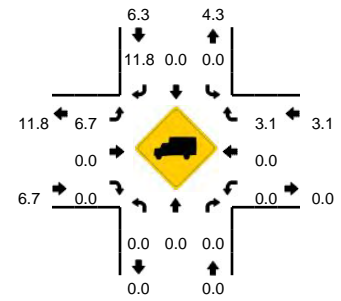
Comments:

LOCATION: Meridian Park Hospital Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13541801
DATE: Wed, Jul 15 2015



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM



5-Min Count Period Beginning At	Meridian Park Hospital Dwy (Northbound)				Meridian Park Hospital Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:30 AM	0	0	0	0	3	0	2	0	2	0	0	0	0	0	2	0	9	
7:35 AM	0	0	0	0	6	0	3	0	0	0	0	0	0	0	1	0	10	
7:40 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	2	0	5	
7:45 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3	0	6	
7:50 AM	0	0	0	0	1	0	2	0	2	0	0	0	0	0	2	0	7	
7:55 AM	0	0	0	0	2	0	1	0	1	0	0	0	0	0	4	0	8	
8:00 AM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3	0	6	
8:05 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	6	
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	
8:20 AM	0	0	0	0	2	0	0	0	2	0	0	0	0	0	6	0	10	
8:25 AM	0	0	0	0	1	0	1	0	3	0	0	0	0	0	2	0	7	79
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
9:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
9:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
9:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
9:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	36	0	24	0	16	0	0	0	0	0	20	0	96	
Heavy Trucks	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

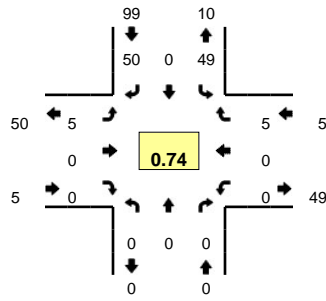
Comments:

Type of peak hour being reported: Intersection Peak

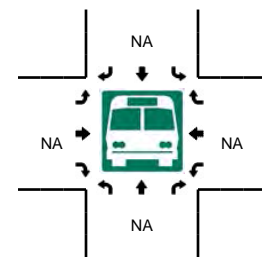
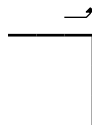
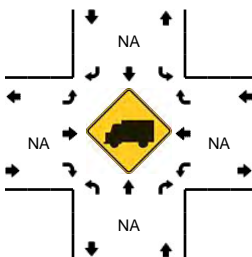
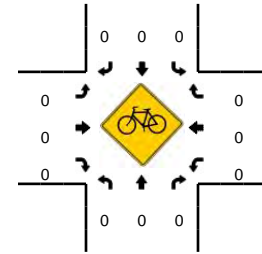
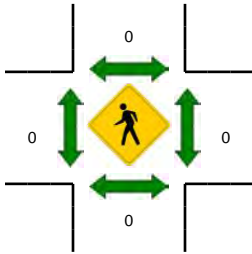
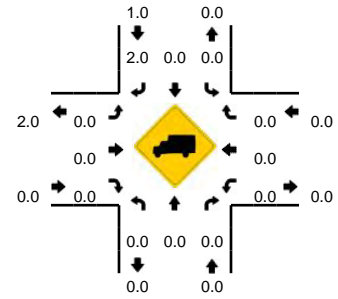
Method for determining peak hour: Total Entering Volume

LOCATION: Meridian Park Hospital Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13541804
DATE: Tue, Jul 14 2015



Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



5-Min Count Period Beginning At	Meridian Park Hospital Dwy (Northbound)				Meridian Park Hospital Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:40 PM	0	0	0	0	4	0	5	0	0	0	0	0	0	0	0	0	9	
4:45 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4	
4:50 PM	0	0	0	0	2	0	5	0	0	0	0	0	0	0	2	0	9	
4:55 PM	0	0	0	0	2	0	4	0	0	0	0	0	0	0	0	0	6	
5:00 PM	0	0	0	0	6	0	6	0	0	0	0	0	0	0	1	0	13	
5:05 PM	0	0	0	0	10	0	4	0	0	0	0	0	0	0	0	0	14	
5:10 PM	0	0	0	0	2	0	8	0	0	0	0	0	0	0	0	0	10	
5:15 PM	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	8	
5:20 PM	0	0	0	0	3	0	4	0	2	0	0	0	0	0	1	0	10	
5:25 PM	0	0	0	0	5	0	3	0	1	0	0	0	0	0	0	0	9	
5:30 PM	0	0	0	0	6	0	1	0	2	0	0	0	0	0	0	0	9	
5:35 PM	0	0	0	0	3	0	4	0	0	0	0	0	0	0	1	0	8	
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
6:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
6:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
6:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
6:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
6:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	72	0	72	0	0	0	0	0	0	0	4	0	148	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

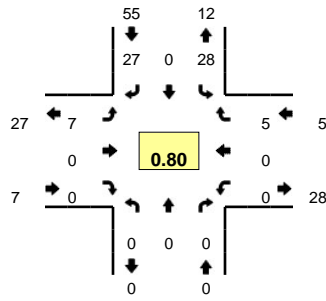
Comments:

Type of peak hour being reported: Intersection Peak

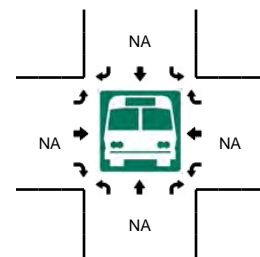
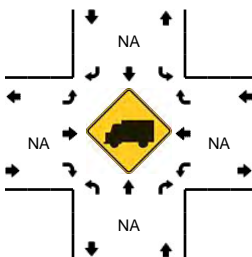
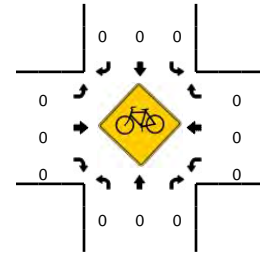
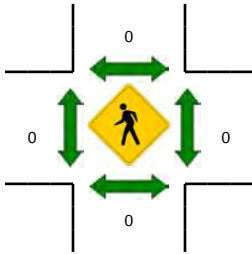
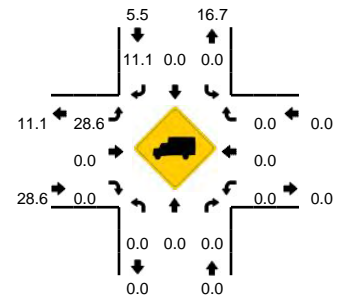
Method for determining peak hour: Total Entering Volume

LOCATION: Meridian Park Hospital Dwy -- SW Borland Rd
CITY/STATE: Tualatin, OR

QC JOB #: 13541802
DATE: Tue, Jul 14 2015



Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:25 PM -- 5:40 PM



5-Min Count Period Beginning At	Meridian Park Hospital Dwy (Northbound)				Meridian Park Hospital Dwy (Southbound)				SW Borland Rd (Eastbound)				SW Borland Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:40 PM	0	0	0	0	4	0	2	0	2	0	0	0	0	0	0	0	8		
4:45 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	1	0	5	
4:50 PM	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	1	0	7	
4:55 PM	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	1	0	4	
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:05 PM	0	0	0	0	4	0	5	0	0	0	0	0	0	0	0	1	0	10	
5:10 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4	
5:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:20 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	4	
5:25 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	0	5	
5:30 PM	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3	
5:35 PM	0	0	0	0	5	0	4	0	4	0	0	0	0	0	0	0	0	13	67
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
6:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
6:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
6:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
6:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
6:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	0	0	0	36	0	24	0	20	0	0	0	0	0	4	0	84		
Heavy Trucks	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Railroad																			
Stopped Buses																			

Comments:

Attachment B
*Additional Existing Traffic
Operation Worksheets*

Sagert Farms
3: SW Borland Rd & Hospital DW

Existing AM Peak Hour - No RIRO + WB LT Lane
7/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↘		↙	
Volume (veh/h)	15	331	768	32	15	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	18	394	914	38	18	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		929				
pX, platoon unblocked					0.99	
vC, conflicting volume	952				1363	933
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	952				1362	933
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				89	94
cM capacity (veh/h)	730				159	325
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	18	394	952	38		
Volume Left	18	0	0	18		
Volume Right	0	0	38	20		
cSH	730	1700	1700	219		
Volume to Capacity	0.02	0.23	0.56	0.17		
Queue Length 95th (ft)	2	0	0	15		
Control Delay (s)	10.1	0.0	0.0	24.9		
Lane LOS	B			C		
Approach Delay (s)	0.4		0.0	24.9		
Approach LOS				C		
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			52.4%		ICU Level of Service	A
Analysis Period (min)			15			

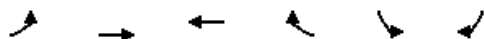


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↘		↙	↘
Volume (veh/h)	7	748	352	5	28	27
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	822	387	5	31	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		929				
pX, platoon unblocked					0.91	
vC, conflicting volume	392				1227	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392				1198	390
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				83	96
cM capacity (veh/h)	1177				186	663
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	8	822	392	60		
Volume Left	8	0	0	31		
Volume Right	0	0	5	30		
cSH	1177	1700	1700	288		
Volume to Capacity	0.01	0.48	0.23	0.21		
Queue Length 95th (ft)	0	0	0	19		
Control Delay (s)	8.1	0.0	0.0	20.8		
Lane LOS	A			C		
Approach Delay (s)	0.1		0.0	20.8		
Approach LOS				C		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			49.4%		ICU Level of Service	A
Analysis Period (min)			15			

Attachment C
*Additional Background
Traffic Operation
Worksheets*



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↘		↙	↘
Volume (veh/h)	15	341	791	33	15	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	18	406	942	39	18	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		929				
pX, platoon unblocked					0.99	
vC, conflicting volume	981				1403	961
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	981				1402	961
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				88	93
cM capacity (veh/h)	712				150	313
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	18	406	981	39		
Volume Left	18	0	0	18		
Volume Right	0	0	39	21		
cSH	712	1700	1700	210		
Volume to Capacity	0.03	0.24	0.58	0.19		
Queue Length 95th (ft)	2	0	0	17		
Control Delay (s)	10.2	0.0	0.0	26.1		
Lane LOS	B			D		
Approach Delay (s)	0.4		0.0	26.1		
Approach LOS				D		
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			53.6%		ICU Level of Service	A
Analysis Period (min)			15			

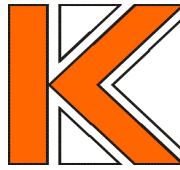


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↘	↙
Volume (veh/h)	7	770	363	5	29	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	846	399	5	32	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		929				
pX, platoon unblocked					0.90	
vC, conflicting volume	404				1263	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	404				1237	402
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				82	95
cM capacity (veh/h)	1165				176	653
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	8	846	404	63		
Volume Left	8	0	0	32		
Volume Right	0	0	5	31		
cSH	1165	1700	1700	274		
Volume to Capacity	0.01	0.50	0.24	0.23		
Queue Length 95th (ft)	0	0	0	22		
Control Delay (s)	8.1	0.0	0.0	22.0		
Lane LOS	A			C		
Approach Delay (s)	0.1		0.0	22.0		
Approach LOS				C		
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			

Attachment D
*Left-Turn Warrant
Analysis Worksheets*

Left-Turn Lane Warrant Analysis

Project #: 17299
 Project Name: Sagert
 Analyst: PSM
 Intersection: Borland/Proposed Road
 Scenario: AM Peak
 Date: 8/5/2015
 File: H:\profile\17299 - Sagert Farms\Excel\[17299_LT Warrant_PM.xls]Main

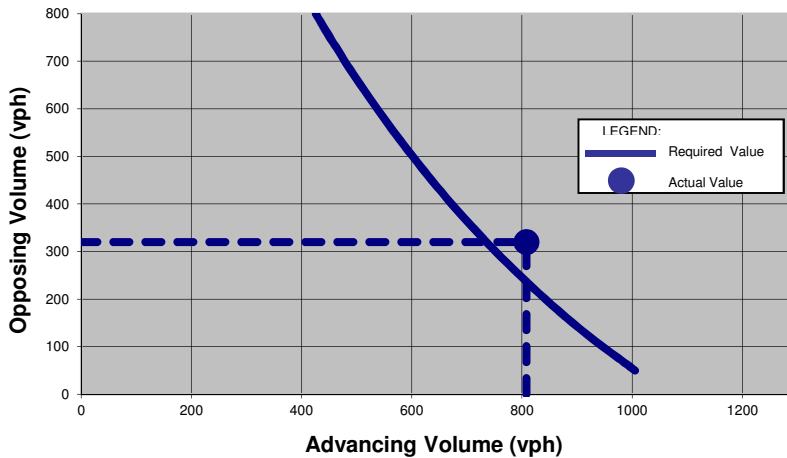


KITTELSON & ASSOCIATES, INC.
 610 SW Alder, Suite 700
 Portland, Oregon 97205
 (503) 228-5230
 Fax: (503) 273-8169

Input Data:

Advancing Volume (vph) =	808
Left-turning Vehicles (vph) =	22
Opposing Volume (vph) =	320
Speed (mph) =	35
Number of Approach Lanes =	1 (not applicable for two lanes)
% Left-Turning Vehicles	3%
Critical Gap (sec) =	5
Maneuver Time (sec) =	3
Exit Time (sec) =	1.9
Utilization Factor =	0.02

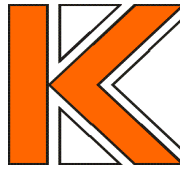
Left-Turn Lane Warrant Analysis Results



* Based on *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* (D. Harmelink)

Left-Turn Lane Warrant Analysis

Project #: 17299
 Project Name: Sagert
 Analyst: PSM
 Intersection: Borland/Proposed Road
 Scenario: PM Peak
 Date: 8/5/2015
 File: H:\profile\17299 - Sagert Farms\Excel\[17299_LT Warrant_PM.xls]Main

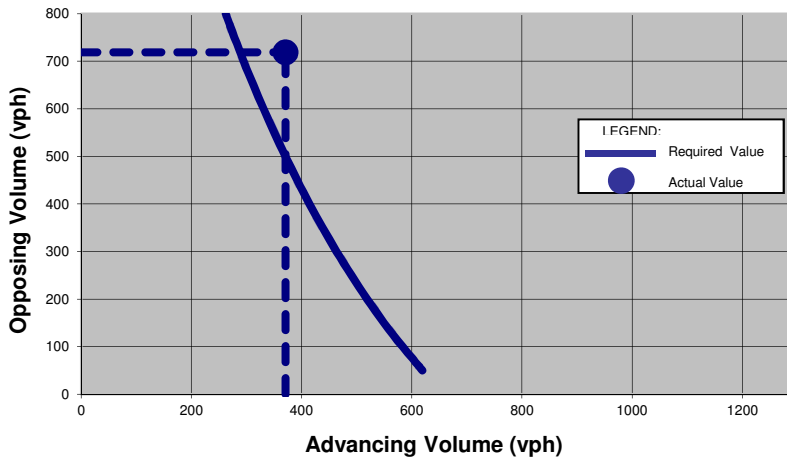


KITTELSON & ASSOCIATES, INC.
 610 SW Alder, Suite 700
 Portland, Oregon 97205
 (503) 228-5230
 Fax: (503) 273-8169

Input Data:

Advancing Volume (vph) =	371
Left-turning Vehicles (vph) =	28
Opposing Volume (vph) =	719
Speed (mph) =	35
Number of Approach Lanes =	1 (not applicable for two lanes)
% Left-Turning Vehicles	8%
Critical Gap (sec) =	5
Maneuver Time (sec) =	3
Exit Time (sec) =	1.9
Utilization Factor =	0.02

Left-Turn Lane Warrant Analysis Results



* Based on *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* (D. Harmelink)

Attachment E
*Updated Background
Traffic Operation
Worksheets*

2018 Total Traffic AM Peak Hour - No RIRO + WB LT Lane
 1: SW Nyberg Ln & SW Nyberg St/SW 65th Ave

Sagert Farms
 8/5/2015




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	629	18	47	841	14	26	0	27	15	14	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	1.00
Satd. Flow (prot)	1787	1817		1686	3496			1726	1442		1786	1583
Flt Permitted	0.19	1.00		0.24	1.00			0.74	1.00		0.85	1.00
Satd. Flow (perm)	356	1817		433	3496			1337	1442		1561	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	699	20	52	934	16	29	0	30	17	16	320
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	25	0	0	45
Lane Group Flow (vph)	127	718	0	52	949	0	0	29	5	0	33	275
Confl. Peds. (#/hr)			6	6			4		1	1		4
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	4%	6%	7%	3%	0%	4%	0%	12%	7%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4 5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.4	35.6		34.2	31.0			12.3	12.3		12.3	26.1
Effective Green, g (s)	43.4	35.6		34.2	31.0			12.3	12.3		12.3	26.1
Actuated g/C Ratio	0.63	0.52		0.49	0.45			0.18	0.18		0.18	0.38
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	385	936		272	1568			237	256		277	597
v/s Ratio Prot	0.04	c0.40		0.01	0.27				0.00			c0.17
v/s Ratio Perm	0.17			0.09				0.02			0.02	
v/c Ratio	0.33	0.77		0.19	0.61			0.12	0.02		0.12	0.46
Uniform Delay, d1	6.8	13.4		10.2	14.4			23.9	23.4		23.9	16.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	3.6		0.3	0.6			0.1	0.0		0.1	0.2
Delay (s)	7.1	17.1		10.4	15.0			23.9	23.4		23.9	16.4
Level of Service	A	B		B	B			C	C		C	B
Approach Delay (s)		15.6			14.7			23.7			17.1	
Approach LOS		B			B			C			B	

Intersection Summary		
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	69.1	Sum of lost time (s) 18.0
Intersection Capacity Utilization	62.1%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group




















2018 Total Traffic AM Peak Hour - NO RIRO + WB LT Lane
2: SW 65th Ave & SW Borland Rd

Sagert Farms
8/6/2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	40	5	4	296	6	373	1	465	181	181	215	5	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Grade (%)		0%			0%			2%			6%		
Total Lost time (s)		5.6			5.3	5.3	3.5	4.8		4.8	4.8		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Flt		0.99			1.00	0.85	1.00	0.96		1.00	1.00		
Flt Protected		0.96			0.95	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1502			1605	1444	1646	1594		1507	1577		
Flt Permitted		0.96			0.95	1.00	0.62	1.00		0.19	1.00		
Satd. Flow (perm)		1502			1605	1444	1067	1594		304	1577		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	42	5	4	308	6	389	1	484	189	189	224	5	
RTOR Reduction (vph)	0	2	0	0	0	227	0	10	0	0	0	0	
Lane Group Flow (vph)	0	49	0	0	314	162	1	663	0	189	229	0	
Heavy Vehicles (%)	13%	0%	0%	4%	0%	3%	0%	3%	7%	7%	7%	20%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	8	8		4	4	4 5	1	6 9		5	2 10		
Permitted Phases							6 9			2 10			
Actuated Green, G (s)		5.2			26.6	32.8	66.3	65.5		77.0	72.2		
Effective Green, g (s)		5.7			27.1	33.8	67.8	66.5		78.0	73.2		
Actuated g/C Ratio		0.04			0.21	0.26	0.52	0.51		0.60	0.56		
Clearance Time (s)		6.1			5.8		4.0			5.3			
Vehicle Extension (s)		1.0			2.0		3.0			2.5			
Lane Grp Cap (vph)		65			334	375	562	815		244	887		
v/s Ratio Prot		c0.03			c0.20	0.11	0.00	c0.42		c0.04	0.14		
v/s Ratio Perm							0.00			c0.42			
v/c Ratio		0.76			0.94	0.43	0.00	0.81		0.77	0.26		
Uniform Delay, d1		61.5			50.7	40.1	14.9	26.6		42.8	14.5		
Progression Factor		1.00			1.00	1.00	1.09	0.93		1.00	1.00		
Incremental Delay, d2		35.0			33.6	0.3	0.0	5.1		13.7	0.2		
Delay (s)		96.5			84.2	40.4	16.2	29.7		56.5	14.7		
Level of Service		F			F	D	B	C		E	B		
Approach Delay (s)		96.5			60.0			29.6			33.6		
Approach LOS		F			E			C			C		
Intersection Summary													
HCM 2000 Control Delay			43.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	25.0
Intersection Capacity Utilization			82.3%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

2018 Total Traffic AM Peak Hour - No RIRO + WB LT Lane
3: Proposed Road & SW Borland Rd

Sagert Farms
8/5/2015



















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	10	306	4	22	753	33	10	5	37	15	3	15	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Hourly flow rate (vph)	12	364	5	26	896	39	12	6	44	18	4	18	
Pedestrians								1					
Lane Width (ft)								12.0					
Walking Speed (ft/s)								4.0					
Percent Blockage								0					
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (ft)		929											
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99		
vC, conflicting volume	936			370			1360	1380	368	1404	1362	916	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	936			354			1358	1378	352	1402	1360	916	
tC, single (s)	4.1			4.1			7.4	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.8	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	98			98			88	96	94	83	97	95	
cM capacity (veh/h)	740			1198			96	139	686	103	142	333	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1							
Volume Total	12	369	26	936	62	39							
Volume Left	12	0	26	0	12	18							
Volume Right	0	5	0	39	44	18							
cSH	740	1700	1198	1700	268	156							
Volume to Capacity	0.02	0.22	0.02	0.55	0.23	0.25							
Queue Length 95th (ft)	1	0	2	0	22	24							
Control Delay (s)	9.9	0.0	8.1	0.0	22.4	35.8							
Lane LOS	A		A		C	E							
Approach Delay (s)	0.3		0.2		22.4	35.8							
Approach LOS					C	E							
Intersection Summary													
Average Delay			2.2										
Intersection Capacity Utilization			52.2%		ICU Level of Service				A				
Analysis Period (min)			15										



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Volume (veh/h)	352	5	5	788	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	419	6	6	938	24	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)				1220		
pX, platoon unblocked					0.71	
vC, conflicting volume			425		1372	422
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			425		1319	422
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		81	99
cM capacity (veh/h)			1145		123	636
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	425	6	938	33		
Volume Left	0	6	0	24		
Volume Right	6	0	0	10		
cSH	1700	1145	1700	160		
Volume to Capacity	0.25	0.01	0.55	0.21		
Queue Length 95th (ft)	0	0	0	19		
Control Delay (s)	0.0	8.2	0.0	33.3		
Lane LOS			A	D		
Approach Delay (s)	0.0	0.1		33.3		
Approach LOS				D		
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			51.5%	ICU Level of Service	A	
Analysis Period (min)			15			

2018 Total Traffic AM Peak Hour - No RIRO + WB LT Lane
5: SW 56th Ter & SW Borland Rd

Sagert Farms
8/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	246	7	5	634	5	31	14	20	8	5	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Frt	1.00	1.00		1.00	1.00			0.96			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1597	1804		1504	1842			1700			1611	
Flt Permitted	0.24	1.00		0.59	1.00			0.87			0.95	
Satd. Flow (perm)	402	1804		927	1842			1509			1546	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	88	276	8	6	712	6	35	16	22	9	6	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	46	0
Lane Group Flow (vph)	88	284	0	6	718	0	0	57	0	0	20	0
Confl. Peds. (#/hr)	3						3		40	40		
Heavy Vehicles (%)	13%	5%	0%	20%	3%	0%	0%	0%	5%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	60.1	54.0		48.3	47.4			7.9			7.9	
Effective Green, g (s)	60.1	54.0		48.3	47.4			7.9			7.9	
Actuated g/C Ratio	0.77	0.69		0.62	0.60			0.10			0.10	
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0			3.0	
Lane Grp Cap (vph)	422	1242		577	1113			152			155	
v/s Ratio Prot	c0.02	0.16		0.00	c0.39							
v/s Ratio Perm	0.14			0.01				c0.04			0.01	
v/c Ratio	0.21	0.23		0.01	0.65			0.37			0.13	
Uniform Delay, d1	5.4	4.5		5.8	10.0			32.9			32.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	1.4			1.5			0.4	
Delay (s)	5.6	4.6		5.8	11.5			34.5			32.5	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		4.9			11.4			34.5			32.5	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			78.4			Sum of lost time (s)		15.6				
Intersection Capacity Utilization			65.4%			ICU Level of Service		C				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Intersection Delay, s/veh	51.1											
Intersection LOS	F											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	246	216	8	0	42	219	181	0	8	341	91
Peak Hour Factor	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	3	2	25	2	2	4	2	2	0	2	7
Mvmt Flow	0	251	220	8	0	43	223	185	0	8	348	93
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	2
HCM Control Delay	28.1	69.5	75.1
HCM LOS	D	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	79%	0%	96%	0%	55%	0%	100%	0%
Vol Right, %	0%	21%	0%	4%	0%	45%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	432	246	224	42	400	93	64	69
LT Vol	8	0	246	0	42	0	93	0	0
Through Vol	0	341	0	216	0	219	0	64	0
RT Vol	0	91	0	8	0	181	0	0	69
Lane Flow Rate	8	441	251	229	43	408	95	65	70
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.022	1	0.685	0.589	0.116	1	0.285	0.187	0.189
Departure Headway (Hd)	9.787	9.178	9.822	9.283	9.75	8.972	10.799	10.334	9.653
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	366	397	369	391	368	404	334	348	372
Service Time	7.532	6.923	7.543	7.003	7.494	6.717	8.529	8.065	7.384
HCM Lane V/C Ratio	0.022	1.111	0.68	0.586	0.117	1.01	0.284	0.187	0.188
HCM Control Delay	12.8	76.3	31.4	24.5	13.8	75.4	17.8	15.4	14.6
HCM Lane LOS	B	F	D	C	B	F	C	C	B
HCM 95th-tile Q	0.1	12.1	4.9	3.6	0.4	12.2	1.2	0.7	0.7

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	93	64	69
Peak Hour Factor	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	4	6	7
Mvmt Flow	0	95	65	70
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	16.1
HCM LOS	C

Lane

2018 Total Traffic AM Peak Hour - NO RIRO + WB LT Lane
7: SW 65th Ave & SW Sagert St

Sagert Farms
8/6/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	352	33	92	17	31	29	112	266	22	21	118	377
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			6%			-2%	
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	1505		1662	1623		1581	1601		1674	1652	1417
Flt Permitted	0.95	1.00		0.95	1.00		0.67	1.00		0.49	1.00	1.00
Satd. Flow (perm)	1583	1505		1662	1623		1123	1601		866	1652	1417
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	36	100	18	34	32	122	289	24	23	128	410
RTOR Reduction (vph)	0	70	0	0	30	0	0	2	0	0	0	208
Lane Group Flow (vph)	383	66	0	18	36	0	122	311	0	23	128	202
Confl. Peds. (#/hr)			2	2					2	2		
Heavy Vehicles (%)	5%	0%	2%	0%	0%	0%	2%	5%	0%	0%	7%	6%
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2 10			6 9	
Permitted Phases							2 10			6 9		6 9
Actuated Green, G (s)	39.5	39.5		6.3	6.3		64.2	64.2		64.2	64.2	64.2
Effective Green, g (s)	39.5	39.5		6.3	6.3		64.2	64.2		64.2	64.2	64.2
Actuated g/C Ratio	0.30	0.30		0.05	0.05		0.49	0.49		0.49	0.49	0.49
Clearance Time (s)	5.0	5.0		5.0	5.0							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Lane Grp Cap (vph)	480	457		80	78		554	790		427	815	699
v/s Ratio Prot	c0.24	0.04		0.01	c0.02			c0.19			0.08	
v/s Ratio Perm							0.11			0.03		0.14
v/c Ratio	0.80	0.15		0.23	0.46		0.22	0.39		0.05	0.16	0.29
Uniform Delay, d1	41.6	33.0		59.5	60.2		18.7	20.7		17.1	18.1	19.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.74	0.72	5.01
Incremental Delay, d2	9.0	0.1		1.4	4.2		0.2	0.3		0.0	0.1	0.2
Delay (s)	50.6	33.1		60.9	64.4		18.9	21.0		12.8	13.0	97.6
Level of Service	D	C		E	E		B	C		B	B	F
Approach Delay (s)		46.0			63.6			20.4			74.8	
Approach LOS		D			E			C			E	

Intersection Summary

HCM 2000 Control Delay	50.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2016 Total Traffic PM Peak Hour - No RIRO + WB LT lane
 1: SW Nyberg St & 65th Ave/Nyberg St

Sagert Farms
 8/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	253	807	33	21	708	21	34	3	56	14	7	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1787	1869		1752	3516			1800	1615		1749	1599
Flt Permitted	0.27	1.00		0.21	1.00			0.73	1.00		0.78	1.00
Satd. Flow (perm)	513	1869		384	3516			1366	1615		1406	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	272	868	35	23	761	23	37	3	60	15	8	153
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	55	0	0	84
Lane Group Flow (vph)	272	902	0	23	782	0	0	40	5	0	23	69
Confl. Peds. (#/hr)	1		5	5		1	7					7
Heavy Vehicles (%)	1%	1%	0%	3%	2%	7%	0%	0%	0%	8%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Prot	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8	8		4	4.5
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.4	43.5		38.5	36.6			6.3	6.3		6.3	21.1
Effective Green, g (s)	51.4	43.5		38.5	36.6			6.3	6.3		6.3	21.1
Actuated g/C Ratio	0.74	0.62		0.55	0.53			0.09	0.09		0.09	0.30
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	2.4	2.5		2.6	2.5			1.6	1.6		1.6	
Lane Grp Cap (vph)	539	1166		249	1846			123	145		127	484
v/s Ratio Prot	c0.06	c0.48		0.00	0.22				0.00			0.04
v/s Ratio Perm	0.31			0.05				c0.03			0.02	
v/c Ratio	0.50	0.77		0.09	0.42			0.33	0.04		0.18	0.14
Uniform Delay, d1	4.0	9.5		8.4	10.1			29.7	28.9		29.3	17.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	3.1		0.1	0.1			0.6	0.0		0.3	0.0
Delay (s)	4.5	12.6		8.6	10.2			30.3	29.0		29.6	17.8
Level of Service	A	B		A	B			C	C		C	B
Approach Delay (s)		10.8			10.2			29.5			19.3	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

2016 Total Traffic PM Peak Hour - No RIRO + WB LT lane
2: SW 65th Ave & Borland Rd

Sagert Farms
8/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	11	7	180	3	200	1	290	303	377	419	4
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			2%			6%	
Total Lost time (s)		5.6			5.3	5.3	4.8	4.8		4.8	4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frb, ped/bikes		1.00			1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1618			1629	1473	1646	1542		1597	1679	
Flt Permitted		0.98			0.95	1.00	0.51	1.00		0.10	1.00	
Satd. Flow (perm)		1618			1629	1473	879	1542		168	1679	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	11	7	188	3	208	1	302	316	393	436	4
RTOR Reduction (vph)	0	7	0	0	0	127	0	27	0	0	0	0
Lane Group Flow (vph)	0	26	0	0	191	81	1	591	0	393	440	0
Confl. Peds. (#/hr)	10					10			4	4		
Heavy Vehicles (%)	6%	0%	0%	2%	25%	1%	0%	2%	2%	1%	1%	0%
Turn Type	Split	NA		Split	NA	pt+ov	custom	NA		custom	NA	
Protected Phases	8	8		4	4	4 5	1	6 9		5	2 10	
Permitted Phases							6			2		
Actuated Green, G (s)		3.4			18.2	49.5	35.6	49.3		71.2	79.1	
Effective Green, g (s)		3.9			18.7	50.5	36.6	50.3		71.7	80.1	
Actuated g/C Ratio		0.03			0.14	0.39	0.28	0.39		0.55	0.62	
Clearance Time (s)		6.1			5.8		5.3			5.3		
Vehicle Extension (s)		1.0			2.0		1.0			2.5		
Lane Grp Cap (vph)		48			234	572	256	596		442	1034	
v/s Ratio Prot		c0.02			c0.12	0.05	0.00	c0.38		c0.22	0.26	
v/s Ratio Perm							0.00			0.27		
v/c Ratio		0.55			0.82	0.14	0.00	0.99		0.89	0.43	
Uniform Delay, d1		62.2			54.0	25.7	33.6	39.6		37.4	13.0	
Progression Factor		1.00			1.00	1.00	1.45	0.86		1.00	1.00	
Incremental Delay, d2		6.6			18.4	0.0	0.0	29.8		19.0	0.3	
Delay (s)		68.8			72.4	25.8	48.7	63.9		56.4	13.3	
Level of Service		E			E	C	D	E		E	B	
Approach Delay (s)		68.8			48.1			63.9			33.6	
Approach LOS		E			D			E			C	




















Intersection Summary

HCM 2000 Control Delay	47.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	26.8
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

2016 Total Traffic PM Peak Hour - No RIRO + WB LT lane
3: Proposed Road & SW Borland Rd

Sagert Farms
8/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	701	14	28	338	5	6	3	46	29	5	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	4	770	15	31	371	5	7	3	51	32	5	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		929										
pX, platoon unblocked				0.85			0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	377			786			1248	1225	778	1267	1230	374
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	377			663			1204	1178	654	1227	1184	374
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			95	98	87	71	96	96
cM capacity (veh/h)	1193			798			126	157	401	111	156	677
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	4	786	31	377	60	63						
Volume Left	4	0	31	0	7	32						
Volume Right	0	15	0	5	51	25						
cSH	1193	1700	798	1700	303	174						
Volume to Capacity	0.00	0.46	0.04	0.22	0.20	0.36						
Queue Length 95th (ft)	0	0	3	0	18	38						
Control Delay (s)	8.0	0.0	9.7	0.0	19.8	36.8						
Lane LOS	A		A		C	E						
Approach Delay (s)	0.0		0.7		19.8	36.8						
Approach LOS					C	E						
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			54.4%		ICU Level of Service				A			
Analysis Period (min)			15									






















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Volume (veh/h)	762	14	7	362	9	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	847	16	8	402	10	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		TWLTL			
Median storage (veh)	2					
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			862		1272	854
vC1, stage 1 conf vol	854					
vC2, stage 2 conf vol	418					
vCu, unblocked vol			862		1272	854
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)	5.4					
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	100
cM capacity (veh/h)			789		378	361

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	862	8	402	11
Volume Left	0	8	0	10
Volume Right	16	0	0	1
cSH	1700	789	1700	376
Volume to Capacity	0.51	0.01	0.24	0.03
Queue Length 95th (ft)	0	1	0	2
Control Delay (s)	0.0	9.6	0.0	14.9
Lane LOS		A		B
Approach Delay (s)	0.0	0.2		14.9
Approach LOS				B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		51.0%	ICU Level of Service A
Analysis Period (min)		15	

2016 Total Traffic PM Peak Hour - No RIRO + WB LT lane
5: SW 56th Terrace & Borland Rd

Sagert Farms
8/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	688	28	11	316	5	19	1	4	2	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2		5.2	5.2			5.2			5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1797	1869		1805	1876			1647			1640	
Flt Permitted	0.55	1.00		0.29	1.00			0.82			0.96	
Satd. Flow (perm)	1045	1869		560	1876			1408			1577	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	748	30	12	343	5	21	1	4	2	1	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	14	0
Lane Group Flow (vph)	16	777	0	12	348	0	0	22	0	0	4	0
Confl. Peds. (#/hr)	8		1	1		8	3		3	3		3
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	50%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	53.0	52.1		53.0	52.1			4.4				4.4
Effective Green, g (s)	53.0	52.1		53.0	52.1			4.4				4.4
Actuated g/C Ratio	0.73	0.71		0.73	0.71			0.06				0.06
Clearance Time (s)	5.2	5.2		5.2	5.2			5.2				5.2
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.0				3.0
Lane Grp Cap (vph)	767	1333		421	1338			84				95
v/s Ratio Prot	0.00	c0.42		c0.00	0.19							
v/s Ratio Perm	0.01			0.02				c0.02				0.00
v/c Ratio	0.02	0.58		0.03	0.26			0.26				0.04
Uniform Delay, d1	2.8	5.1		3.6	3.7			32.8				32.3
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.0	0.8		0.0	0.1			1.7				0.2
Delay (s)	2.8	5.9		3.6	3.8			34.4				32.5
Level of Service	A	A		A	A			C				C
Approach Delay (s)		5.8			3.8			34.4				32.5
Approach LOS		A			A			C				C

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	244	291	231
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	257	306	243
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	43.6
HCM LOS	E

Lane

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	244	291	231
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	2	0	2
Mvmt Flow	0	257	306	243
Number of Lanes	0	1	1	1

Approach SB

Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	43.6
HCM LOS	E

Lane

2016 Total Traffic PM Peak Hour - No RIRO + WB LT lane
7: 65th Ave & Sagert St

Sagert Farms
8/5/2015

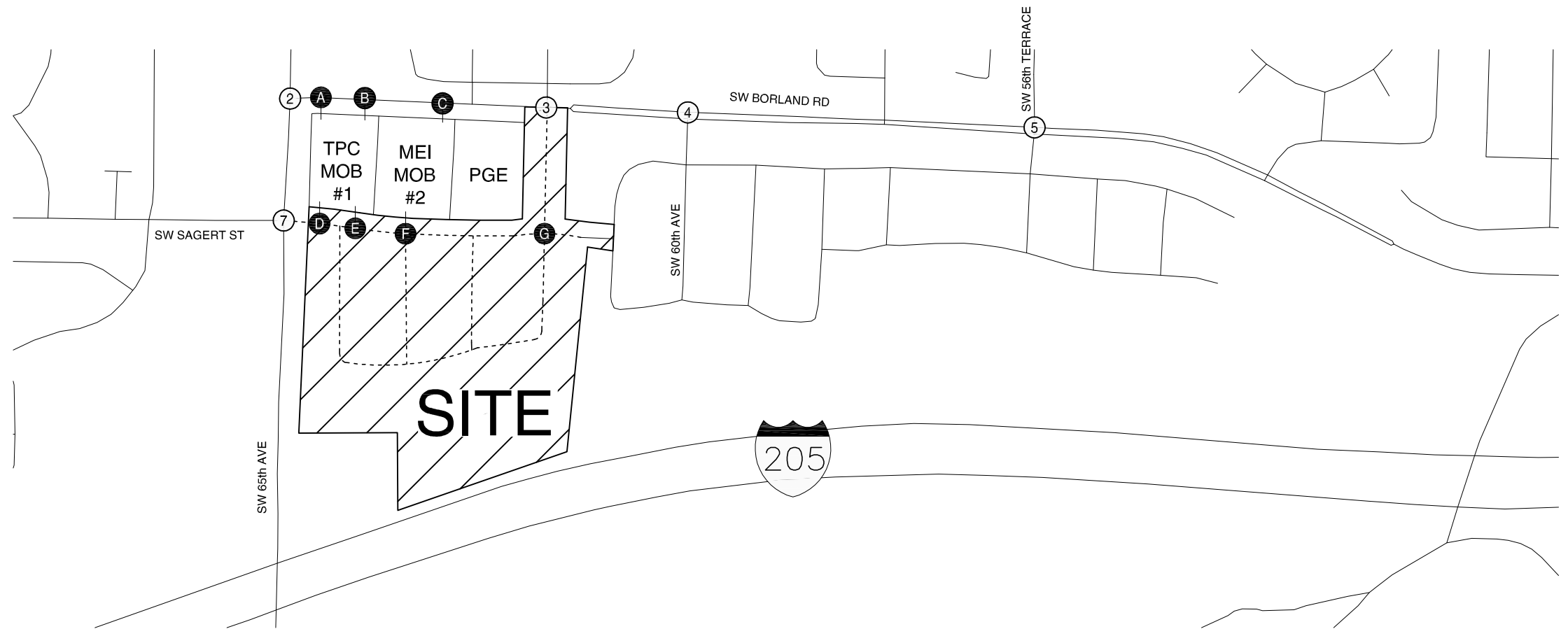
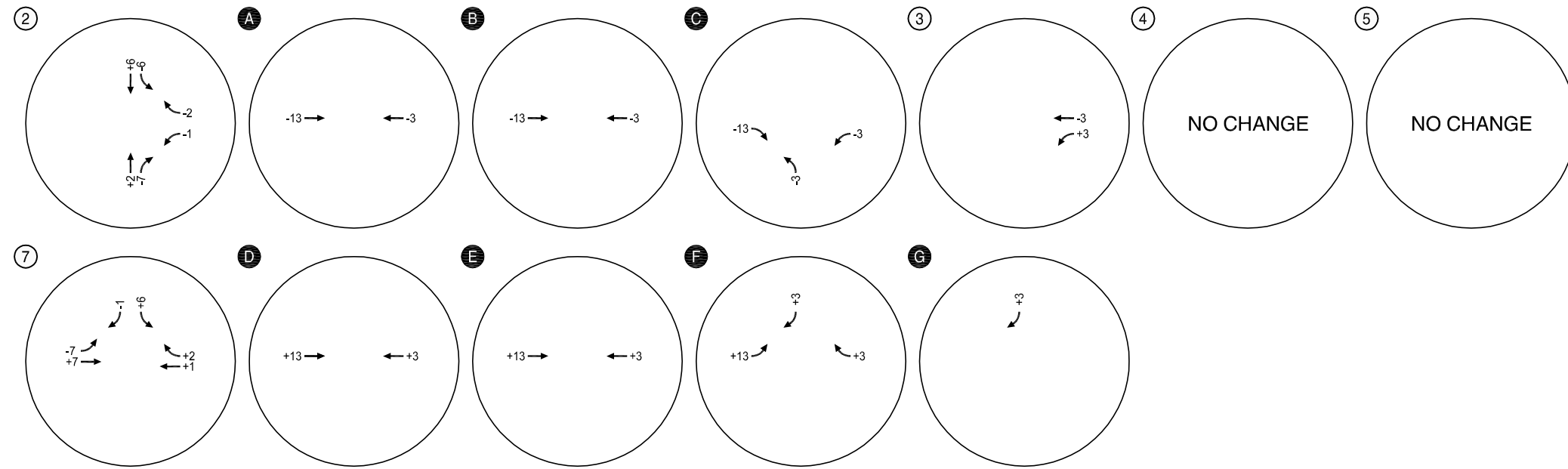
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	448	33	111	21	27	25	53	121	24	37	243	326
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			6%			-2%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.88		1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1508		1662	1623		1536	1607		1671	1733	1488
Flt Permitted	0.95	1.00		0.95	1.00		0.52	1.00		0.63	1.00	1.00
Satd. Flow (perm)	1630	1508		1662	1623		846	1607		1114	1733	1488
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	477	35	118	22	29	27	56	129	26	39	259	347
RTOR Reduction (vph)	0	80	0	0	26	0	0	4	0	0	0	86
Lane Group Flow (vph)	477	73	0	22	30	0	56	151	0	39	259	261
Confl. Peds. (#/hr)			1	1					2	2		
Heavy Vehicles (%)	2%	0%	1%	0%	0%	0%	5%	3%	0%	0%	2%	1%
Turn Type	Split	NA		Split	NA		custom	NA		custom	NA	custom
Protected Phases	4	4		8	8			2 10			6 9	
Permitted Phases							2			6		6
Actuated Green, G (s)	42.4	42.4		5.8	5.8		53.5	65.8		53.5	65.8	53.5
Effective Green, g (s)	42.4	42.4		5.8	5.8		53.5	65.8		53.5	65.8	53.5
Actuated g/C Ratio	0.33	0.33		0.04	0.04		0.41	0.51		0.41	0.51	0.41
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0			4.0		4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0		3.0
Lane Grp Cap (vph)	531	491		74	72		348	813		458	877	612
v/s Ratio Prot	c0.29	0.05		0.01	c0.02			0.09			c0.15	
v/s Ratio Perm							0.07			0.04		c0.18
v/c Ratio	0.90	0.15		0.30	0.42		0.16	0.19		0.09	0.30	0.43
Uniform Delay, d1	41.7	31.0		60.1	60.5		24.1	17.5		23.3	18.6	27.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.97	0.90	0.90
Incremental Delay, d2	17.8	0.1		2.2	3.9		1.0	0.1		0.3	0.2	2.0
Delay (s)	59.5	31.2		62.4	64.4		25.1	17.6		23.0	16.9	26.7
Level of Service	E	C		E	E		C	B		C	B	C
Approach Delay (s)		52.6			63.8			19.6			22.5	
Approach LOS		D			E			B			C	

Intersection Summary

HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Appendix F
Assumed Re-routing of
Trips

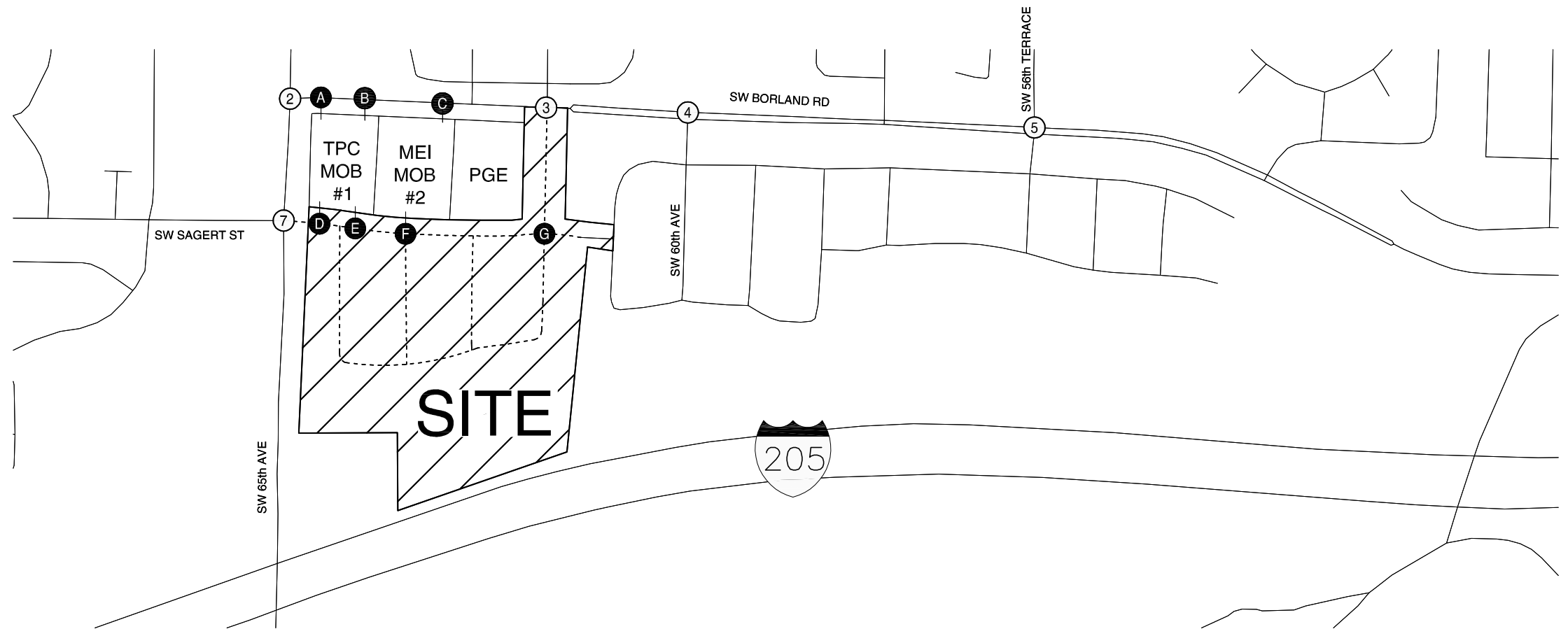
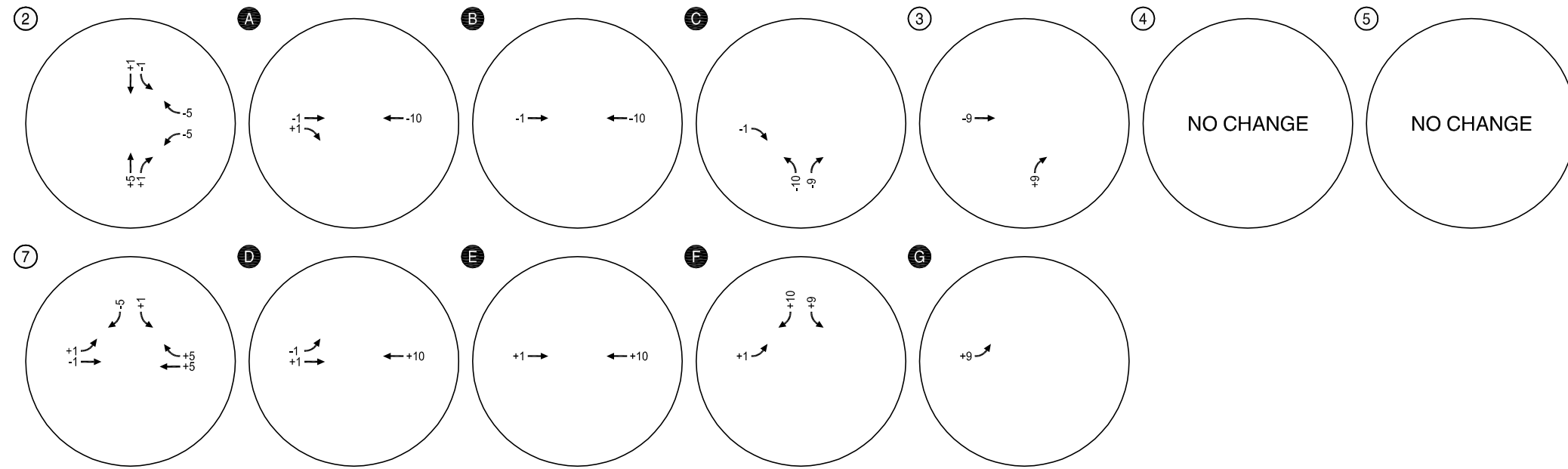


- LEGEND**
- ① - STUDY INTERSECTIONS
 - A - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING MEDICAL OFFICE BUILDING TRIPS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON

FIGURE
F1

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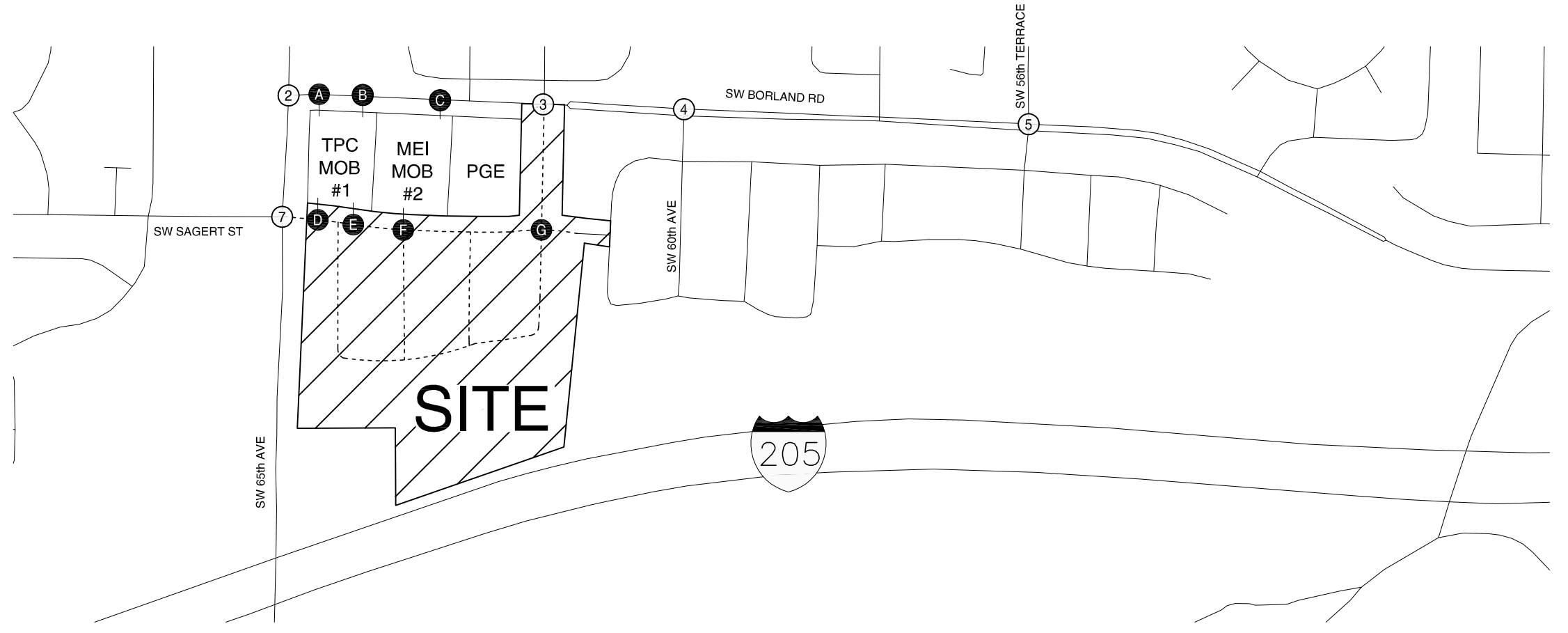
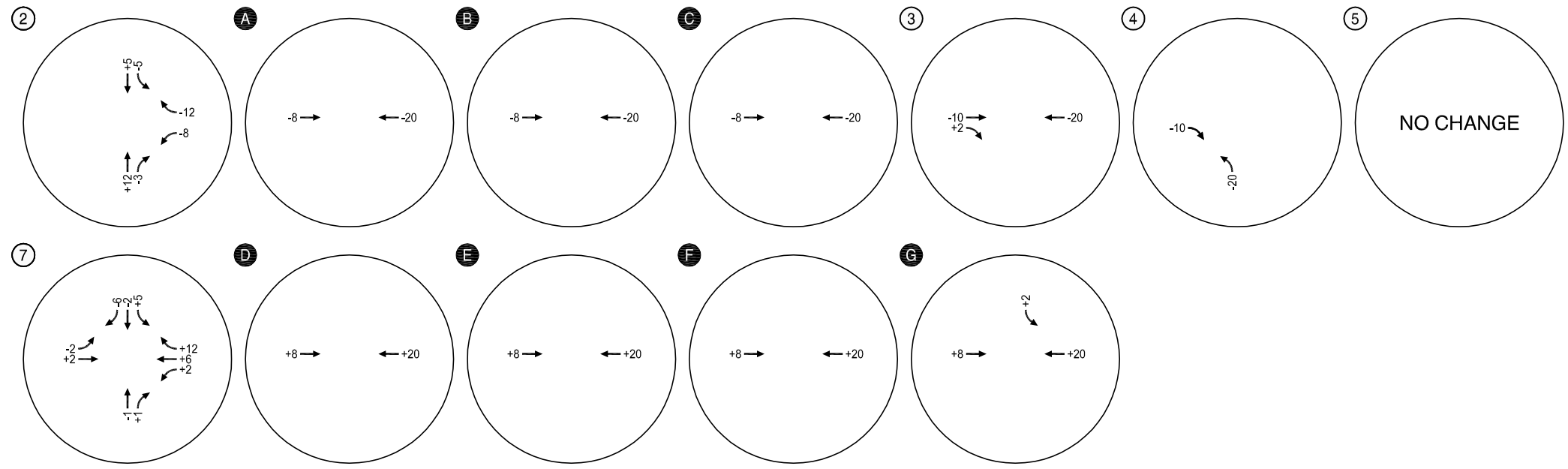


- LEGEND**
- ① - STUDY INTERSECTIONS
 - A - EXISTING/PROPOSED ACCESS
 - MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING MEDICAL OFFICE BUILDING TRIPS
WEEKDAY PM PEAK HOUR
TUALATIN, OREGON

FIGURE
F2

\\kittelson.com\fs1\H_Portland\projfile\17299 - Sagert Farms\dwg\figs\17299_fig_7.27.2015.dwg Aug 05, 2015 - 5:00pm - pmarnell Layout Tab: A2

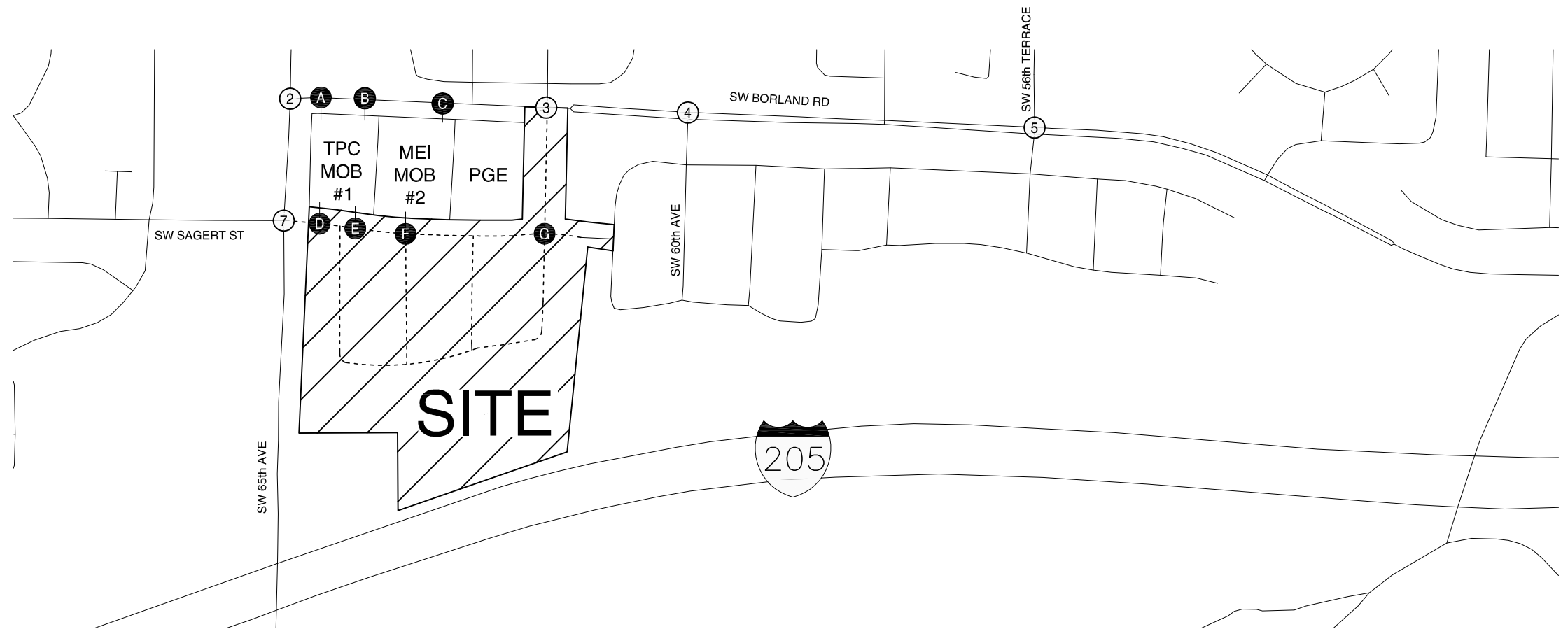
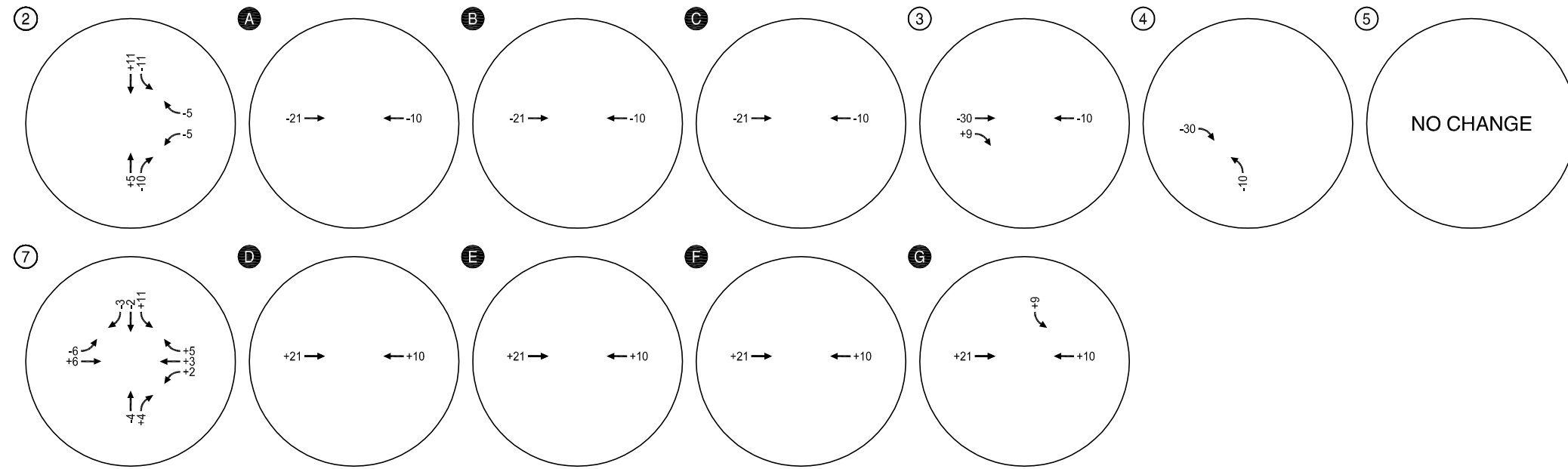


LEGEND

- ① - STUDY INTERSECTIONS
- A - EXISTING/PROPOSED ACCESS
- MOB - MEDICAL OFFICE BUILDINGS

RE-ROUTE OF EXISTING SEQUOIA RIDGE TRIPS
WEEKDAY AM PEAK HOUR
TUALATIN, OREGON
FIGURE F3

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LEGEND

- ① - STUDY INTERSECTIONS
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FIGURE
F4

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August 10, 2015

Clackamas County Engineering Technical Staff
Transportation and Development
150 Beaver Creek Rd.
Oregon City, OR 97045

Sagert Farm Subdivision
Tualatin, Oregon
RE: Design Modification – SW Borland Road Access

Dear Clackamas County Engineering Technical Staff:

This letter and the attachments hereto have been submitted to request a design modification for improvements associated with the proposed Sagert Farm subdivision located at 20130 SW 65th Avenue, within the City of Tualatin. The Applicants for this property have an active application under review with the City of Tualatin (SB15-0002). Approximately 250+/- linear feet of SW Borland Road fronts the subject property, and is currently within the jurisdiction of Clackamas County. SW Borland Road is classified as a Minor Arterial per the Clackamas County Transportation System Plan. Due to restrictions in place prohibiting the connection of local streets to an arterial roadway, this design modification request is submitted for approval.

The Relief Requested:

- The Applicant has requested relief to Section CCRS 220.3 per section 170 to allow the connection of a local road to the minor arterial SW Borland Road per City of Tualatin’s land use requirements. The City of Tualatin is requiring a connection from the proposed subdivision to provide vehicular and pedestrian connections to SW Borland Road. This connection is necessary in order to provide connectivity in accordance with the City’s standards.

Regulation Requirement:

- Per the Clackamas County Roadway Standards:

220.3 Roadway Intersection Management

a. Proposed new subordinate public and private roadways shall comply with the following requirements at their intersections with existing or proposed primary roadways. Roadways of a given functional classification may access roadways of another classification as indicated in Table 2-1.

Table 2-1. Public Intersection Access

Functional Classification of Existing Primary Roadway	Functional Classification of Proposed Subordinate Roadway				
	Major Arterial	Minor Arterial	Collector	Connector	Local/Private Roadways
Major Arterial	Yes	Yes	Yes	No*	No*
Minor Arterial		Yes	Yes	Yes	No*
Collector			Yes	Yes	Yes
Connector				Yes	Yes
Local					Yes

*May be allowed as a modification per Section 170.

Connection of a local road (per City of Tualatin TSP) to a minor arterial shall not be permitted unless permitted through the modification process.

Proposed Design:

1. Compliance with these standards would not allow connection of the proposed site to SW Borland Road. Both Fox Hill Subdivision and Sequoia Ridge Subdivision are existing subdivisions located to the east of the Sagert Farm Subdivision with existing collector and local roads connecting to SW Borland Road. These subdivisions provide three connections to SW Borland Road including SW 60th Avenue (local road per Clackamas County TSP), SW 57th Avenue (local road per Clackamas County TSP), and SW Wilke Road (collector road per Clackamas County TSP). The alignment of the connection is proposed to be aligned with the existing Meridian Park Hospital driveway per Clackamas County requirements. The proposed alignment is approximately 430 feet west from SW 60th Avenue and 400 feet east from the Mei Medical building driveway access. Roadway connections along a minor arterial are typically required to exceed 250 feet as seen in Table 2-2 below (per Clackamas County Roadway Standards).

Table 2-2. Minimum Public Roadway to Public Roadway Intersection Access Spacing (feet)

Functional Classification of Existing Primary Roadway	Minimum Full Spacing of Intersecting Roadways				Minimum Restricted Spacing of Intersecting Roadways*			
	Major & Minor Arterial	Collector	Connector	Local & Private Roadways	Major & Minor Arterial	Collector	Connector	Local & Private Roadways
Major Arterial	1000	1000	500	250	N/A	N/A	300	300
Minor Arterial	1000	500	250	250	N/A	N/A	300	150
Collector		150	100	100		N/A	N/A	N/A
Connector			100	100			N/A	N/A
Local & Private Roadways				100				N/A

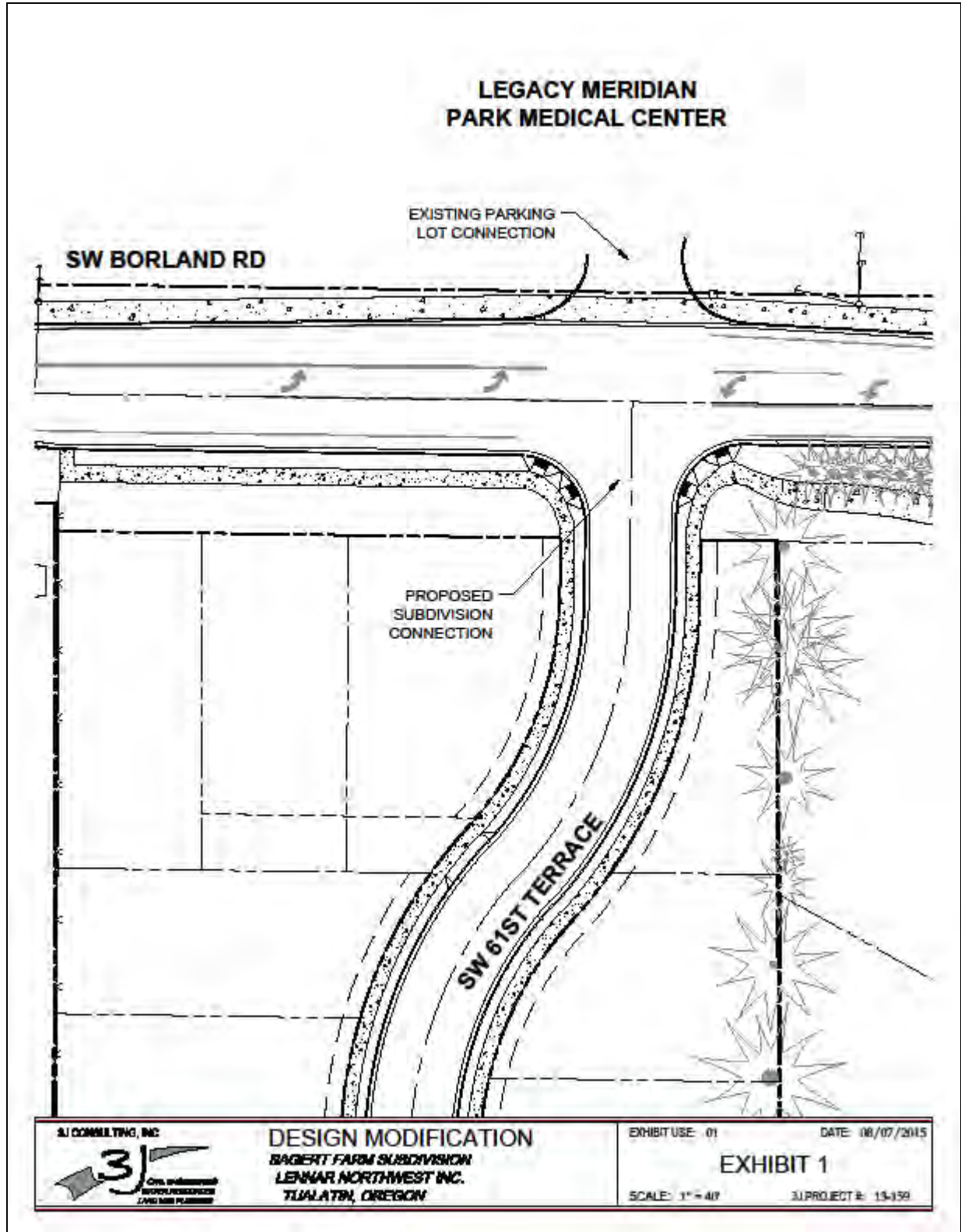
Notes:

Does not apply to driveways.

Alternative spacing may be allowed as a modification per Section 170.

*Access movements may be restricted to right-in/right-out or similar as necessary to preserve function of major roadway.







Summary:

The Applicant has proposed to provide a new roadway connection to SW Borland Road.

The proposed connection to SW Borland Road meets the City’s requirements for connectivity but does not meet the County’s standards for new connections to a minor arterial. This request is necessary to provide connectivity within the proposed subdivision to the surrounding road network and has been designed to allow for safe access, operations, and maintenance.

We respectfully request the Engineering Technical Staff to approve the proposed design modifications which have been requested herein.

Sincerely,

Jesse Emerson, PE
3J Consulting, Inc.





August 10, 2015

Clackamas County Engineering Technical Staff
Transportation and Development
150 Beaver Creek Rd.
Oregon City, OR 97045

Sagert Farm Subdivision
Tualatin, Oregon
RE: Design Modification – SW 65th Avenue

Dear Clackamas County Engineering Technical Staff:

This letter and the attachments hereto have been submitted in order to request a design modification for improvements associated with the subdivision planned for the Sagert Farm property located at 20130 SW 65th Avenue within the City of Tualatin. The Applicant's for this property have an active application under review with the City of Tualatin (SB15-0002) and have applied for this modification with the County as Clackamas County has jurisdiction over SW 65th Avenue, which fronts the property.

The Relief Requested:

1. The Applicant requests relief from the sidewalk width standards listed within ZDO Section 1007 to allow for a decrease in sidewalk width from the required 8 foot curb-tight sidewalk to a 5 foot curb-tight sidewalk. The intersection between SW Sagert Street and SW 65th Avenue contains improvements constructed by a previous development application in 1995 within the right-of-way. The presence of a retaining wall along with grading issues near private property require the existing retaining wall to remain thus requiring a reduction in the sidewalk width. Due to the existing alignment of Sagert Road and the property alignment of the Tualatin Professional Center, the newly configured roadway is required to maintain the proposed alignment.

Regulation Requirement:

1. Per the Clackamas County Minor Arterial Standards:

Table 1007-1: Minimum Sidewalk and Pedestrian Pathway Width

Street Type	Residential Sidewalk	Commercial or Institutional Sidewalk	Industrial Sidewalk
Local	5 feet	7 feet	5 feet
Connector	5 feet	7 feet	5 feet
Collector	5 feet	8 feet	5 feet
Arterial	6 feet	8 feet	6 feet

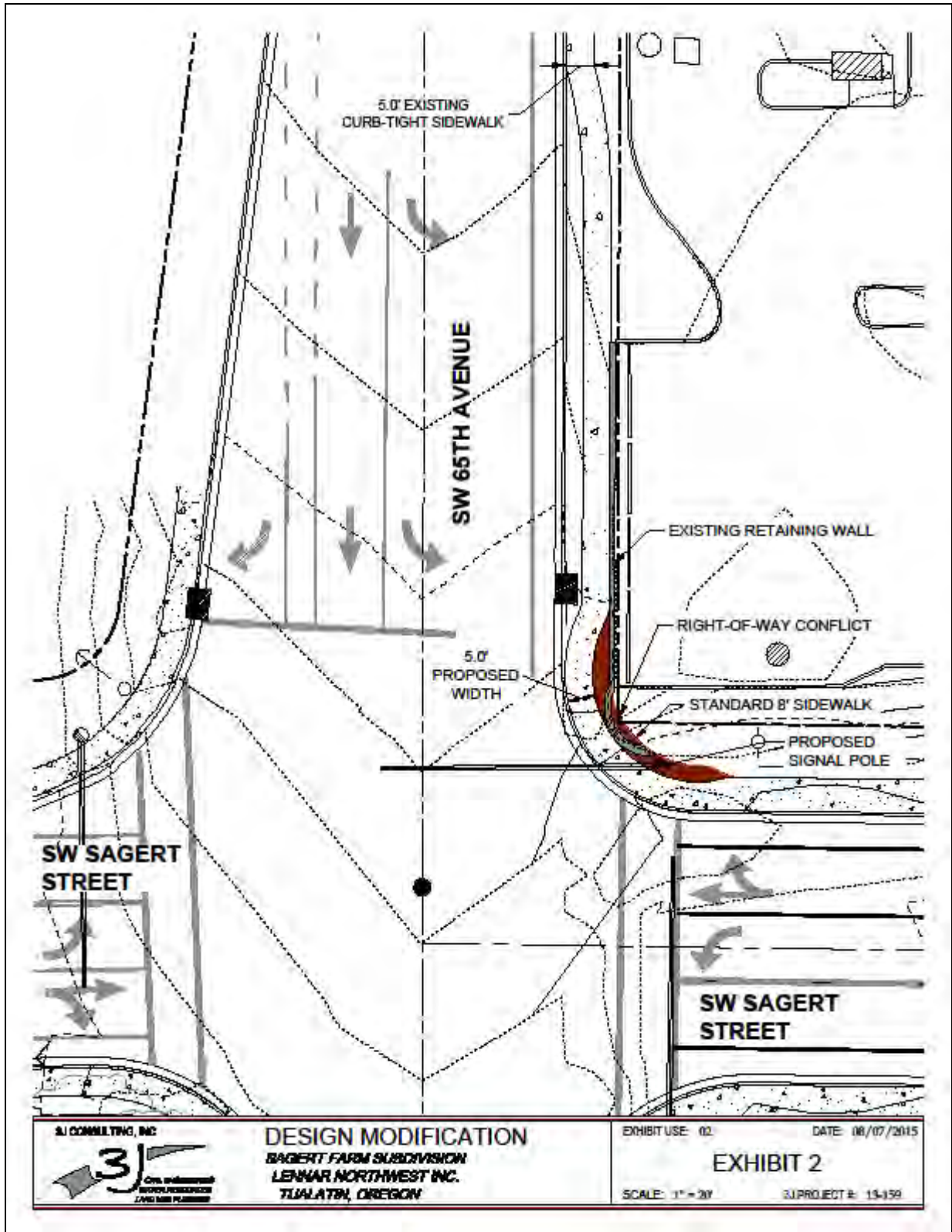
1. The entire required width of sidewalks and pedestrian pathways shall be unobstructed.
2. Sidewalks and pedestrian pathways at transit stops shall be a minimum of eight feet wide for a distance of 20 feet centered on the transit shelter or transit stop sign.
3. A sidewalk set back from the curb by at least five feet may be one foot narrower (but not less than five feet) than the standard listed above. This five-foot separation strip shall be landscaped and shall be maintained by the adjacent property owner. The landscape strip may contain fixed objects provided that sight distance and roadside clear zone standards are satisfied pursuant to the Clackamas County Roadway Standards.
4. Uses located in the Campus Industrial, Light Industrial, General Industrial, or Business Park District and containing over 5,000 square feet of office space shall comply with the requirements for Commercial and Institutional uses.

Per the City of Tualatin TSP, SW 65th Avenue is designated as a Collector road and requires an 8 foot wide commercial sidewalk unless permitted through the modification process.

Proposed Design:

1. In order to provide pedestrian access and connection of existing sidewalk infrastructure, a reduction from the county standard of 8 feet to 5 feet is proposed. Existing grade and property restrictions adjacent to the proposed intersection at SW Sagert Street and SW 65th Avenue preclude the construction of a curb tight sidewalk built to current Clackamas County standards. The available clear distance between the proposed back of curb and the existing adjacent retaining wall will allow for a 5 foot wide curb-tight sidewalk. A 5 foot meandering sidewalk currently exists along the east side of SW 65th Avenue, with portions being constructed curb tight. ADA standards for accessible routes currently require 3.5 feet (42 inches) of clear travel space for the user. Including the 0.5 foot (6 inches) standard curb and the proposed 5 foot (60 inches) sidewalk, the proposed design would meet ADA standards while allowing for 2 foot (24 inches) of additional maneuvering area on the route.





Summary:



The Applicant has proposed to maintain pedestrian access along the north-east corner of the SW Sagert Street and SW 65th Avenue intersection.

The Applicant has proposed to locate a 5 foot wide curb-tight sidewalk at the northeast corner of SW 65th Avenue and SW Sagert Street. The proposed 5 foot wide curb-tight sidewalk would allow a transition to the existing 5 foot wide sidewalk along the east side of SW 65th Avenue and avoid encroaching onto the adjacent private property. The proposed configuration would also allow for the placement of a new signal pole while maintaining pedestrian access in a state which closely reflects the existing conditions along the Tualatin Professional Center frontage.

We respectfully request the Engineering Technical Staff to approve the design modifications which have been requested herein.

Sincerely,

Jesse Emerson, PE
3J Consulting, Inc.





**Real-World Geotechnical Solutions
Investigation • Design • Construction Support**

June 2, 2015
GeoPacific Project No. 13-3204

Mike Loomis
Lennar Northwest, Inc.
11807 NE 99th Street, Suite 1170
Vancouver, Washington 98682
E-mail: Mike.Loomis@Lennar.com

CC: John.Howorth@3J-consulting.com

Subject: **APPLICABILITY OF PREVIOUS GEOTECHNICAL ENGINEERING REPORT
SAGERT FARMS SUBDIVISION
20130 SW 65TH AVENUE
TUALATIN, OREGON**

Reference: GeoPacific Engineering, Inc., Geotechnical Engineering Report, Sagert Property,
20130 SW 65th Avenue, Tualatin, Oregon, dated December 11, 2013.

As requested, GeoPacific Engineering, Inc. (GeoPacific) reviewed the site plans and the above referenced geotechnical report. Our findings, conclusions, and recommendations in that report remain applicable for the proposed design with the exception of the seismic design parameters, which have changed since 2013. The seismic design parameters should be updated in the final summary of earthwork observations report prepared at the conclusion of grading. This report will present final foundation design recommendations, including seismic parameters.

Sincerely,

GEOPACIFIC ENGINEERING, INC.



EXPIRES: 06/30/2017

James D. Imbrie, G.E., P.E.
Principal Geotechnical Engineer

14835 SW 72nd Avenue
Portland, Oregon 97224

Tel (503) 598-8445
Fax (503) 941-9281

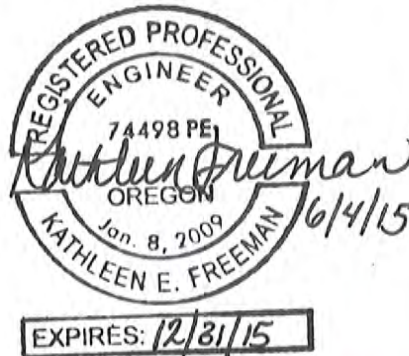
PRELIMINARY STORM DRAINAGE REPORT

SAGERT FARM SUBDIVISION TUALATIN, OR

June 4, 2015

Prepared For:

Lennar Northwest, Inc
2103 NE 129th Street, Suite 100
Vancouver, WA 98686



Prepared By:
3J Consulting, Inc.
5075 SW Griffith Drive, Suite 150
Beaverton, Oregon 97005
Project No: 13159
KEF

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EXECUTIVE SUMMARY

The project site consists of a total of 20.90 acres. The proposed development site is located east of SW 65th Avenue, south of SW Borland Road, and north of Saum Creek and the I-205 corridor (See Technical Appendix: Exhibits – Figures 1 & 2). The site is bounded to the east by the Sequoia Ridge subdivision. The site's northern boundary is formed by two separate professional medical office buildings, a PGE substation, and SW Borland Road. The site is bounded by Saum Creek and Interstate 205 to the south. There currently sits a single-family detached home with a wooden barn near the center of the property.

The site slopes downward towards the south. A substantial area in the southern portion of the site is designated with a Significant Natural Resource Overlay and will be preserved in a tract.

The intent of this subdivision is to provide seventy-nine (79) buildable lots, for development with single-family homes, a use permitted outright in the RL zone. The proposed residential subdivision includes the extension of SW Sagert Street (east of SW 65th Avenue).

Runoff from the proposed impervious area will be treated using vegetated swales designed following the current Clean Water Services Design and Construction Standards which uses a rainfall of 0.36" over a 4-hour period with a return period of 96-hours as outlined in section 4.05.06 of *the Design and Construction Standards for Sanitary Sewer and Surface Water Management* issued in June of 2007 and updated in 2009. After treatment, stormwater will be conveyed towards Saum Creek.

Per the City of Tualatin, the downstream system (Saum Creek) has sufficient capacity to convey the added runoff to the Tualatin River without requiring detention (or a downstream analysis).

The purpose of this report is to describe the treatment facilities being proposed and to show that the design followed Clean Water Services Design and Construction Standards.

EXISTING CONDITIONS

Site

The existing site contains a single family residence, a barn and several small to large outbuildings. The surrounding fields have historically been mowed for hay. All existing structures will be demolished for the proposed subdivision.

Site Geology

The soil types as classified by the United States Department of Agriculture Soil Survey of both Washington and Clackamas Counties are identified in Table 1 (See Technical Appendix: Exhibits – Hydrologic Soil Group-Washington County, Oregon).

Soil Type	Hydrologic Group
Quatama Loam	C
Wapato Silty Clay Loam	C/D

Table 1 - Soil Characteristics

The majority of the soils on the site are categorized as hydrologic soil group C which have a slow infiltration rate when thoroughly wet. Group C soils were used to determine the runoff curve numbers.

Existing Hydrology

Runoff from the site generally sheet flows towards the south into Saum Creek. The average slope across the site is approximately 6.5%.

Geotechnical Report

A geotechnical investigation by GeoPacific Engineering, Inc was completed in December of 2013 (See Technical Appendix: Geotechnical Report). Three test pits were explored for infiltration rates at depths 4.5, 8.5 and 11 feet below ground surface. The respective infiltration rates were 0.1, 0.3 and 6.0 in/hr.

Existing Basin Areas

Table 2 shows the current impervious and pervious areas for the property (See Technical Appendix: Exhibits – Existing Site Conditions).

Existing Onsite Basin Area	ft ²	Acres
Impervious Area	30,361	0.70
Pervious Area	879,897	20.20
Total Area	910,258	20.90

Table 2 – Existing Onsite Basin Area

POST-DEVELOPED CONDITIONS

Site

The proposed site will consist of a 79 lot subdivision with internal streets and sidewalks. Sagert Street will be constructed through the site connecting SW 65th Avenue and the subdivision to the east of the site. Two separate storm systems will be constructed effectively dividing the site at the natural high point in the center of the site. Each storm system will convey runoff to water quality manholes for pretreatment followed by vegetated swales for water quality treatment prior to releasing into Saum Creek.

Post-Developed Basin Areas

Table 3 shows the proposed impervious and pervious areas for the property (See Technical Appendix: Exhibits – Post-Developed Site Conditions). An impervious area of 2,640 ft² per lot was assumed following Clean Water Services guidelines for post-developed conditions. The post-developed site will be approximately 44 percent impervious.

Basin	ft ²	Acres
Post-Developed Total Basin Area on Westside	352,697	8.10
Impervious Area (Includes SW 65 th Ave Improvements)	194,710	4.47
Pervious Area	157,987	3.63
Post-Developed Total Basin Area on Eastside	400,904	9.20
Impervious Area (Includes SW Borland Rd)	212,364	4.88
Pervious Area	188,540	4.32
Pervious Area Not Impacted by Development	169,475	3.89
¹Total Post-Developed Area	923,076	21.20

¹Includes New Impervious Area from SW Borland Rd and SW 65th Ave Improvements

Table 3 – Post-Developed Onsite Basin Areas

HYDROLOGIC ANALYSIS DESIGN GUIDELINES

Design Guidelines

The site is located within the jurisdiction of the City of Tualatin and Clean Water Services. The guidelines used for the design of this project reflect current Clean Water Services Design and Construction Standards, issued in June of 2007 and updated in 2009.

Hydrograph Method

Naturally occurring rainstorms dissipate over long periods of time. An effective way of estimating storm rainfall is by using the hydrograph method. The Santa Barbara Urban Hydrograph (SBUH) method was used to develop runoff rates. The computer software XPSTORM was used in modeling the hydrology during the existing and post-developed storm events to determine the increase in runoff after the development. Additionally, XPSTORM will be used to size the proposed conveyance systems and rip-rap outfall protection in the finally design phase.

Design Storm

The rainfall distribution to be used for this area is the design storm of 24-hour duration based on the standard Type 1A rainfall distribution. Table 4 shows total precipitation depths for the two storm events used in the analysis, which were used as multipliers for the Type 1A 24-hour rainfall distribution.

Recurrence Interval (Years)	Total Precipitation Depth (inches)
25	3.90
100	4.50

Table 4 - Design Storms

RUNOFF PARAMETERS

Curve Number

The major factors for determining the CN values are hydrologic soil group, cover type, treatment, hydrologic condition, and antecedent runoff condition. The curve number represents runoff potential from the ground. Tables 2-2a and 2-2c from the TR55 Urban Hydrology for Small Watersheds was used to determine the appropriate curve numbers (See Technical Appendix: Exhibits – Tables 2-2a and 2-2c Runoff Curve Numbers).

The existing site was given a curve number of 71 for pervious area, which corresponds to Meadow-continuous grass, protected from grazing and generally mowed for hay with C soils. The post-developed site was given a curve number of 86 for the disturbed pervious area, which corresponds to open space with less than 50% covered in grass (71 was used for the remaining undisturbed area). A curve number of 98 was used for all impervious area.

Time of Concentration

Two pathways for the time of concentration were calculated for the existing site using the TR-55 Method, the existing contours and assuming the site was dense grass. The calculated time of concentration of 26 minutes was used for the existing site (See Technical Appendix: Calculations – Time of Concentration). A time of concentration for the post-developed site and all other offsite basins was assumed to be 5 minutes.

Basin Runoff

The existing and post-developed runoff rates for the site are shown in Table 5 (See Technical Appendix: Hydrographs).

Recurrence Interval (Years)	Existing Runoff Rate (cfs)	¹Post-Developed Runoff Rate (cfs)
25	4.79	14.62
100	6.71	17.61

¹Includes Runoff from Proposed Road Improvements Draining to Site

Table 5 - Basin Runoff Rates

HYDRAULIC ANALYSIS AND DESIGN CHARACTERISTICS

System Characteristics

The stormwater conveyance system will be sized in the final design phase of the project to convey all storm events up to and including the 100-year storm event without any out of system flooding.

WATER QUALITY

Water Quality Guidelines

Per Clean Water Services guidelines, water quality treatment facilities are required to be designed to treat the rainfall of 0.36" over a 4-hour period with a return period of 96-hours. The following shows the calculated treatment flow rate for the design the water quality treatment facilities.

$$\text{Water Quality Volume (WQV)} = \frac{\text{Impervious Area (ft}^2\text{)} \times 0.36 \text{ (in)}}{12 \text{ (in/ft)}}$$

$$\text{Water Quality Flow (WQF)} = \frac{\text{WQV}}{14,400 \text{ seconds}}$$

Water Quality Calculations

Two vegetated swales will be constructed to treat the stormwater runoff from the post-developed impervious areas. The water quality flow calculations for each are shown below:

Westside Swale (35 Lots):

- Impervious Area (on the lots)= 35 lots X 2,640 sf = 92,400 sf
- Impervious Area (Roads/sidewalks) = 91,130 sf
- Improved Portion of SW 65th Ave Draining to Westside = 11,181 sf
- **Total Impervious Area = 194,710 sf**

$$\text{Water Quality Volume (WQV)} = \frac{194,711 \text{ ft}^2 \times 0.36 \text{ (in)}}{12 \text{ (in/ft)}} = 5,841 \text{ ft}^3$$

$$\text{Water Quality Flow (WQF)} = \frac{5,841 \text{ ft}^3}{14,400 \text{ seconds}} = \underline{\underline{0.41 \text{ cfs}}}$$

Eastside Swale (44 Lots):

- Impervious Area (on the lots)= 44 lots X 2,640 sf = 116,160 sf
- Impervious Area (Roads/sidewalks) = 94,570 sf
- Improved Portion of SW Borland Draining to Eastside = 1,634 sf
- **Total Impervious Area = 212,364 sf**

$$\text{Water Quality Volume (WQV)} = \frac{212,364 \text{ ft}^2 \times 0.36 \text{ (in)}}{12 \text{ (in/ft)}} = 6,371 \text{ ft}^3$$

$$\text{Water Quality Flow (WQF)} = \frac{6,371 \text{ ft}^3}{14,400 \text{ seconds}} = \underline{\underline{0.44 \text{ cfs}}}$$

Water Quality Swale

Per Sections 3-5-280 and 3-5-430 of the City of Tualatin’s Municipal Code, water quality facilities are to be located outside of the defined wetland area of existing or created wetlands. Therefore, both swales will be located outside of the existing delineated wetlands. Each vegetated swale will be designed and constructed to follow Section 4.06.2 of CWS Design and Construction Standards with the minimum dimensions:

- Design Flow: Water Quality Flow
- Hydraulic Residence Time: 9 minutes
- Maximum Water Design Depth: 0.5 feet
- Minimum Freeboard: 1 foot (facilities will not be protected from high flows)
- Manning ‘n’ value: 0.24
- Minimum Length = 100 feet
- Bottom Width = 2 feet
- Side Slopes = 3:1 in treatment area
- Minimum Channel Slope = 0.5%

Preliminary vegetated swales have been included on the site plans; however, final design calculations have not been included in this report. Final design for the swales will be presented in the Final Storm Drainage Report.

Water Quality Manholes

All stormwater runoff that is conveyed to the proposed conveyance systems will be pretreated in water quality manholes (except for the area from SW 65th Ave conveyed directly to the westside swale). Per

Section 4.06.1 of CWS Design and Construction Standards, the pretreatment volume available for a water quality manhole is $20\text{ft}^3/1.0\text{ cfs}$, up to the 25-year flow (See Technical Appendix: Hydrographs – 25-Year Post-Developed Runoff (East and West Systems). Each water quality manhole will be sized in the final design phase of the project for the 25-year storm event.

SUMMARY

The proposed stormwater management system for Sagert Farm Subdivision includes two vegetated swales separated by topography. Each have been shown on the plans and will be finalized in the final design phase of the project. The stormwater conveyance system for the project will consist of storm pipe, catch basin/inlets and manholes which will convey stormwater runoff to each of the new swales. The conveyance system will be sized in the final design phase of the project. The proposed stormwater management system will meet the requirements of the City of Tualatin and Clean Water Services.

TECHNICAL APPENDIX

Exhibits

- Figure 1 – Vicinity Map
- Figure 2 – Site Location
- Hydrologic Soil Group-Washington County
- Tables 2-2a and 2-2c Runoff Curve Numbers
- Existing Site Conditions (Exhibit 1a and 1b)
- Post-Developed Site Conditions (Exhibits 2a and 2b)
- Water Quality Manhole – Drawing No. 240

Drawings

- Sheet C100 – Overall Existing Conditions
- Sheets C121-C124 – Phase 2 Grading & ESC Plans
- Sheet C200 – Overall Site Plan
- Sheets C211-C214 – Street & Storm Plan
- Sheet C300 – Overall Composite Utility Plan

Calculations

- Time of Concentration

Hydrographs

- Existing Runoff Hydrograph
- Post-Developed Runoff Hydrograph (Entire Site Including Borland Rd and SW 65th Ave)
- Pretreatment Hydrographs (Excluding Non-Impacted Pervious Area)

XPSTORM OUTPUT – Not Included in the Preliminary Storm Drainage Report

Geotechnical Report

- Geotechnical Engineering Report, GeoPacific Engineering, Inc, December 11, 2013

REFERENCES

1. Design and Construction Standards for Sanitary Sewer and Surface Water Management Issued June 2007 – Clean Water Services

EXHIBITS

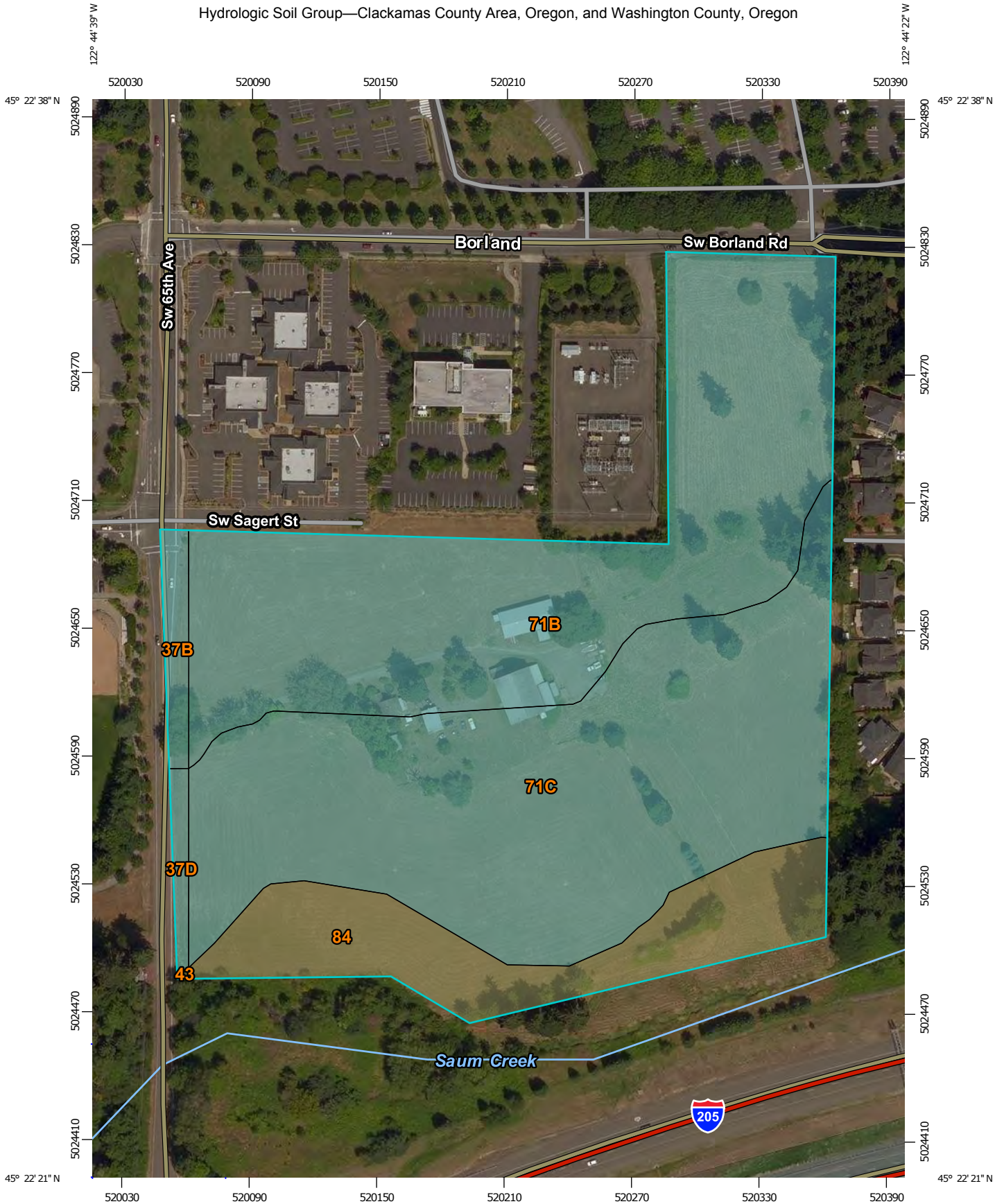


Figure 1 - Vicinity Map



Figure 2 - Site Location

Hydrologic Soil Group—Clackamas County Area, Oregon, and Washington County, Oregon




Map Scale: 1:2,460 if printed on A portrait (8.5" x 11") sheet.



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

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Clackamas County Area, Oregon
 Survey Area Data: Version 9, Sep 19, 2014

Soil Survey Area: Washington County, Oregon
 Survey Area Data: Version 12, Sep 19, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Aug 3, 2014—Aug 23, 2014

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Clackamas County Area, Oregon (OR610)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
71B	Quatama loam, 3 to 8 percent slopes	C	7.4	39.7%
71C	Quatama loam, 8 to 15 percent slopes	C	8.2	44.0%
84	Wapato silty clay loam	C/D	2.6	13.7%
Subtotals for Soil Survey Area			18.2	97.4%
Totals for Area of Interest			18.7	100.0%

Hydrologic Soil Group— Summary by Map Unit — Washington County, Oregon (OR067)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
37B	Quatama loam, 3 to 7 percent slopes	C	0.3	1.7%
37D	Quatama loam, 12 to 20 percent slopes	C	0.2	0.9%
43	Wapato silty clay loam	C/D	0.0	0.0%
Subtotals for Soil Survey Area			0.5	2.6%
Totals for Area of Interest			18.7	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86 ←	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98 ←	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas					
(pervious areas only, no vegetation) ^{5/}		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

¹ Average runoff condition, and $I_a = 0.2S$.² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2c Runoff curve numbers for other agricultural lands ^{1/}

Cover description	Hydrologic condition	Curve numbers for hydrologic soil group			
		A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. ^{2/}	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71 ←	78
Brush—brush-weed-grass mixture with brush the major element. ^{3/}	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 ^{4/}	48	65	73
Woods—grass combination (orchard or tree farm). ^{5/}	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. ^{6/}	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 ^{4/}	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

¹ Average runoff condition, and $I_a = 0.2S$.

² **Poor:** <50% ground cover or heavily grazed with no mulch.

Fair: 50 to 75% ground cover and not heavily grazed.

Good: > 75% ground cover and lightly or only occasionally grazed.

³ **Poor:** <50% ground cover.

Fair: 50 to 75% ground cover.

Good: >75% ground cover.

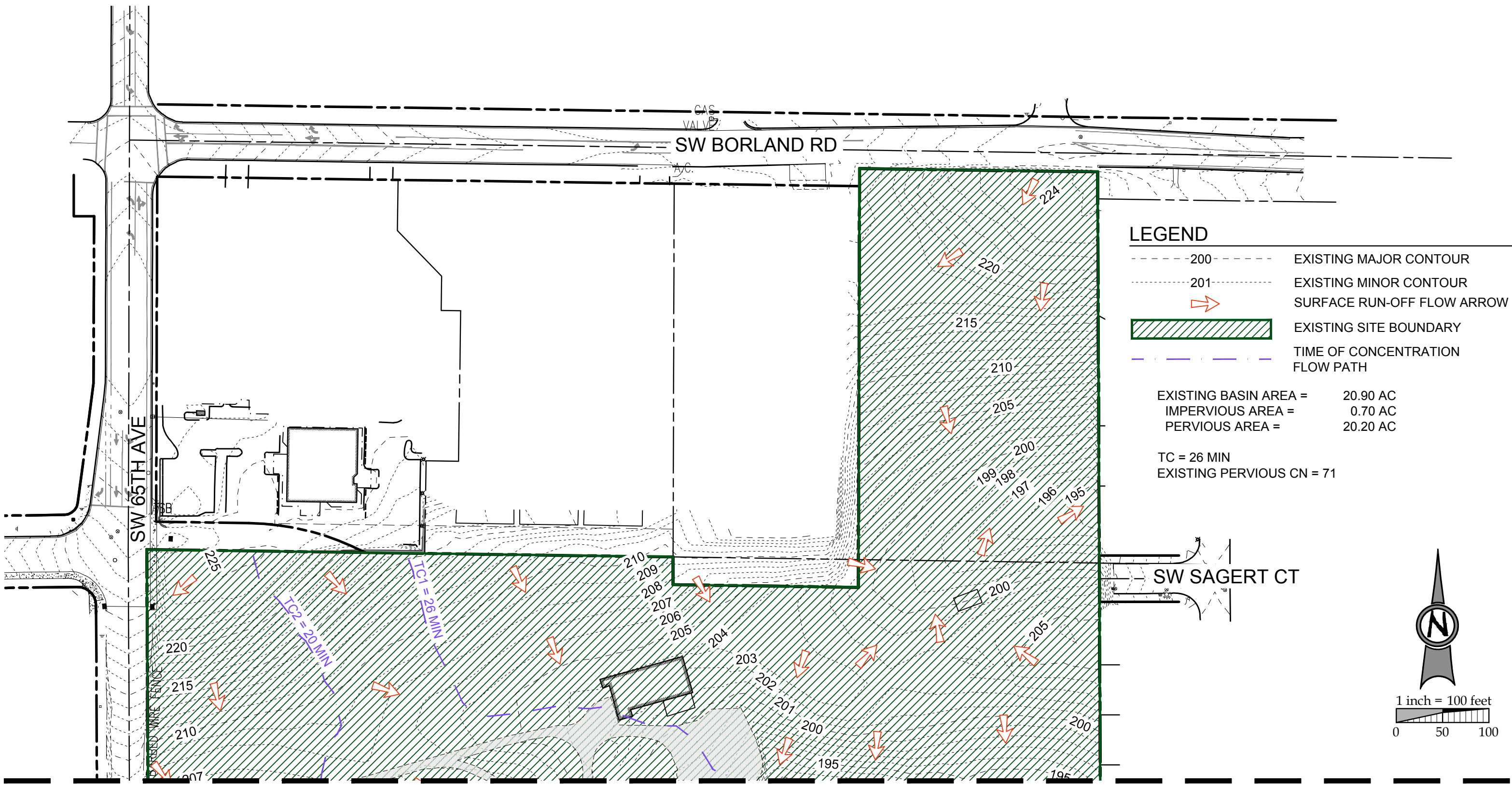
⁴ Actual curve number is less than 30; use CN = 30 for runoff computations.

⁵ CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

⁶ **Poor:** Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.

Fair: Woods are grazed but not burned, and some forest litter covers the soil.

Good: Woods are protected from grazing, and litter and brush adequately cover the soil.



LEGEND

- - - - 200 - - - - EXISTING MAJOR CONTOUR
- - - - 201 - - - - EXISTING MINOR CONTOUR
- SURFACE RUN-OFF FLOW ARROW
- [Hatched Box] EXISTING SITE BOUNDARY
- - - - TIME OF CONCENTRATION FLOW PATH

EXISTING BASIN AREA = 20.90 AC
 IMPERVIOUS AREA = 0.70 AC
 PERVIOUS AREA = 20.20 AC

TC = 26 MIN
 EXISTING PERVIOUS CN = 71

SEE SHEET 1b FOR CONTINUATION

3J CONSULTING, INC



CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING

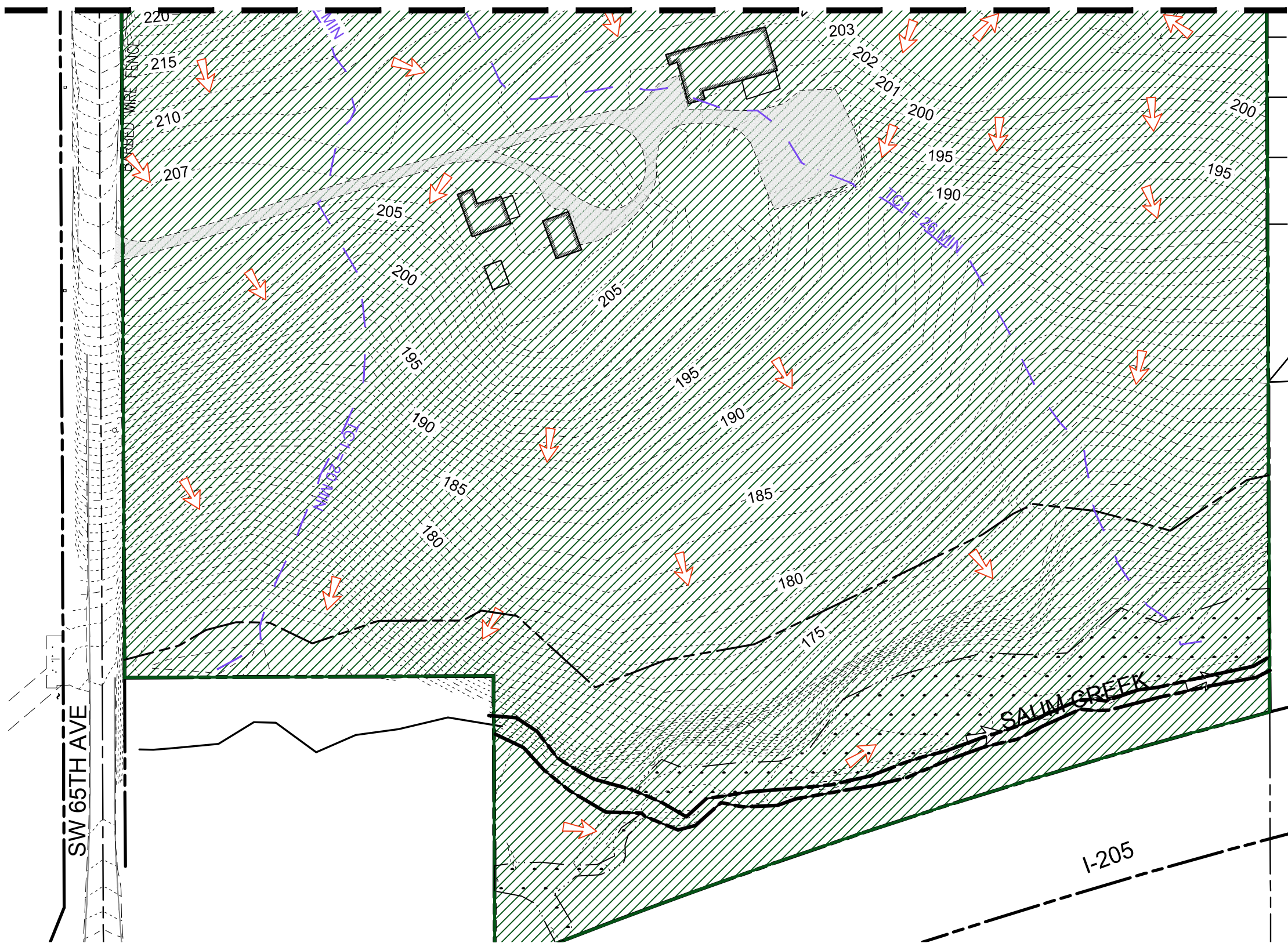
EXISTING SITE CONDITIONS SAGERT FARMS SUBDIVISION

Drainage Report

Exhibit 1a

Date: 06/02/15
 Attachment 10 IR Stormwater Report - Page 19 By: KEF

SEE SHEET 1a FOR CONTINUATION

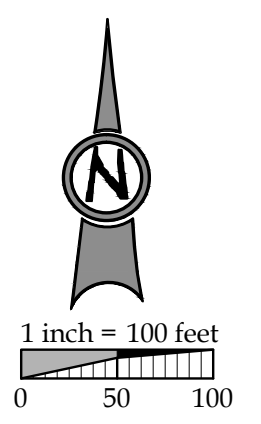


LEGEND

- 200- EXISTING MAJOR CONTOUR
- 201- EXISTING MINOR CONTOUR
- SURFACE RUN-OFF FLOW ARROW
- EXISTING SITE BOUNDARY
- EXISTING GRAVEL
- TIME OF CONCENTRATION FLOW PATH
- EXISTING WETLAND
- TOP OF SAUM CREEK

EXISTING BASIN AREA = 20.90 AC
 IMPERVIOUS AREA = 0.70 AC
 PERVIOUS AREA = 20.20 AC

TC = 26 MIN
 EXISTING PERVIOUS CN = 71



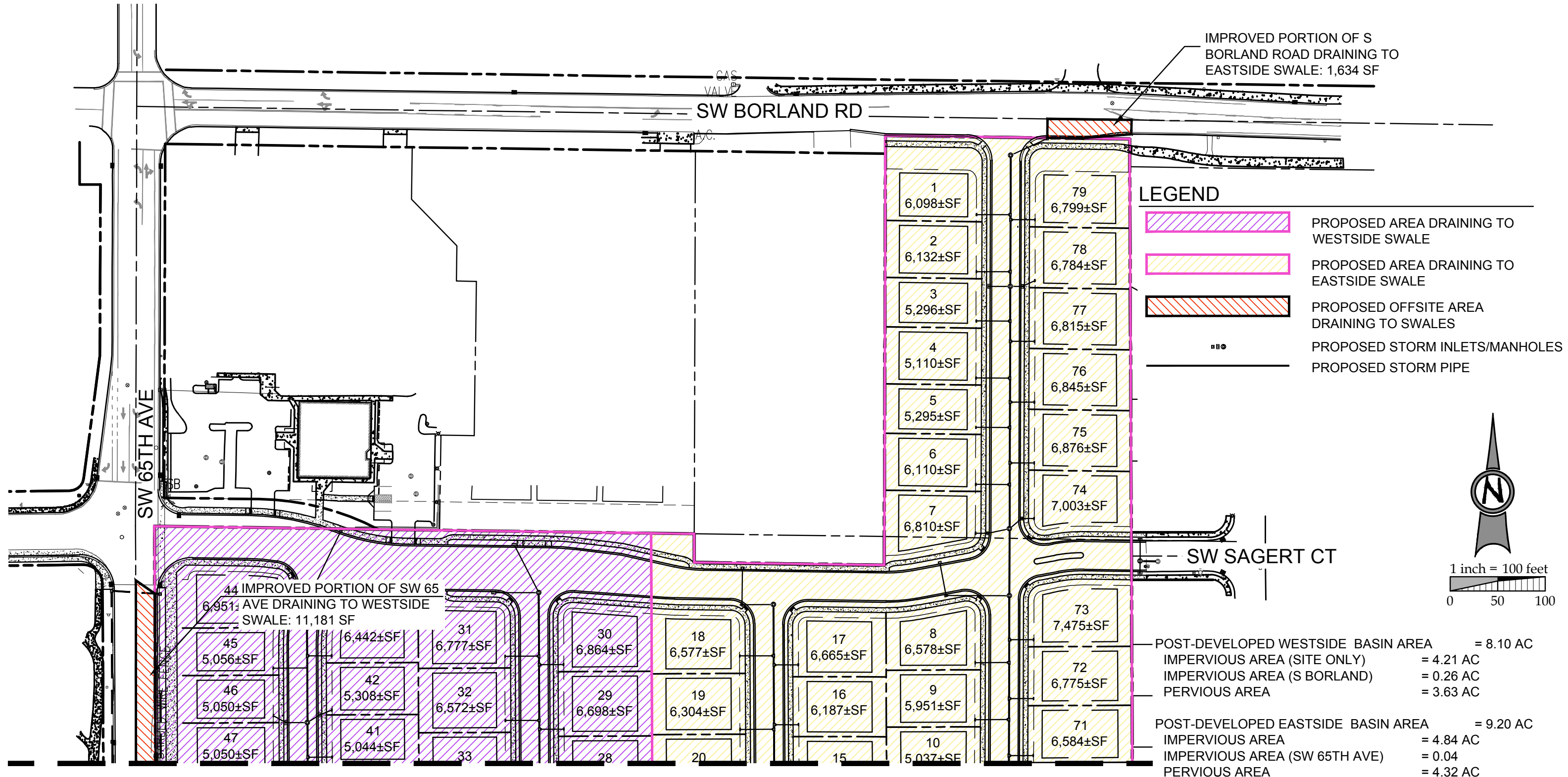
3J CONSULTING, INC



EXISTING SITE CONDITIONS SAGERT FARMS SUBDIVISION

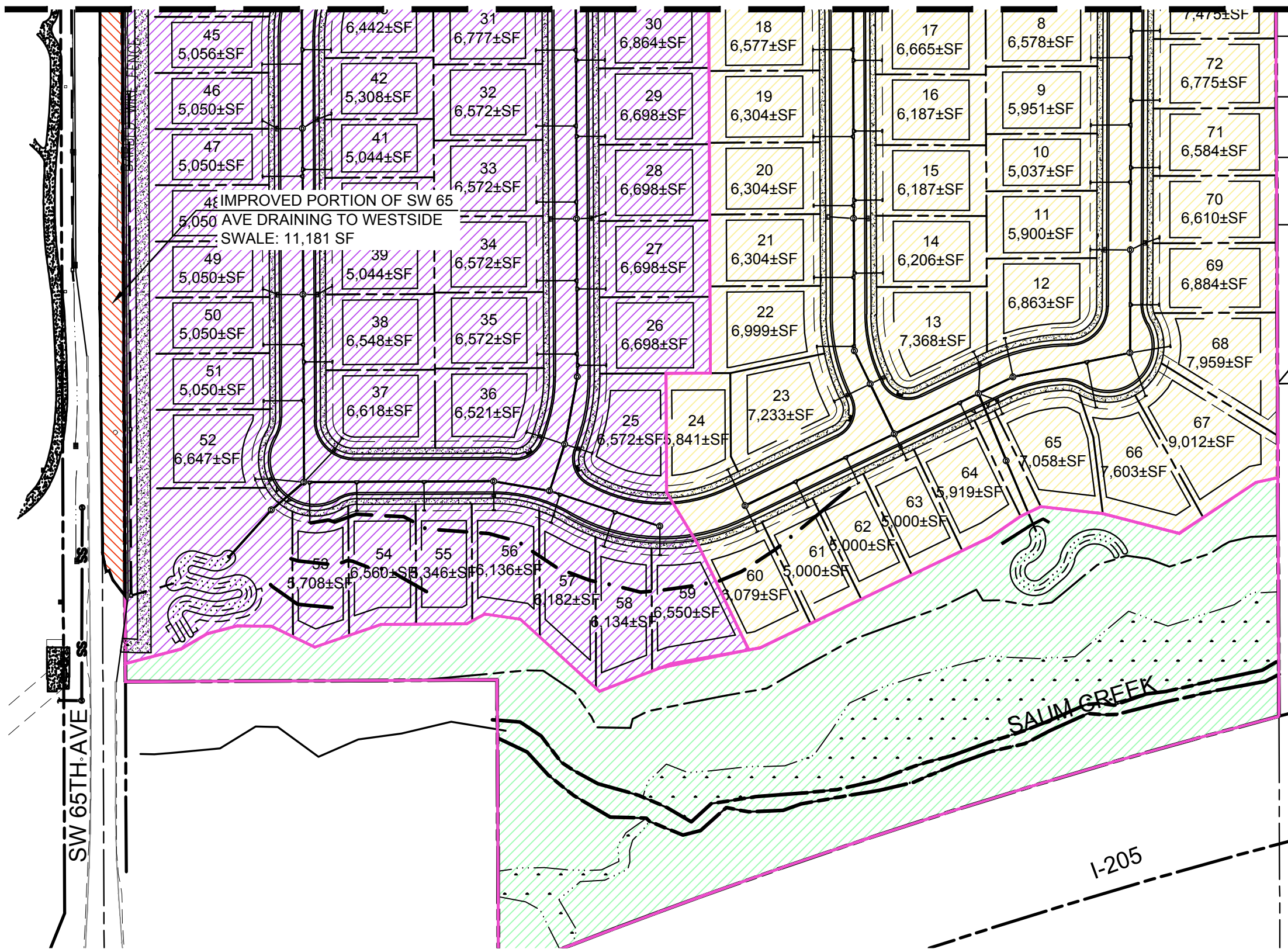
Drainage Report

Exhibit 1b

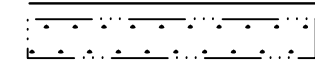










SEE SHEET 2b FOR CONTINUATION

SEE SHEET 2a FOR CONTINUATION



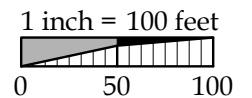
LEGEND

-  EXISTING WETLAND
-  TOP OF SAUM CREEK
-  PROPOSED AREA DRAINING TO WESTSIDE SWALE
-  PROPOSED AREA DRAINING TO EASTSIDE SWALE
-  PROPOSED OFFSITE AREA DRAINING TO SWALES
-  AREA DRAINING TO DIRECTLY TO SAUM CREEK
-  PROPOSED STORM INLETS/MANHOLES
-  PROPOSED STORM PIPE
-  PROPOSED VEGETATED SWALES

POST-DEVELOPED WESTSIDE BASIN AREA = 8.10 AC
 IMPERVIOUS AREA (SITE ONLY) = 4.21 AC
 IMPERVIOUS AREA (S BORLAND) = 0.26 AC
 PERVIOUS AREA = 3.63 AC

POST-DEVELOPED EASTSIDE BASIN AREA = 9.20 AC
 IMPERVIOUS AREA = 4.84 AC
 IMPERVIOUS AREA (SW 65TH AVE) = 0.04
 PERVIOUS AREA = 4.32 AC

PERVIOUS AREA NOT IMPACTED BY DEVELOPMENT = 3.89 AC



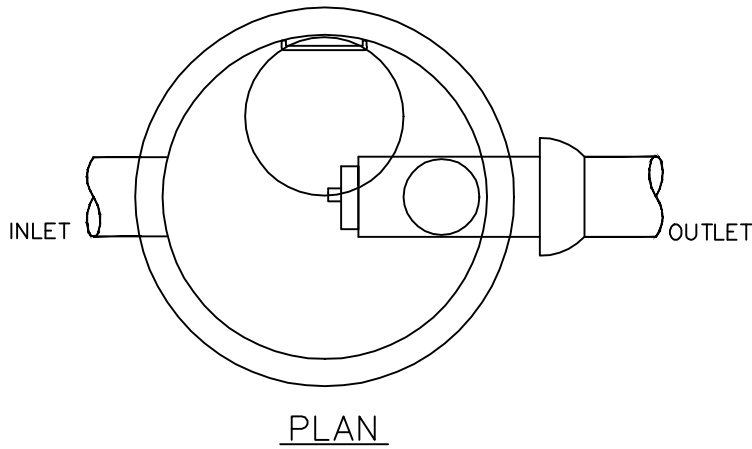
3J CONSULTING, INC



POST-DEVELOPED SITE CONDITIONS SAGERT FARMS SUBDIVISION

Drainage Report

Exhibit 2b



NOTES:

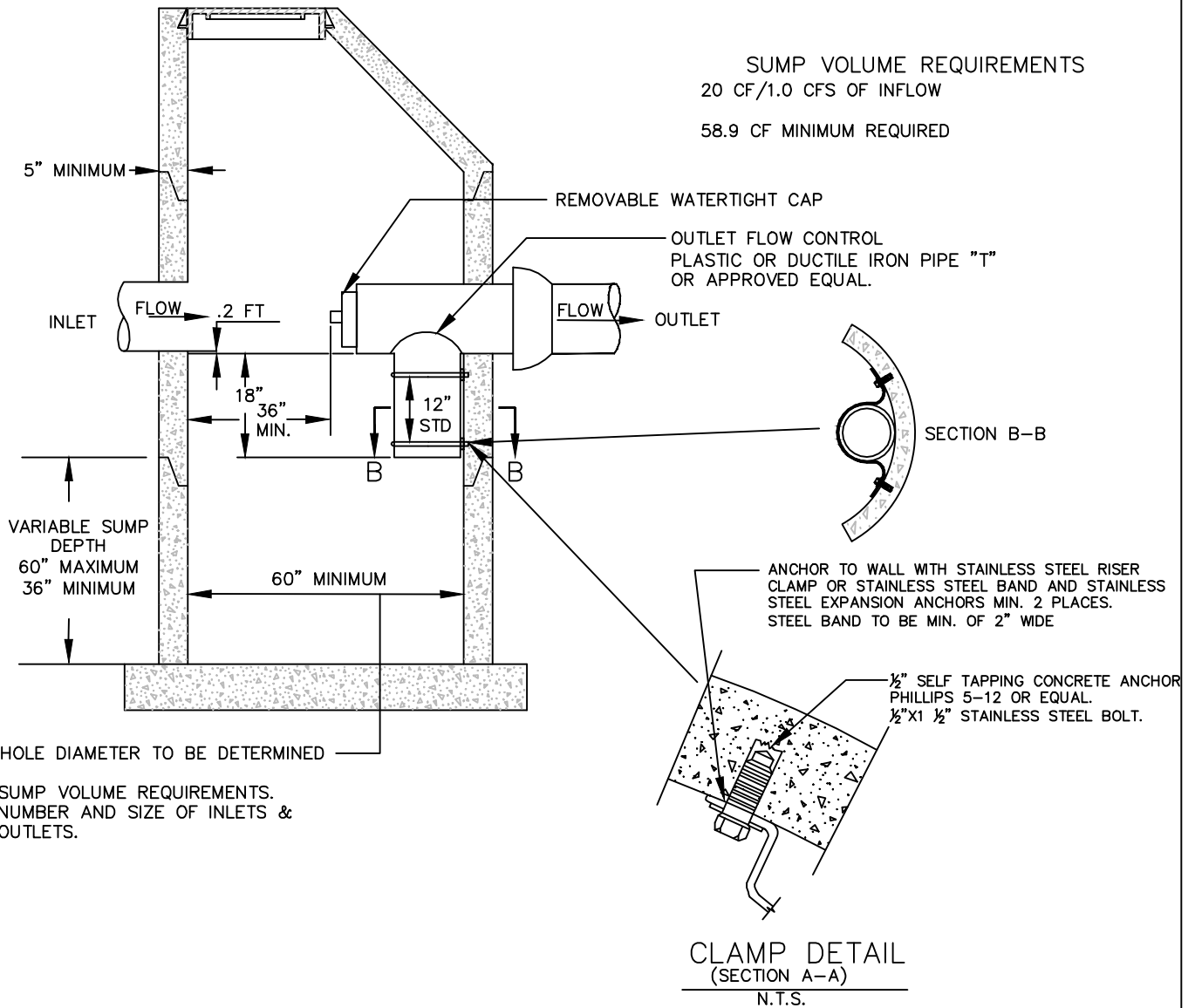
1. ALL MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STD. MANHOLE DRAWING NO. 010
2. INLET AND OUTLET PIPE NOT TO EXCEED 18" DIA.
3. PROVIDE SPECIAL DETAIL FOR OUTLET FLOW CONTROL EXCEEDING 18" DIA.
4. ALL OUTLETS SHALL HAVE FLOW CONTROL DEVICE.

	SUMP VOLUME AVAILABLE	
	MINIMUM	MAXIMUM
60" M.H.=	58.9 CF	98.1 CF
72" M.H.=	84.8 CF	141.3 CF
84" M.H.=	115.4 CF	192.3 CF

PROVIDE SPECIAL DETAIL FOR VOLUME REQUIREMENTS EXCEEDING 192.3 CF

SUMP VOLUME REQUIREMENTS
20 CF/1.0 CFS OF INFLOW

58.9 CF MINIMUM REQUIRED



- MANHOLE DIAMETER TO BE DETERMINED BY:
1. SUMP VOLUME REQUIREMENTS.
 2. NUMBER AND SIZE OF INLETS & OUTLETS.

WATER QUALITY MANHOLE (MECHANICAL)

DRAWING NO. 240

REVISED 12-06



DRAWINGS

CALCULATIONS



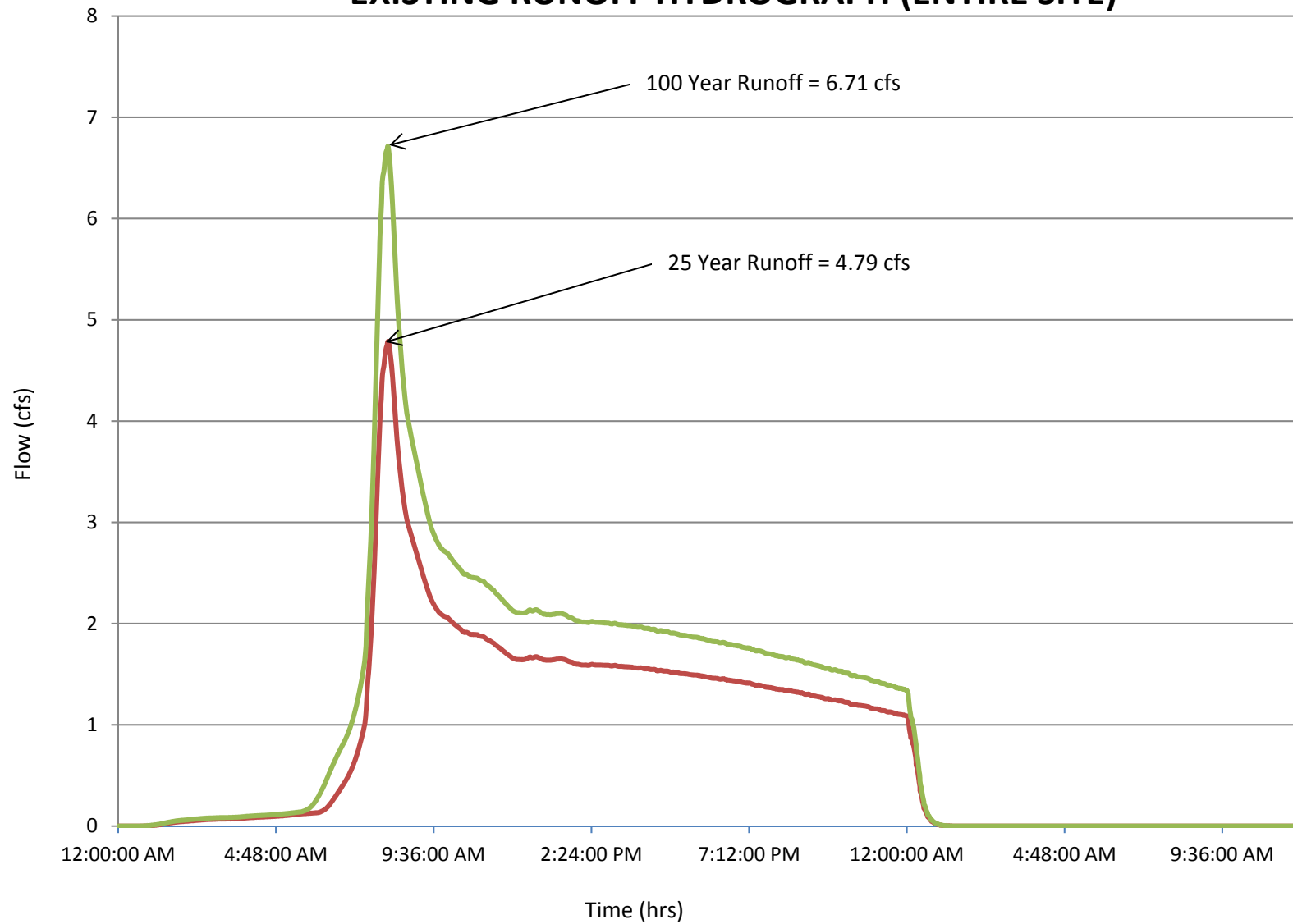
Time of Concentration

PROJECT NAME: Sagert Farms Subdivision			
PROJECT NO. 13159	BY KEF	DATE 5/28/2015	
	TC1	TC2	
SHEET FLOW			
INPUT	VALUE	VALUE	VALUE
Surface Description	Type 4 Cultivated (residue > 20%)	Type 4 Cultivated (residue > 20%)	Type 5 Grass (short prairie)
Manning's "n"	0.17	0.17	0.15
Flow Length, L	300 ft	300 ft	0 ft
2-Yr 24 Hour Rainfall, P ₂	2.5 in	2.5 in	2.5 in
Land Slope, s	0.03711 ft/ft	0.06206 ft/ft	0.0025 ft/ft
OUTPUT			
Travel Time	0.38 hr	0.31 hr	0.00 hr
SHALLOW CONCENTRATED FLOW			
INPUT	VALUE	VALUE	VALUE
Surface Description	Unpaved	Unpaved	Unpaved
Flow Length, L	768 ft	476 ft	0 ft
Watercourse Slope*, s	0.0627 ft/ft	0.09828 ft/ft	0.027 ft/ft
OUTPUT			
Average Velocity, V	4.04 ft/s	5.06 ft/s	2.65 ft/s
Travel Time	0.053 hr	0.026 hr	0.000 hr
CHANNEL FLOW			
INPUT	VALUE	VALUE	VALUE
Cross Sectional Flow Area, a	7.5 ft ²	7.5 ft ²	15.05 ft ²
Wetted Perimeter, P _w	11.28 ft	11.28 ft	7.69 ft
Channel Slope, s	0.003 ft/ft	0.003 ft/ft	0.00 ft/ft
Manning's "n"	0.24	0.24	0.24
Flow Length, L	0 ft	0 ft	0 ft
OUTPUT			
Average Velocity	0.26 ft/s	0.26 ft/s	0.53 ft/s
Hydraulic Radius, r = a / P _w	0.66 ft	0.66 ft	1.96 ft
Travel Time	0.00 hr	0.00 hr	0.00 hr
Watershed or Subarea T _c =	0.44 hr	0.34 hr	0.00 hr
Watershed or Subarea T _c =	26 minutes	20 minutes	0 minutes

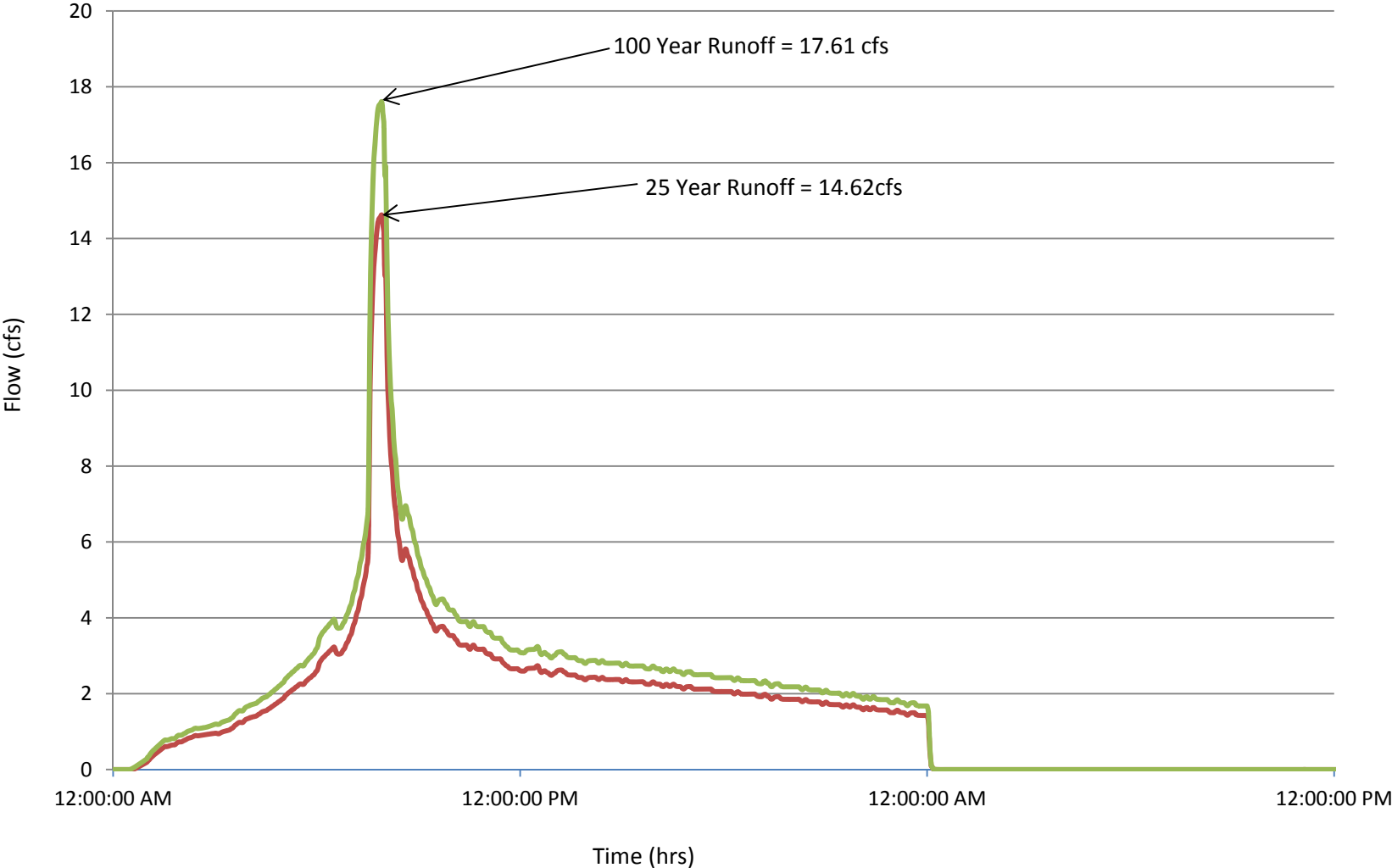


HYDROGRAPHS

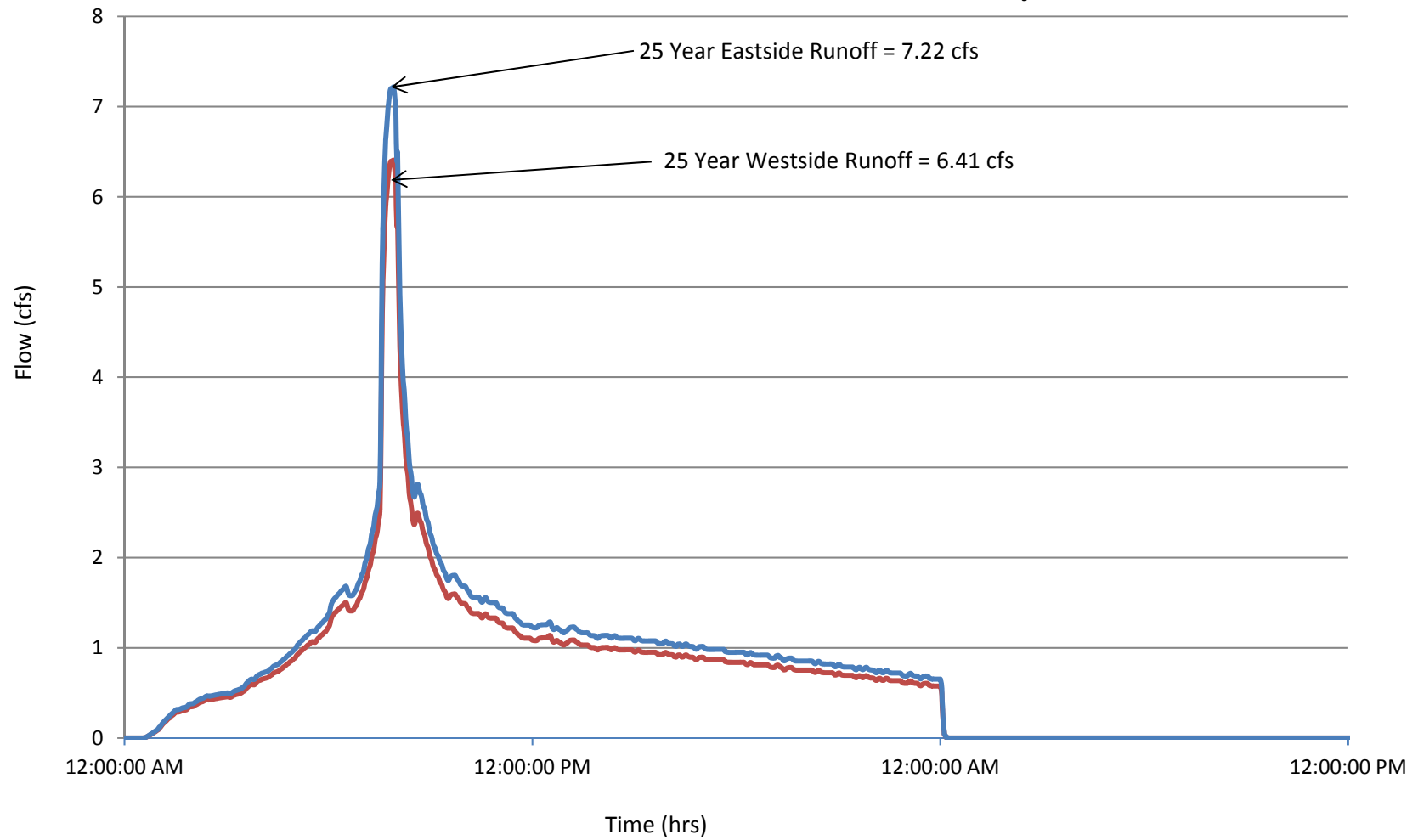
EXISTING RUNOFF HYDROGRAPH (ENTIRE SITE)



POST-DEVELOPED RUNOFF HYDROGRAPH (ENTIRE SITE INCLUDING BORLAND RD AND SW 65TH AVE)



PRETREATMENT HYDROGRAPHS (EXCLUDING NON-IMPACTED PERVIOUS AREA)



XPSTORM OUTPUT
Not Included

GEOTECHNICAL REPORT



**Real-World Geotechnical Solutions
Investigation • Design • Construction Support**

December 11, 2013
GeoPacific Project No. 13-3204

Mike Loomis
Lennar Northwest, Inc.
11807 NE 99th Street, Suite 1170
Vancouver, Washington 98682

Jesse Nemec
J.T. Smith Companies
5282 Meadows Road, Suite 171
Lake Oswego, Oregon 97035

Via e-mail with hard copies mailed

Subject: **GEOTECHNICAL ENGINEERING REPORT
SAGERT PROPERTY
20130 SW 65TH AVENUE
TUALATIN, OREGON**

This report presents the results of a geotechnical engineering study conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above referenced project. The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with GeoPacific proposal P-4637, dated October 30, 2013, and your subsequent authorization of our agreement and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The site is located on the east side of SW 65th Avenue in Tualatin, Oregon (Figure 1). The area of the planned development totals approximately 21.1 acres. A single family residence, a barn, and several small to large outbuildings are present in the center of the site. The topography on the site is generally moderately sloping down to the south at grades of 10 to 15 percent. Topography in the northeast portion of the site slopes down to a low lying area at the eastern property boundary, located approximately 350 feet south of the northeast corner of the property. Slopes increase in steepness near the southern property boundary, adjacent to Saum Creek, to grades of approximately 20 to 25 percent. Vegetation on the site consists primarily of grass, and sparse medium to large trees.

It is our understanding that the proposed development includes grading the site to support lots for new single-family homes, approximately 4,000 feet of new public streets, stormwater management facilities, and associated underground utilities. The current site plan (Figure 2) shows a total of 90 lots and one water quality tract. We understand that the existing residence and outbuildings are to be demolished or otherwise removed from the site. A grading plan has not been developed for the site; however, we anticipate moderate cuts and fills will be required and possibly retaining walls.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The site is underlain by the Quaternary age (last 1.6 million years) Willamette Formation, a catastrophic flood deposit associated with repeated glacial outburst flooding of the Willamette Valley (Yeats et al., 1996; Evarts, 2004). The last of these outburst floods occurred about 10,000 years ago. These deposits typically consist of horizontally layered, micaceous, silt to coarse sand forming poorly-defined to distinct beds less than 3 feet thick.

Underlying the Willamette Formation is the Columbia River Basalt Formation (Beeson et al., 1989). The Miocene aged (about 14.5 to 16.5 million years ago) Columbia River Basalts are a thick sequence of lava flows. The basalts are composed of dense, finely crystalline rock that is commonly fractured along blocky and columnar vertical joints. Individual basalt flow units typically range from 25 to 125 feet thick and interflow zones are typically vesicular, scoriaceous, brecciated, and sometimes include sedimentary rocks.

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Gales Creek-Newberg-Mt. Angel Structural Zone, the Portland Hills Fault Zone, and the Cascadia Subduction Zone.

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 13 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A recent geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek or Newberg Faults (the faults closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 6.7 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.8 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon Coast at depths of 20 and 40 kilometers below the ocean surface.

FIELD EXPLORATION

Subsurface conditions were explored on November 15, 2013 by excavating 14 test pits to depths of 4.5 to 12 feet below the ground surface, using a John Deere 310E backhoe with a 2-foot-wide toothed bucket. The approximate test pit locations are shown on the attached site plan (Figure 2). It should be noted that exploration locations were determined in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

During excavation of the test pits, a GeoPacific engineer observed and recorded soil information such as color, stratigraphy, strength, and soil moisture. Soils were classified in general accordance with the Unified Soil Classification System (USCS).

At the completion of each test pit, the excavation was backfilled using the excavated soils, and tamped with the excavator bucket. This backfill should not be expected to behave as engineered fill and some settling and/or erosion of the ground surface may occur.

SUBSURFACE CONDITIONS

Soil

The following report sections summarize subsurface conditions anticipated at the site, based on our exploration program. On-site soils consist of topsoil, disturbed native material, undocumented fill, and Willamette Formation materials, as described below.

Topsoil: In all test pits, the ground surface was directly underlain by topsoil consisting of dark brown, moderately organic SILT (OL-ML) with fine roots throughout. Topsoil thickness in test pits ranged from about 3 to 12 inches. There is the potential for some tree roots or thicker topsoil zones in forested areas on site.

Disturbed Native: Underlying the topsoil in test pits TP-1, TP-2, TP-3, TP-4, TP-5, TP-8, TP-9, TP-10, and TP-13 was disturbed native material consisting of brown, low organic, SILT (ML). The layer of disturbed native material was generally soft and likely resulted from previous agricultural operations on the site. The disturbed native material generally extended to depths of 14 to 24 inches below ground surface (bgs). However, in test pit TP-9 the disturbed native material extended to a depth of 3 feet.

Undocumented Fill: Underlying the topsoil in test pits TP-11 and TP-12 was undocumented fill material. The fill material generally consisted of SILT (ML) with varying amounts of gravel and charred organics. The silt fill material generally had a soft consistency and moisture contents were generally moist. The depth of undocumented fill material in test pits TP-11 and TP-12 was 2.5 and 3 feet bgs, respectively. We anticipate that additional localized fill zones may be present in the vicinity of the existing residence.

Willamette Formation: Underlying disturbed native material in test pits TP-1, TP-2, TP-3, TP-4, TP-5, TP-8, TP-9, TP-10, and TP-13, underlying the topsoil in test pits TP-6, TP-7, and TP-14, and underlying the undocumented fill material in test pits TP-11 and TP-12 was silt belonging to the Willamette Formation. The Willamette Formation material was generally brown in color with increasing amounts of sand content with depth. In test pits TP-1, TP-2, TP-6, TP-7, TP-11, TP-12, TP-13, the Willamette Formation material graded to silty fine sand with a medium dense consistency. Material belonging to the Willamette Formation extended beyond the maximum depths of our explorations (9.5 feet bgs).

Groundwater

On November 15, 2013, groundwater seepage was not encountered in any of the test pits, except TP-9. In test pit TP-9 seepage was encountered at a depth of approximately 1.5 feet and was visually estimated at approximately 3 gallons per minute.

The groundwater conditions reported are for the specific date and locations indicated, and therefore may not necessarily be indicative of other times and/or locations. It is anticipated that groundwater conditions will vary depending on the time of year, rainfall, local subsurface conditions, changes in site utilization, and other factors. During periods of heavy and prolonged precipitation, shallow perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season.

INFILTRATION TESTING

On November 15, 2013, GeoPacific performed three pushed-pipe falling head infiltration tests at the approximate locations shown on Figure 2. The tests were conducted in 6-inch diameter pipes pushed into the native soil at depths of approximately 4.5, 8.5, and 11 feet below the ground surface. The infiltration tests were performed at or near the locations of test pits TP-9, TP-10, and TP-13.

The test holes were pre-saturated for 4 hours prior to performing the tests. During the tests, the water level was measured over 30 minute intervals with approximate head pressures ranging between 4 and 24 inches until three successive measurements showing a consistent infiltration rate were achieved. Approximate test locations are shown in Figure 2. Table 1 presents a summary of our infiltration test measurement results.

Table 1. Results of Infiltration Testing

Test Pit	Depth (feet)	Soil Type	Infiltration Rate(in/hr)	Hydraulic Head Range (inches)
TP-9	4.5	SILT (ML)	0.1	6-18
TP-10	8.5	Sandy SILT (ML)	0.3	6-18
TP-13	11	Silty fine SAND (SM)	6	2-14

The test results indicate very low infiltration rates in the silt and sandy silt materials, and low to moderate infiltration rates in the silty fine sand material. The measured rates reflect vertical flow pathways only. Table 2 summarizes the depths at which silty fine sand was observed in the test pit explorations.

Table 2. Summary of Depths to Silty Fine Sand

Exploration Designation	Depth of Silty Fine SAND (SM) (feet bgs)
TP-1	8
TP-2	6
TP-6	6
TP-7	7
TP-11	9
TP-12	8.5
TP-13	9

PORTABLE DYNAMIC CONE PENETROMETER TESTING

Field tests were also conducted with a Portable Dynamic Cone Penetrometer (PDCP) to determine the strength parameters of the soil for support of pavement. Correlated California Bearing Ratio (CBR) values at each test location are summarized on Table 3, for the depth intervals indicated.

Table 3. PDCP Field Test Results and Correlated CBR Values

Exploration Designation	Material Tested	Depth Interval of Test (feet)	Average Penetration Per Blow (mm)	Correlated CBR
TP-1	SILT (ML)	2 – 4	51	4
TP-3	SILT (ML)	1.5 – 3	43	5
TP-4	SILT (ML)	1.5 – 3.5	36	6
TP-7	Sandy SILT (ML)	1 – 3	38	6

The test results indicate moderate subgrade soil conditions for support of traffic loading. A low-end CBR value of 4 was used for subgrade soils in our analyses for the proposed access roads, as discussed in a subsequent report section.

CONCLUSIONS AND RECOMMENDATIONS

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The proposed structures may be supported on shallow foundations bearing on competent undisturbed native soils, or engineered fill, designed and constructed as recommended in this report.

Recommendations are presented below for site preparation and undocumented fill removal, engineered fill, wet weather earthwork, seismic design, structural foundations, footing drains, storm water systems, excavation conditions and utility trench backfill, pavement sections, retaining wall design and construction recommendations, general slope stability evaluation, and erosion control considerations. The

recommendations of this report assume the single-family structures will have raised floors and crawlspaces. If structures are planned with basements or concrete slab-on-grade floors, GeoPacific should be contacted for additional recommendations regarding basement retaining wall design and drainage, concrete floor slabs and moisture protection, or other issues.

General Slope Stability Evaluation

Slopes increase in steepness near the southern property boundary, adjacent to Saum Creek, to grades of approximately 25 percent. Slopes in this portion of the site are generally south-facing. The results of our geotechnical investigation indicate that the site is underlain by stiff to very stiff silt and medium dense silty sand belonging to the Willamette Formation. This material is generally considered moderately resistant to deep-seated landsliding on gentle slopes unless adversely impacted by natural processes or human activities. Based on our field reconnaissance observations, slopes near the southern property boundary are generally smooth and uniform, consistent with relatively stable conditions. No evidence of past deep-seated instability (such as scarplets, ground cracks, benches, etc.) was observed in these areas. The steepness of the slopes near the southern property boundary is likely due to gradual erosion from flows in Saum Creek.

The proposed grading plan shows a setback of 15 feet from the top of the bank of Saum Creek. It is our opinion that this setback is sufficient for slope stability and to minimize the risk of developed lots being affected by erosion of the bank by potential flows in Saum Creek.

Site Preparation and Undocumented Fill Removal

Within the areas to receive fill, proposed building footprints, or other settlement-sensitive areas, undocumented fill, disturbed native material, vegetation, and debris should be completely removed and replaced with engineered fill. Debris from clearing should be removed from the site. Undocumented fill was encountered in test pits TP-11 and TP-12 to depths of 2.5 and 3 feet, respectively. Disturbed native material was encountered to depths of 14 to 24 inches in test pits TP-1, TP-2, TP-3, TP-4, TP-5, TP-8, TP-10, and TP-13, and to a depth of 3 feet in test pit TP-9. We anticipate that undocumented fill material and disturbed native material may be re-used as engineered fill during dry weather conditions.

Organic-rich topsoil should be stripped to the relatively inorganic native soils. We anticipate that the depth of stripping will be an average of roughly 6 to 8 inches over most of the site. Deeper stripping will be needed in areas that have been tilled in the past, areas of localized fill deposits, etc. The final depth of stripping removal may vary depending on local subsurface conditions and the contractor's methods, and should be determined on the basis of a site inspection after the initial stripping has been performed.

Stripped organic soil should be stockpiled only in designated areas or removed from the site and stripping operations should be observed and documented by GeoPacific. Any existing subsurface structures (tile drains, old utility lines, septic leach fields, etc.) beneath structures and pavements should be removed and the excavations backfilled with engineered fill.

In construction areas, once stripping is approved, the area should be ripped or tilled to a depth of 12 inches, moisture conditioned, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement (dry weather conditions). Exposed subgrade soils should be evaluated by GeoPacific. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, and during wet weather, the subgrade should be evaluated by probing the soil with a steel probe.

Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by GeoPacific at the time of construction.

Engineered Fill

In general, we anticipate that undocumented fill material, disturbed native soils, and native soils from planned cuts and utility trench excavations will be suitable for use as engineered fill during dry weather conditions, provided they are adequately moisture conditioned prior to compacting and are free of highly organic material and debris. Imported fill material should be reviewed by GeoPacific prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using conventional compaction equipment. We recommend that engineered fill be compacted to at least 95 percent of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. On-site soils may be wet or dry of optimum; therefore, we anticipate that moisture conditioning of native soil will be necessary for compaction operations.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should generally conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 cubic yards, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Fill Slope Keying and Benching

We recommend that fill slopes for the project be planned no steeper than 2H:1V and be constructed in accordance with the Fill Slope Detail, Figure 3. For fill slopes constructed at 2H:1V or flatter, and comprised of engineered fill placed and compacted as recommended herein, we anticipate that adequate factors of safety against global failure will be maintained.

Prior to placing compacted fill against natural slopes, loose undocumented fill, topsoil, and soft soils should first be removed. Adequate benching should be maintained where fill is placed on existing slopes steeper than about 6H:1V (Horizontal:Vertical). Fill slope keyways should be constructed with a minimum depth of 2 feet and minimum width of H/2 (10 feet minimum), where H equals the vertical height between the base and top of the fill slope (Figure 4). Both benches and keyways should be roughly horizontal in the downslope direction. A subdrain should be incorporated in the fill slope keyway, and GeoPacific should observe the keyway excavations prior to the placement of fill.

Measures should be taken to prevent surficial instability and/or erosion of embankment material. This can be accomplished by conscientious compaction of the embankment fills all the way out to the slope face, by maintaining adequate drainage, and planting the slope face as soon as possible after construction. To achieve the specified relative compaction at the slope face, it may be necessary to overbuild the slopes several feet, and then trim back to design finish grade. In our experience, compaction of slope faces by "track-walking" is generally ineffective and is therefore not recommended.

Wet Weather Earthwork

The on-site soils are moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require expensive measures such as cement treatment or imported granular material to compact fill to the

recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Bales of straw and/or geotextile silt fences should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Structural Foundations

The proposed residential structures may be supported on shallow foundations bearing on competent undisturbed, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. We recommend a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) for designing footings on native soil near existing grade. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.5 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 390 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a

safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footing excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars. GeoPacific should observe foundation excavations prior to placing formwork and reinforcing steel, to verify that adequate bearing soils have been reached.

The above foundation recommendations are for dry weather conditions. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate.

Footing and Roof Drains

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors are used, perimeter footing drains would not be required based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed.

Where used, perimeter footing drains should consist of 3- or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, free-draining drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed to the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to the street.

Construction should include typical measures for controlling subsurface water beneath the homes, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the exposed ground in the crawlspace, and crawlspace ventilation (foundation vents). The homebuyers should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the home given these other design elements incorporated into its construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Retaining Wall Design and Construction Recommendations

Based on the sloping topography on site, we anticipate that site retaining walls will be incorporated into the project grading plan. Retaining wall locations and types have not yet been determined, although we anticipate the walls will consist most likely of Lock and Load, Keystone, or other geogrid-reinforced systems. GeoPacific should be consulted to provide retaining wall design and construction recommendations when the wall type, locations and elevations are finalized.

Seismic Design

Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2009 International Residential Code (IRC) for One- and Two-Family Dwellings, with applicable Oregon Structural Specialty Code (OSSC) revisions. We recommend Site Class D be used for design per the OSSC, Table 1613.5.2. Design values determined for the site using the USGS (United States Geological Survey) *Earthquake Ground Motion Parameters* utility are summarized below, based on a location near the center of the site.

Table 4. Recommended Earthquake Ground Motion Parameters (2006 IRC)

Parameter	Value
Location (Lat, Long), degrees	45.3742, -122.7418
Mapped Spectral Acceleration Values (MCE):	
Short Period, S_s	0.92 g
1.0 Sec Period, S_1	0.33 g
Soil Factors for Site Class D:	
F_a	1.13
F_v	1.74
Residential Site Value = $2/3 \times F_a \times S_s$	0.69 g
Residential Seismic Design Category	D ₁

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Following development, on-site soils will consist predominantly of engineered fill or native fine-grained soils, which are not considered susceptible to liquefaction. Therefore, it is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

Storm Water Management

We understand that on-site storm water management facilities may include water quality tracts, shallow infiltration facilities, and/or deep infiltration facilities. Infiltration test results indicate that infiltration rates in the silt and sandy silt soils are on the order of 0.1 to 0.3 inches per hour, and that the infiltration rates in the silty fine sand soils are on the order of 6 inches per hour. Table 2 summarizes the depths at which silty fine sand was encountered in the test pits. The designer should select an appropriate infiltration value based on our test results and the location/elevation of the proposed infiltration facility. The infiltration rates do not incorporate a factor of safety. For the design infiltration rate, the system designer should incorporate an appropriate factor of safety against slowing of the rate over time due to biological and sediment clogging.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies. Evaluating environmental implications of stormwater disposal at this site are beyond the scope of this study.

Excavating Conditions and Utility Trench Backfill

We anticipate that on-site soils can be excavated using conventional heavy equipment. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only.

Shallow, perched groundwater should be anticipated in excavations and utility trenches. The depth of groundwater will likely be less during the wet weather season and greater during the dry weather season. Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that structural trench backfill be compacted to at least 90% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent. Initial backfill lift thicknesses for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Pavement Sections - On-Site Public Streets

We understand that asphalt pavements may be incorporated in project design for the construction of new on-site public streets. For the purposes of pavement section design we assumed subgrade soils will be prepared to provide a minimum resilient modulus of 6,000 pci, equivalent to a CBR value of about 4. Using the methodology presented in the 1993 AASHTO (American Association of State Highway and Transportation Officials) pavement design guidelines, Table 5 presents recommended minimum pavement section for new on-site streets, and minor driveways and parking lots, under dry weather construction conditions. Based on our experience, these pavement sections are generally appropriate for minor residential streets and driveways that will not be subjected to significant heavy truck traffic (less than 200 trips per day). Changes in anticipated traffic levels will affect the recommended pavement section. GeoPacific should be contacted for additional recommendations if any paved areas are to be designed for heavy truck traffic.

Table 5. Recommended Minimum Dry Weather Pavement Section for On-Site Streets

Material Layer	Minimum Thickness (inches)	Compaction Standard
Asphaltic Concrete (AC)	3	92% of Rice Density (top lift) 91% of Rice Density (lower lifts) AASHTO T-209
Crushed Aggregate Base ¾"-0 (leveling course)	2	95% of Modified Proctor ASTM D1557
Crushed Aggregate Base 1½"-0	8	95% of Modified Proctor ASTM D1557
Recommended Subgrade	N/A	Approved Native Subgrade or Engineered Fill Compacted to 95% of Standard Proctor ASTM T-99

In order to verify subgrade strength, we recommend proof-rolling directly on subgrade with a loaded dump truck during dry weather and on top of base course in wet weather. Soft areas that pump, rut, or weave should be stabilized prior to paving. If pavement areas are to be constructed during wet weather, GeoPacific should review subgrade at the time of construction so that condition specific recommendations can be provided. Wet weather pavement construction is likely to require soil amendment or geotextile fabric and an increase in base course thickness.

During placement of pavement section materials, density testing should be performed to verify compliance with project specifications. Generally, one subgrade, one base course, and one AC compaction test is performed for every 100 to 200 linear feet of paving.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of “bio-bags”, silt fences, and other appropriate technology. Where used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary

appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, GeoPacific executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.



We appreciate this opportunity to be of service.

Sincerely,

GEO PACIFIC ENGINEERING, INC.

Benjamin G. Anderson
Staff Engineer

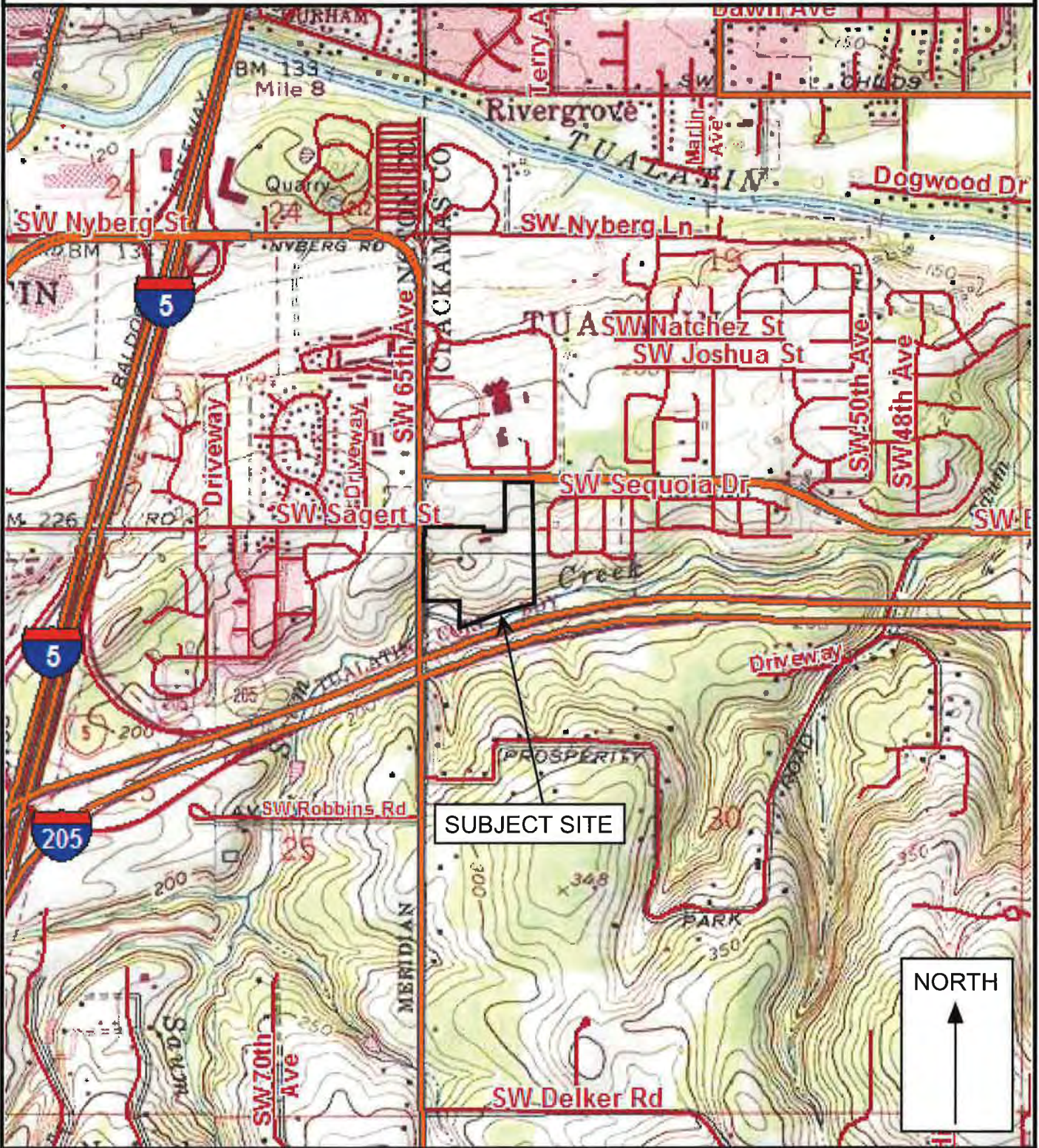


EXPIRES: 06-30-20 15
Scott L. Hardman, G.E., P.E.
Principal Geotechnical Engineer

- Attachments: References
 Figure 1 – Vicinity Map
 Figure 2 – Site and Exploration Plan
 Figure 3 – Fill Slope Detail
 Test Pit Logs (TP-1 through TP-14)

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Legend:

Approximate Scale 1 in = 2,000 ft

Date: 11/21/13

Drawn by: BGA

Base maps: National Geographic TOPOI, Tele Atlas, Oregon, 1990.

Project: Sagert Property
Tualatin, Oregon

Project No. 13-3204

FIGURE 1



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1
 Test Pit Designation and Approximate Location

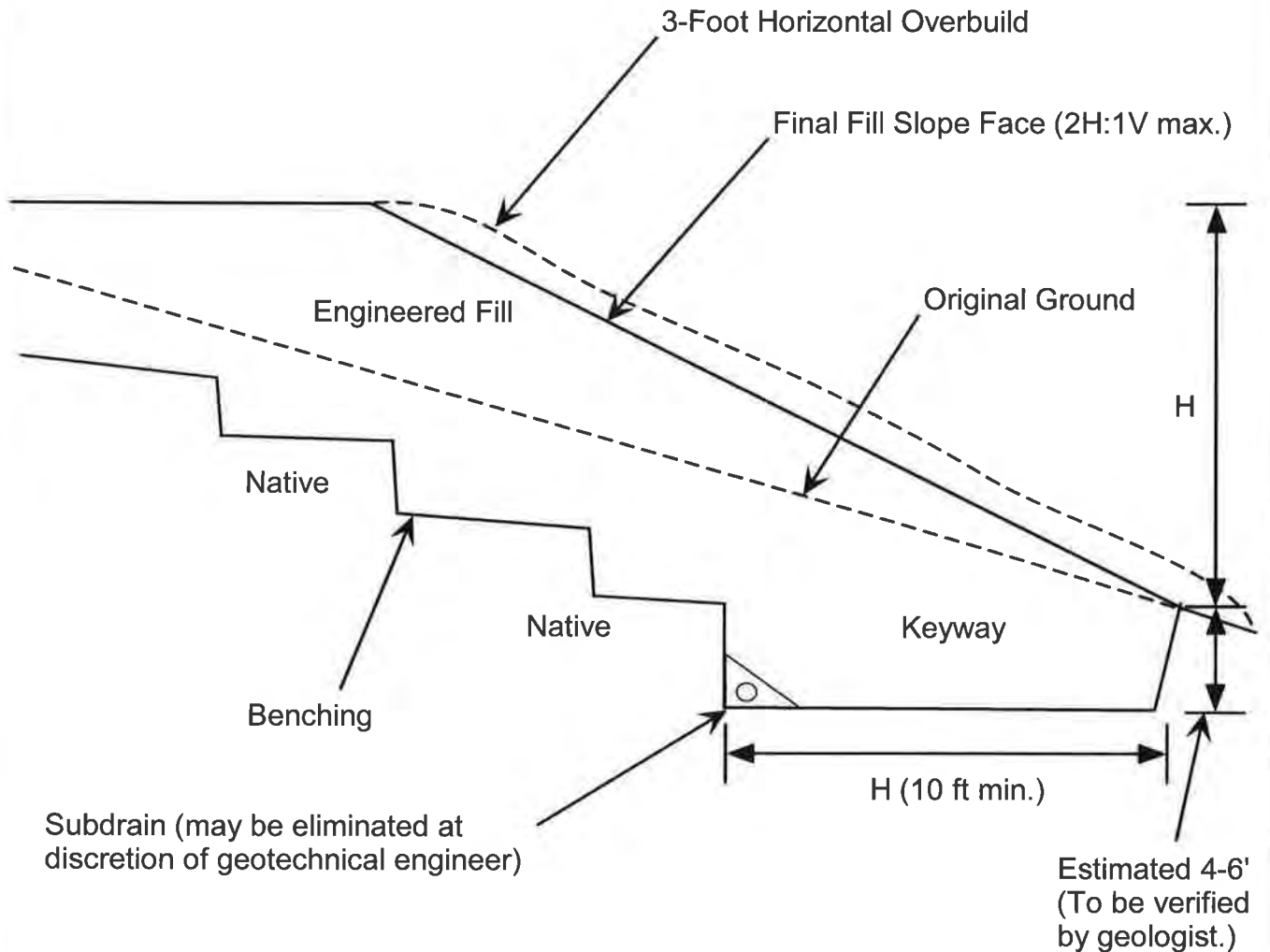
Date: 11/19/13
 Drawn by: BGA
 0 200'
 APPROXIMATE SCALE 1"=200'

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

FIGURE 2

TYPICAL KEYWAY, BENCHING & FILL SLOPE DETAIL



Recommended subdrain is minimum 3-inch-diameter ADS Heavy Duty grade (or equivalent), perforated plastic pipe enveloped in a minimum of 3 cubic feet per lineal foot of 2" to 1/2" open-graded gravel drain rock wrapped with geotextile filter fabric (Mirafi 140N or equivalent).



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TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						10" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2	3.0					10" soft, low organic SILT (ML), brown, moist (Disturbed Native)
3	3.0					Stiff, SILT (ML), brown, moist (Willamette Formation)
4	3.0					Grades to very stiff
5	4.5					
6						
7						
8						
9						Medium dense, silty fine SAND (SM), moist (Willamette Formation)
10						Test pit terminated at 10 feet
11						
12						Note: No seepage or groundwater encountered
13						
14						
15						
16						
17						

LEGEND



100 to 1,000 g



5 Gal Bucket



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



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TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-2**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						10" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2	2.0					10" soft, low organic SILT (ML), brown, moist (Disturbed Native)
3	2.5					Stiff, SILT (ML), brown, moist (Willamette Formation)
4	>4.5					Grades to very stiff and sandy
5						
6						Medium dense, silty fine SAND (SM), moist (Willamette Formation)
7						
8						
9						
10						
11						Test pit terminated at 11 feet
12						
13						Note: No seepage or groundwater encountered
14						
15						
16						
17						

LEGEND



100 to 1,000 g



5 Gal. Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



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 Portland, Oregon 97224
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TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						6" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
						12" soft, low organic SILT (ML), brown, moist (Disturbed Native)
2	2.0					Stiff, SILT (ML), brown, moist (Willamette Formation)
3	>4.5					Grades to very stiff
4						
5						
6						
7						Grades to sandy
8						Test pit terminated at 8 feet
9						
10						Note: No seepage or groundwater encountered
11						
12						
13						
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13
 Logged By: BGA
 Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						6" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
						12" soft, low organic SILT (ML), brown, moist (Disturbed Native)
2	2.0					Stiff, SILT (ML), brown, very moist (Willamette Formation)
3	2.0					
	3.5					
4	>4.5					Grades to very stiff
5						
6						
7						
8						Grades to sandy
9						
10						Test pit terminated at 10 feet
11						
12						Note: No seepage or groundwater encountered
13						
14						
15						
16						
17						

LEGEND



100 to 1,000 g



5 Gal Bucket



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13
 Logged By: BGA
 Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-5**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	0.5					6" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2						12" soft, low organic SILT (ML), brown, moist (Disturbed Native)
3	2.0					Stiff, SILT (ML), brown, moist (Willamette Formation)
4	3.5					Grades to very stiff
5						
6						
7						Grades to with trace sand
8						
9						
10						Grades to sandy
11						Test pit terminated at 11 feet
12						
13						Note: No seepage or groundwater encountered
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-6**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						12" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2	1.0					Stiff, sandy SILT (ML), brown, moist (Willamette Formation)
3	1.5					
4	1.5					
5						
6						
7						Medium dense, silty fine SAND (SM), gray brown, damp (Willamette Formation)
8						
9						Test pit terminated at 9 feet
10						
11						Note: No seepage or groundwater encountered
12						
13						
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						10" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2	4.0					Very stiff, sandy SILT (ML), brown, moist (Willamette Formation)
3	4.0					
4	4.5					
5						
6						
7						
8						Medium dense, silty fine SAND (SM), gray brown, damp (Willamette Formation)
9						
10						Test pit terminated at 10 feet
11						
12						Note: No seepage or groundwater encountered
13						
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-8**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						3" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
1.0						11" soft, low organic SILT (ML), brown, moist (Disturbed Native)
2	1.5					Stiff, SILT (ML), brown, moist (Willamette Formation)
3	1.5					Grades to with occasional charred organics
4	>4.5					Grades to very stiff to hard and less moist
5						
6						
7						Grades to sandy and gray brown
8						Test pit terminated at 8 feet
9						
10						Note: No seepage or groundwater encountered
11						
12						
13						
14						
15						
16						
17						

LEGEND



100 to 1,000 g
Bag Sample



5 Gal Bucket
Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-9**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	0.5					Very soft, moderately organic SILT (OL-ML), dark gray and dark brown, fine roots throughout upper 4 inches, very moist (Disturbed Native) Grades to blue gray and with seepage at 1.5 feet
2						
3						----- Stiff, SILT (ML), brown, moist (Willamette Formation)
4	3.5					
5						Test pit terminated at 4.5 feet Notes: Seepage encountered at 1.5 feet Discharge visually estimated at approximately 3 gallons per minute Water measured at 2.5 feet after three hours
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-10**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.0					4" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2	3.5					20" soft, low organic SILT (ML), brown, moist (Disturbed Native)
3	3.5					Stiff, SILT (ML), brown, moist (Willamette Formation)
4	>4.5					Grades to gray brown and with trace fine sand
5						
6						
7						Grades to sandy
8						
9						Test pit terminated at 8.5 feet
10						
11						Note: No seepage or groundwater encountered
12						
13						
14						
15						
16						
17						

LEGEND



100 to 1,000 g
Bag Sample



5 Gal. Bucket
Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-11**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						5" very soft to soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2						Soft, low organic SILT (ML), brown, moist (Undocumented Fill)
3	3.5					Very stiff, SILT (ML), gray brown, with trace fine sand, damp (Willamette Formation)
4	4.0					Grades to gray brown and with trace fine sand
5						
6						
7						Grades to sandy
8						
9						
10						Medium dense, silty fine SAND (SM), brown, damp (Willamette Formation)
11						
12						Test pit terminated at 12 feet
13						
14						Note: No seepage or groundwater encountered
15						
16						
17						

LEGEND



100 to 1,000 g



5 Gal. Bucket



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-12**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						5" very soft to soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2						Soft to medium stiff, low organic SILT (ML), with charred organics and occasional gravel, brown and gray, nonhomogeneous, moist (Undocumented Fill)
3						
3.5	3.5					Very stiff, SILT (ML), brown, moist (Willamette Formation)
4						
4.5	4.5					
5						
6						
7						Grades to sandy
8						
9						Medium dense, silty fine SAND (SM), brown, damp (Willamette Formation)
10						
11						
12						Test pit terminated at 12 feet
13						
14						Note: No seepage or groundwater encountered
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-13**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.5					4" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout, moist (Topsoil)
2						20" soft to medium stiff, low organic SILT (ML), brown, moist (Disturbed Native)
3	>4.5					Very stiff, SILT (ML), brown, moist (Willamette Formation)
4						Grades to gray brown and with trace fine sand
7						Grades to sandy
9						Medium dense, silty fine SAND (SM), brown, moist (Willamette Formation)
10						
11						Test pit terminated at 11 feet
12						
13						Note: No seepage or groundwater encountered
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Sagert Property
 Tualatin, Oregon

Project No. 13-3204

Test Pit No. **TP-14**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	4.0					10" soft, moderately organic SILT (OL-ML), dark brown, fine roots throughout upper 4 inches, moist (Topsoil)
2	4.0					Medium stiff, SILT (ML), gray, with orange mottling, moist (Willamette Formation)
3						
4	4.5					
5						
6						Grades to brown
7						
8						Test pit terminated at 8 feet
9						
10						Note: No seepage or groundwater encountered
11						
12						
13						
14						
15						
16						
17						

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 11/15/13

Logged By: BGA

Surface Elevation:

Service Provider Letter

This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 07-20).

Jurisdiction: Tualatin Review Type: Allowed Use
 Site Address: 20130 SW 65th Ave SPL Issue Date: May 21, 2015
 / Location: Tualatin, OR 97062-9227 SPL Expiration Date: May 20, 2017

Applicant Information:

Name: _____
 Company: LENNAR NORTHWEST INC
11807 NE 99TH ST STE 1170
 Address: _____
VANCOUVER WA 98682-2350
 Phone/Fax: _____
 E-mail: _____

Owner Information:

Name: _____
 Company: SAGERT FAMILY LLC
23187 CORRAL GULCH RD
 Address: _____
CANYON CITY OR 97820-8765
 Phone/Fax: _____
 E-mail: _____

Tax lot ID

Development Activity

21E30B 00300, 00600

Sagert Farms Subdivision

Pre-Development Site Conditions:

Sensitive Area Present: On-Site Off-Site
 Vegetated Corridor Width: Variable
 Vegetated Corridor Condition: Marginal/Degraded

Post Development Site Conditions:

Sensitive Area Present: On-Site Off-Site
 Vegetated Corridor Width: Variable

Enhancement of Remaining Vegetated Corridor Required:

Square Footage to be enhanced: 79,497

Encroachments into Pre-Development Vegetated Corridor:

Type and location of Encroachment: _____ Square Footage: _____
Path (Temporary Encroachment; Restoration Planting in Place Required) 1,468

Mitigation Requirements:

Type/Location: _____ Sq. Ft./Ratio/Cost: _____
None Required 0

Conditions Attached Development Figures Attached (2) Planting Plan Attached Geotech Report Required

This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.

In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 07-20, Chapter 3.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 07-20, Section 3.06.1 and per approved plans.
3. **If any activity is proposed within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.**
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. **Prior to ground disturbance an erosion control permit is required. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.**
6. **Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.**
7. Activities located within the 100-year floodplain shall comply with R&O 07-20, Section 5.10.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. The water quality swale and detention pond shall be planted with Clean Water Services approved native species, and designed to blend into the natural surroundings.
10. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**
11. The Vegetated Corridor width for sensitive areas within the project site shall be a minimum of 50 feet wide, as measured horizontally from the delineated boundary of the sensitive area.
12. For Vegetated Corridors that extend 35 feet from the break in slope, the width of Vegetated Corridors may be reduced to 15 feet wide if a stamped geotechnical report confirms that slope stability can be maintained with the reduced setback from the break in slope.
13. **For Vegetated Corridors greater than 50 feet in width, the applicant shall enhance the first 50 feet closest to the sensitive area to meet or exceed good corridor condition as defined in R&O 07-20, Section 3.14.2, Table 3-3.**
14. Removal of invasive non-native species by hand is required in all Vegetated Corridors rated ""good."" Replanting is required in any cleared areas larger than 25 square feet using low impact methods. The applicant shall calculate all cleared areas larger than 25 square feet prior to the preparation of the required Vegetated Corridor enhancement/restoration plan.
15. Prior to any site clearing, grading or construction, the applicant shall provide Clean Water Services with a Vegetated Corridor enhancement/restoration plan. Enhancement/restoration of the Vegetated Corridor shall be provided in accordance with R&O 07-20, Appendix A, and shall include planting specifications for all Vegetated Corridor, including any cleared areas larger than 25 square feet in Vegetated Corridor rated ""good.""
16. Prior to installation of plant materials, all invasive vegetation within the Vegetated Corridor shall be removed per methods described in Clean Water Services' Integrated Vegetation and Animal

Management Guidance, 2003. During removal of invasive vegetation care shall be taken to minimize impacts to existing native tree and shrub species.

17. Clean Water Services shall be notified 72 hours prior to the start and completion of enhancement/restoration activities. Enhancement/restoration activities shall comply with the guidelines provided in Landscape Requirements (R&O 07-20, Appendix A).
18. **Maintenance and monitoring requirements shall comply with R&O 07-20, Section 2.11.2. If at any time during the warranty period the landscaping falls below the 80% survival level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.**
19. **Performance assurances for the Vegetated Corridor shall comply with R&O 07-20, Section 2.06.2, Table 2-1 and Section 2.10, Table 2-2.**
20. **For any developments which create multiple parcels or lots intended for separate ownership, Clean Water Services shall require that the sensitive area and Vegetated Corridor be contained in a separate tract and subject to a ""STORM SEWER, SURFACE WATER, DRAINAGE AND DETENTION EASEMENT OVER ITS ENTIRETY"" to be granted to Clean Water Services.**
21. Final construction plans shall include landscape plans. In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
22. A Maintenance Plan shall be included on final plans including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
23. Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.
24. Protection of the Vegetated Corridors and associated sensitive areas shall be provided by the installation of permanent fencing and signage between the development and the outer limits of the Vegetated Corridors. Fencing and signage details to be included on final construction plans.

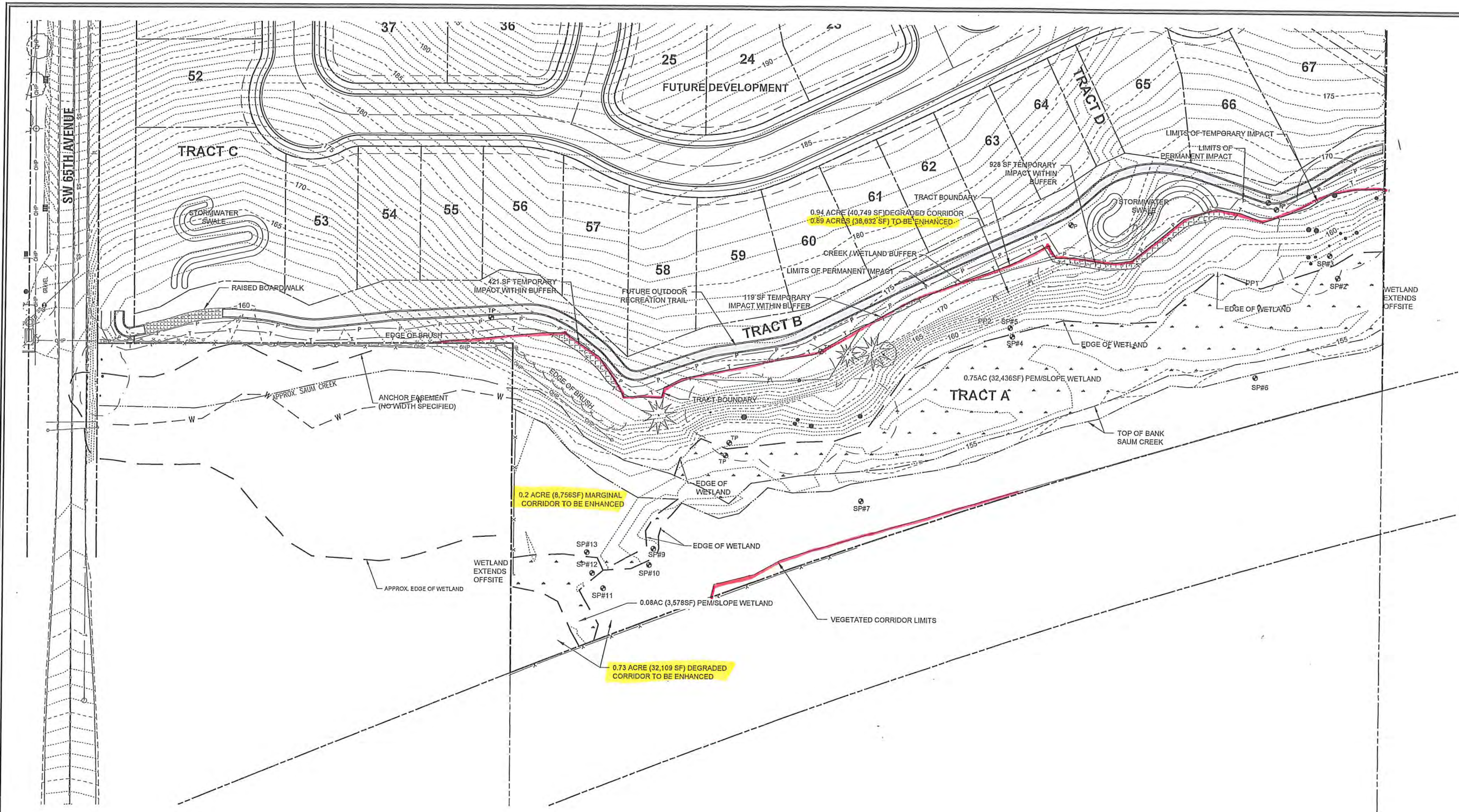
This Service Provider Letter is not valid unless CWS-approved site plan is attached.

Please call (503) 681-3667 with any questions.

Stacy Benjamin

Stacy Benjamin
Environmental Plan Review

Attachments (2)



CWS File No. 15-000154
 Approved
 Clean Water Services
 For Environmental Review
 By SUB Date 5/21/15
 SPL Attachment 2 of 2

LEGEND

	EXISTING TREE GROVE		WETLAND EXTENTS
	EXISTING TREES		TEMPORARY IMPACTS WITHIN CORRIDOR
	BOUNDARY LINE		CORRIDOR BEYOND 50'
	RIGHT-OF-WAY		
	LOT LINE		
	1 FT CONTOUR		
	5 FT CONTOUR		
	CREEK EXTENTS		
	TEMPORARY IMPACT LIMIT		Vegetated
	PERMANENT IMPACT LIMIT		



C.W.S. EXHIBITS	04/22/15
REVISION SUMMARY	BY DATE
A	

VEGETATED CORRIDOR IMPACT AREAS PLAN
 SAGERT FARMS
 SUBDIVISION
 TUALATIN, OREGON
 LENNAR NORTHWEST, INC



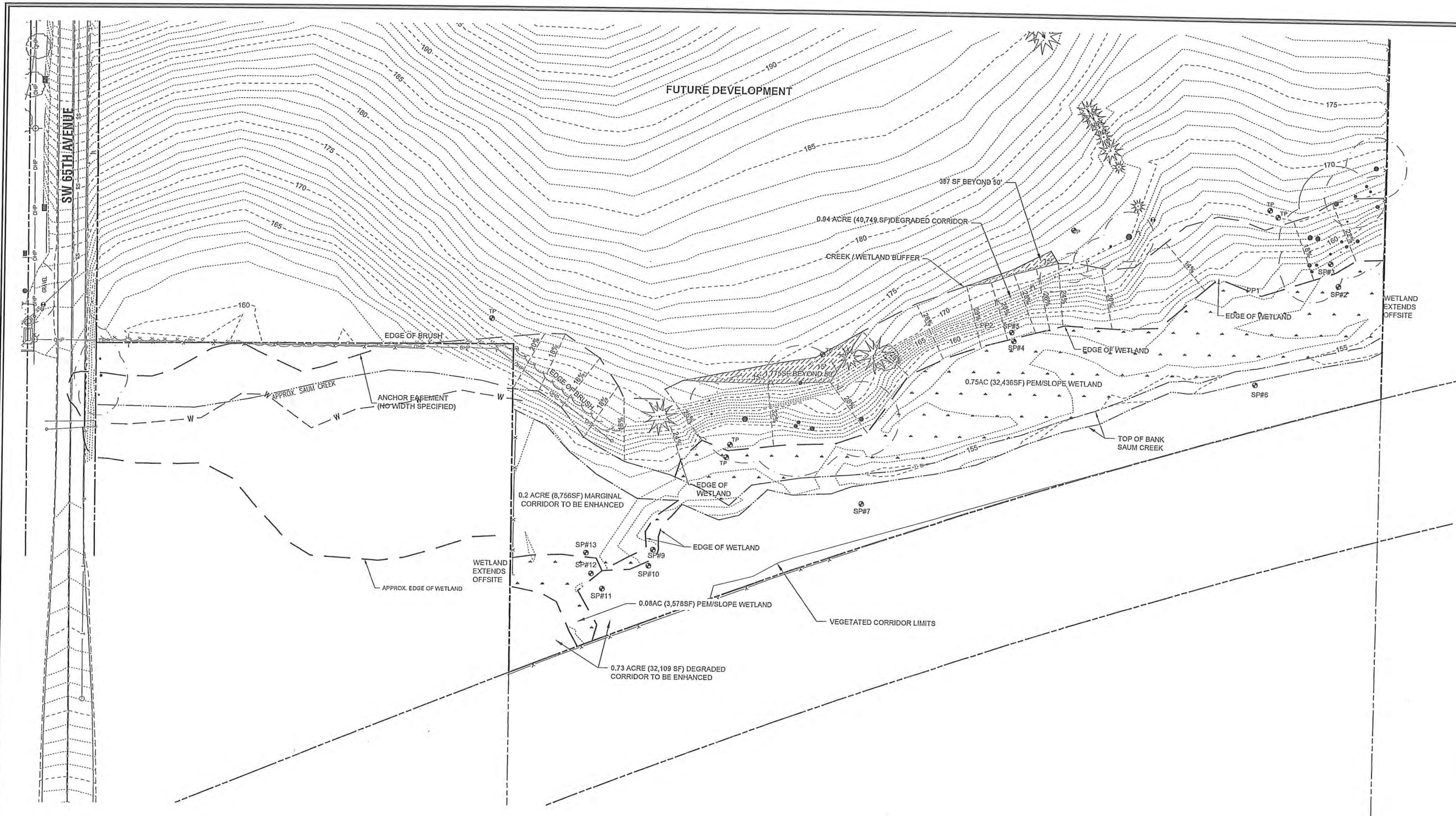
3J CONSULTING, INC

 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10446 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-9365

3J JOB ID # | 13159
 LAND USE # |
 TAX LOT # | 2S1E03B 300 & 600
 DESIGNED BY | JTE
 CHECKED BY | JDH

SHEET TITLE
 IMPACT AREAS
 SHEET NUMBER

Figure 2



CWS File No. 15-000154

Approved
 Clean Water Services
 For Environmental Review
 By SNB Date 5/21/15

SP2 Attachment 1 of 2

LEGEND	
	EXISTING TREE GROVE
	EXISTING TREES
	BOUNDARY LINE
	RIGHT-OF-WAY
	LOT LINE
	1 FT CONTOUR
	5 FT CONTOUR
	CREEK EXTENTS
	WETLAND EXTENTS
	CORRIDOR BEYOND 50'



C.W.S. EXHIBITS	REVISION SUMMARY	BY	DATE
1			04/22/15

EXISTING VEGETATED CORRIDOR
SAGERT FARMS
 SUBDIVISION
 TUALATIN, OREGON
 LENNAR NORTHWEST, INC.

LENNAR

CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
 PHONE & FAX: (503) 946-9385

3J JOB ID #	13159
LAND USE #	
TAX LOT #	251E308 300 & 600
DESIGNED BY	JTE
CHECKED BY	JDH

SHEET TITLE
EXISTING

SHEET NUMBER
Figure 1



City of Tualatin

www.tualatinoregon.gov

December 03, 2015

SUBDIVISION REVIEW FINDINGS AND DECISION FOR SB15-0002, SAGERT FARM

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I. RECOMMENDATION

Based on the findings presented, the City Engineer approves the preliminary plat of SB15-0002, Sagert Farm with the following conditions:

A. PRIOR TO ANY ON SITE WORK RELATED TO THIS DECISION:

PFR-1 Provide a tree protection plan to scale that shows all preserved trees will be protected with sturdy chain link fencing around the drip line throughout the entirety of the development. If the drip line of the preserved trees is shown within a current building envelope, the building envelope shall be moved so that no construction takes place within the drip line of the preserved trees. Any encroachment on the drip line of the preserved trees must first be approved by the City per TDC 73.250(2)(e). In addition to the tree protection plan, any and all grading plans shall show all preserved trees protected with sturdy fencing (chain link fence) during the construction process. Any and all grading plans shall include a note that states "No grading activities will allow preserved tree roots to remain exposed per TDC 73.250(2)(f)".

B. PRIOR TO ISSUANCE OF PUBLIC WORKS AND WATER QUALITY PERMITS:

- PFR -2 Submit final sanitary sewer plans that show location of the lines, grade, materials, and other details.
- PFR -3 Show each lot will have a separate minimum 1-inch water lateral with backflow prevention, double check valve assemblies, and control valves.
- PFR -4 Submit final water system plans that show location of the water lines, grade, materials, and other details.
- PFR-5 Obtain a NPDES Erosion Control Permit in accordance with code section TMC 3-5-060.
- PFR-6 Obtain a City of Tualatin erosion control permit in accordance with code section TMC 3-5-060.
- PFR-7 Submit final stormwater calculations that include conveyance through the development.
- PFR-8 Submit final stormwater plans.
- PFR -9 Submit plans that meet the requirements of TVF&R and show red powder coated public fire hydrants spaced to meet Public Works Construction Code.

- PFR-10 Submit a scaled tree preservation site plan and grading plan that shows preservation of trees to be retained in conformance with TDC 34.210(1&2), 73.250(2)(a) and as approved on the plans.
- PFR -11 Submit approvable plans and color elevations including all color and material specifications that show the entirety of the subject site's SW 65th Avenue frontage, the entirety of the subject site's SW Borland Road frontage, and the south side of SW Sagert Street with masonry fences with appropriate vision clearance per TDC 34.330 and 34.340 Fence Design or obtain an alternate approval through Architectural Review after the ability to issue Building Permits for lots 1, 2, 7, 8, 17, 18, 31, 32, 45, 46, 75, and 76.
- PFR -12 Submit a final site plan that demonstrates the masonry fence is located entirely along access restricted property lines parallel to SW 65th Avenue, SW Borland Road, and SW Sagert Street and located entirely outside the public right-of-way. This masonry fence site plan shall conform to all applicable sections of TDC 34.330 Fence Standards or obtain an alternate approval through Architectural Review after the ability to issue Building Permits for lots 1, 2, 7, 8, 17, 18, 31, 32, 45, 46, 75, and 76 as shown in this application.
- PFR -13 Show the proposed Tract F either as part of adjacent lots, maintained by a home owners association, or be dedicated to the City.
- PFR -14 Show the location of existing sanitary sewer septic tank for decommissioning.
- PFR -15 Submit plans that show access for lot 2 to proposed SW 61st Terrance via a flag pole at least 20 feet wide.
- PFR -16 Submit plans that show one driveway for Tualatin Professional Center and one driveway for MEI to be at least 32-feet wide extending to the back of the proposed sidewalk.
- PFR -17 Submit plans that comply with the requirements of Clackamas and Washington County memorandums.
- PFR -18 Submit plans and narrative that identify how adjacent park lands (Atfalati Park) will be restored subsequent to SW 65th Avenue and SW Sagert Street road widening (e.g., tapering grades, salvaging and replanting trees, irrigation).
- PFR -19 Submit plans that show a maintenance access from SW 65th Avenue for the proposed manhole west of the SW 65th Avenue pump station.
- PFR -20 Show that the sidewalk to SW 65th Avenue at the south end of the development is an entrance for northbound bicycles from SW 65th Avenue only, taper the approach to AASHTO code, and include a pedestrian barrier.

- PFR -21 Extend the public sidewalk on SW Borland Road west to connect to the existing sidewalk.
- PFR -22 Submit plans that show 5-foot wide public utility easements at the sides and rear of all lots.
- PFR -23 Submit plans that show public stormwater facility within the greenway tract in a separate tract for stormwater purposes.
- PFR -24 Submit plans that show concrete maintenance surfaces extending 5-feet past the sanitary sewer manholes and extend to the public water quality facilities per City Engineer direction.
- PFR -25 Submit plans that show root barriers for street trees that are within 10 feet of a public line or adjacent to a public sidewalk will need a 24-inch deep, 10-foot long root barrier centered on the tree trunk at the edge of the public easement or sidewalk.
- PFR -26 Show the accessway from proposed SW 64th Terrace to SW 65th Avenue across Tract C as concrete and 8 feet wide.
- PFR -27 Submit plans that show SW Street "E" with a City approved name.
- PFR -28 Show street name signs at each intersection of SW Sagert Street with SW 65th Avenue, proposed SW 64th Terrace, proposed SW 63rd Terrace, proposed SW 62nd Terrace, and proposed SW 61st Terrace; at each intersection of proposed SW "E" Street with proposed SW 64th Terrace, proposed SW 63rd Terrace, proposed SW 62nd Terrace, and proposed SW 61st Terrace; and with proposed SW 61st Terrace and SW Borland Road or as amended per City Engineer direction.
- PFR -29 Show stop signs for northbound traffic intersecting with SW Sagert Street on proposed SW 64th Terrace, proposed SW 63rd Terrace, and proposed SW 62nd Terrace; southbound traffic intersecting proposed SW "E" Street on proposed SW 63rd Terrace and proposed SW 62nd Terrace; an all way stop at the intersection of SW Sagert Street and proposed SW 61st Terrace; and northbound proposed SW 61st Terrace at the intersection with SW Borland Road or as amended per City Engineer direction.
- PFR -30 Show 25-mph speed limit signs entering this subdivision from SW Borland Road on proposed SW 61st Terrace and from SW 65th Avenue on SW Sagert Street or as amended per City Engineer direction.
- PFR -31 Show traffic control signs and striping for the intersection of SW 65th Avenue and SW Sagert Street or as amended per City Engineer direction.

- PFR -32 Submit plans that show approved street trees selected for the 4-foot wide planter strips, in a planter strip between SW Sagert Street curb and sidewalk adjacent to PGE, and the planted median is shown within SW Sagert Street east of proposed SW 61st Terrace.
- PFR –33 Show extension of a public water line from within the proposed development south to adjacent undeveloped Tax Lot 21E30B 00700.
- PFR -34 Underground all utility lines with the exception of those that are 50,000 volts or above or record a Street Improvement Agreement for undergrounding.
- PFR -35 Submit plans that are sufficient to obtain a Stormwater Connection Permit Authorization Letter that complies with the submitted Service Provider Letter conditions and obtain an Amended Service Provider Letter as determined by Clean Water Services for any revisions to the proposed plans.
- PFR-36 Submit plans that minimize the impact of stormwater from the development to adjacent properties.

C. PRIOR TO APPROVAL OF THE FINAL PLAT:

- PFR-37 Record the final plat within 24 months of the issued decision or obtain an extension per TDC 36.160(6).
- PFR-38 Obtain a Public Works Permit and Water Quality Permit.
- PFR-39 Complete all the public improvements, shown on submitted plans and corrected by conditions of approval, and have them accepted by the City or provide financial assurance.
- PFR –40 Demolish all existing structures meeting the requirements of HIST-14-01 which expires September 11, 2016 or obtain another HIST approval or extension to demolish the historic barn.
- PFR –41 Submit proof of DEQ approval of decommissioning of all wells and tanks.
- PFR -42 Record all public easements and dedications shown on submitted plans and corrected by conditions of approval.
- PFR -43 Convey Tract A and the portions of B and C excluding the public water quality facilities in separate tracts by statutory warranty deed and execute and record Greenway easements covering the connecting pathway over sanitary sewer easement between lots 69 and 70.
- PFR -44 The area shown as Tract E will be dedicated as SW Sagert Street right-of-way.

- PFR -45 Enter into an Improvement Agreement substantially like the attached draft Saum Creek Greenway Trail Improvement Agreement with City to construct the Saum Creek Greenway Trail and related improvements and provide adequate assurances in a form approved by the City Attorney.
- PFR -46 Dedicate the area shown as Tract F as Natural Area and plant in northwest native trees, shrubs, and ground cover or show it as maintained by a Home Owners Association within a conservation easement.

D. PRIOR TO ISSUANCE OF THE FIRST HOUSE'S BUILDING PERMIT ON THE SUBJECT SITE:

- PFR -47 Decommission and salvage the pump station south of Sequoia Ridge Subdivision.
- PFR-48 Construct all public improvements shown on submitted plans and corrected by conditions of approval.
- PFR-49 Deliver a Mylar copy of the recorded plat to the City Engineer.
- PFR -50 Request and obtain SDC and TDT credits for public improvements, if desired.
- PFR-51 Construct the entirety of required masonry fences per TDC 34.330 and 34.340 and obtain a final inspection from the planning division.

E. PRIOR TO ISSUANCE OF A EACH NEW HOME BUILDING PERMIT:

- PFR-52 Provide the approved tree protection plan from PFR-10 with each structure's building permit, to ensure construction is consistent with the protections provided by the approved plan. The approved plan may be amended by the project's arborist during construction if approved by the City.
- PFR -53 Show no more than 45% of any lot covered with buildings.
- PFR -54 Show plans meeting the minimum width of all setbacks for permitted uses: front yard 15 feet, unenclosed porch 12 feet, garage door 20 feet, side yard 5 feet, rear yard 15 feet; for a corner lot: one front yard 15 feet and the second 10 feet.
- PFR -55 Show structure projections into yards with a maximum of front or rear yard setback area not more than three feet and into a required side yard not more than two feet.
- PFR -56 Show structure heights a maximum of 35 feet.
- PFR -57 Show 2 onsite parking spaces per lot.

PFR -58 Show driveways widths a minimum of 10 feet wide and with a maximum for 26 feet for one or two car garages and 37 for three or more.

PFR -59 Submit plans that state the landscaped areas on each lot will be irrigated.

PFR -60 Submit verification that shows adequate capacity of proposed sanitary sewer lines and the SW 65th Avenue pump station.

PFR -61 Submit plans that show private sanitary sewer and stormwater laterals serving lot 2 from proposed SW 61st Terrace.

PFR -62 Submit proof that shows all crawl spaces will be served by gravity drainage.

F. PRIOR TO ISSUANCE OF A SIGN PERMIT FOR MONUMENT SIGNS:

PFR-63 The applicant shall separately from this subdivision land use decision submit sign permit applications for any new signage.

II. APPEAL

Requests for review of this decision must be received by the Engineering Division within the 14-day appeal period ending on **December 17, 2015 at 5 PM**. Issues must have been described with adequate clarity and detail with identification of the associated Tualatin Municipal or Development Code section to afford a decision maker an opportunity to respond to the issue. A request for review must be submitted on the form provided by the City, as detailed in TDC 36.161, and signed by the appellant.

Sincerely,



Tony Doran, EIT
Engineering Associate

C: Sagert Family, LLC ,Attn: John Pinkstaff, Esq., Lane Powell, PC, 601 SW Second Avenue, Suite 2100, Portland, OR 97204
Lennar Northwest, Attn: Michael Loomis, 11807 NE 99th Street, Suite 1170, Vancouver, WA 98682
3J Consulting, Inc, Attn: Andrew Tull, 5075 SW Griffith Drive, Suite 150, Beaverton, OR 97005

Agencies That Commented (see attachments):

Clackamas County Traffic Engineering and Development Review, Robert Hixon, Development Services Building, 150 Beaver Creek Road, Oregon City, OR 97045
Clean Water Services, Jackie Sue Humphreys, Clean Water Services, 2550 SW Hillsboro Highway, Hillsboro, OR 97123
Tualatin Valley Fire and Rescue, Ty Darby, Deputy Fire Marshal II, South Operating Center, 8445 SW Elligsen Road, Wilsonville, OR 97070-9641
Washington County, Department of Land Use and Transportation, Operations & Maintenance Division, Naomi Vogel, Associate Planner, 1400 SW Walnut Street, MS 51, Hillsboro, OR 97123-5625

Citizens Who Commented During the 14-Day Comment Period (see attachments):

Bob Nelson, 6035 SW Sequoia Drive, Tualatin, OR 97062
Nancy Falconer, 6075 SW Sequoia Drive, Tualatin, OR 97062
Dean N. Alterman, Folawn Alterman & Richardson LLP, 805 SW Broadway, Suite 2750, Portland, OR 97205
David R. TenHulzen, MD, DMD, PC, 6464 SW Borland Road, Suite D-3, Tualatin, OR 97062
Greg Knakal, 6065 SW Sequoia Drive, Tualatin, OR 97062
James Marlow, Managing Agent, Tualatin Professional Center, PO Box 10573, Portland OR 97296
James Walker, DDS, 6464 SW Borland Road, Suite D2, Tualatin, OR 97062
Mark Thompson, 6085 SW Sequoia Drive, Tualatin, OR 97062

File Number: SB15-0002, Sagert Farm

OWNER:

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APPLICANT:

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APPLICANT'S REPRESENTATIVE:

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Contact: Andrew Tull
Phone: 503-545-1907
Email: andrew.tull@3j-consulting.com

REQUEST:

The Applicant seeks approval of an application for Subdivision Preliminary Plat for the development of 79 residential lots.

STAFF CONTACT:

Tony Doran, Engineering Associate

III. STANDARDS AND APPLICABLE CRITERIA

Tualatin Municipal Code (TMC)

Title 03: Utilities and Water Quality

Title 04: Building

Tualatin Development Code (TDC)

Chapter 31: General Provisions

Chapter 34: Special Regulations

Chapter 36: Subdividing, Partitioning and Property Line Adjustments

Chapter 38: Sign Regulations

Chapter 40: Low Density Residential Planning District (RL)

Chapter 72: Natural Resource Protection Overlay District (NRPO)

Chapter 73: Community Design Standards

Chapter 74: Public Improvement Requirements

Chapter 75: Access Management

IV. FINDINGS OF FACT

- A. Location: 20130 SW 65th Avenue, southwest of SW 65th Avenue and SW Borland Road
- B. Zoning: Low Density Residential (RL)
- C. Lot of record: 21E30B 00300 & 00600
- D. Site description: Approximately 20.90 acres previously used as farmland with a house and barn
- E. Surrounding Land Uses: East and West – Low Density Residential (RL), North – Commercial Office (CO) and Medical Commercial (MC), South – Clackamas County Zoning
- F. Proposal: Subdivision to create 79 residential lots
- G. Public Agency Comments: Clackamas County, Clean Water Services, Tualatin Valley Fire and Rescue, Washington County.
- H. Public Comments: Bob Nelson, Nancy Falconery, Brittany Ruedlinger, David Tenhulzen, Greg Knakal, James Marlow, James Walker, Mark Thompson, Marion and Jim Ohrtman.

V. CONCLUSIONS

A. TMC TITLE 03: UTILITIES AND WATER QUALITY

I. TMC CHAPTER 03-02: SEWER REGULATIONS; RATES

1. TMC 3-2-020 APPLICATION, PERMIT AND INSPECTION PROCEDURE.

(1) No person shall connect to any part of the sanitary sewer system without first making an application and securing a permit from the City for such connection, nor may any person substantially increase the flow, or alter the character of sewage, without first obtaining an additional permit and paying such charges therefore as may be fixed by the City, including such charges as inspection charges, connection charges and monthly service charges.

2. TMC 3-2-030 MATERIALS AND MANNER OF CONSTRUCTION.

(1) All building sewers, side sewers and connections to the main sewer shall be so constructed as to conform to the requirements of the Oregon State Plumbing Laws and rules and regulations and specifications for sewerage construction of the City.

(3) A public works permit must be secured from the City and other agency having jurisdiction by owners or contractors intending to excavate in a public street for the purpose of installing sewers or making sewer connections.

FINDING:

The plans show proposed public sanitary sewer system construction to serve all proposed lots with gravity laterals and connect a gravity line from the existing pump station at Sequoia Ridge Subdivision to the SW 65th Avenue pump station, but have not applied for a public works permit for these improvements. The applicant will need to submit sanitary sewer plans that show location of the lines, grade, materials, and other details prior to obtaining a public works permit. This criterion is satisfied with conditions of approval PFR -2.

II. TMC CHAPTER 03-03: WATER SERVICE

1. TMC 3-3-040 SEPARATE SERVICES REQUIRED.

(1) Except as authorized by the City Engineer, a separate service and meter to supply regular water service or fire protection service shall be required for each building, residential unit or structure served. For the purposes of this section, trailer parks and multi-family residences of more than four dwelling units shall constitute a single unit unless the City Engineer determines that separate services are required.

2. TMC 3-3-110 CONSTRUCTION STANDARDS.

All water line construction and installation of services and equipment shall be in conformance with the City of Tualatin Public Works Construction Code. In addition, whenever a property owner extends a water line, which upon completion, is intended to be dedicated to the City as part of the public water system, said extension shall be carried to the opposite property line or to such other point as determined by the City Engineer. Water line size shall be determined by the City Engineer in accordance with the City's Development Code or implementing ordinances and the Public Works Construction Code.

3. TMC 3-3-120 BACKFLOW PREVENTION DEVICES AND CROSS CONNECTIONS.

(2) The owner of property to which City water is furnished for human consumption shall install in accordance with City standards an appropriate backflow prevention device on the premises where any of the following circumstances exist:

(4) Except as otherwise provided in this subsection, all irrigation systems shall be installed with a double check valve assembly. Irrigation system backflow prevention device assemblies installed before the effective date of this ordinance, which were approved at the time they were installed but are not on the current list of approved device assemblies maintained by the Oregon State Health Division, shall be permitted to remain in service provided they are properly maintained, are commensurate with the degree of hazard, are tested at least annually, and perform satisfactorily. When devices of this type are moved, or require more than minimum maintenance, they shall be replaced by device assemblies which are on the Health Division list of approved device assemblies.

4. TMC 3-3-130 CONTROL VALVES.

The customer shall install a suitable valve, as close to the meter location as practical, the operation of which will control the entire water supply from the service. The operation by the customer of the curb stop in the meter box is prohibited.

FINDING:

The plans show proposed public water system construction to serve all proposed lots consisting of 8-inch mains, 1-inch laterals, and ¾-inch meters. The system loops from existing public water mains in SW 65th Avenue, SW Borland Road, SW Sagert Street to the east, and through all the proposed local streets, creating no dead ends.

The plans show single 1-inch laterals serving pairs of lots and do not indicate backflow prevention, double check valve assemblies, or control valves. Each lot will have a separate minimum 1-inch lateral with backflow prevention, double check valve assemblies, and control valves.

The applicant has not applied for a public works permit for these improvements. The applicant will need to submit water system plans that show location of the water lines, grade, materials, and other details prior to obtaining a public works permit.

This criterion is satisfied with conditions of approval PFR -3 and 4.

III. TMC 3-5 ADDITIONAL SURFACE WATER MANAGEMENT STANDARDS

1. TMC 3-5-010 POLICY.

It is the policy of the City to require temporary and permanent measures for all construction projects to lessen the adverse effects of construction on the environment. The contractor shall properly install, operate and maintain both temporary and permanent works as provided in this chapter or in an approved plan, to protect the environment during the term of the project. In addition, these erosion control rules apply to all properties within the City, regardless of whether that property is involved in a construction or development activity. Nothing in this chapter shall relieve any person from the obligation to comply with the regulations or permits of any federal, state, or local authority...

2. TMC 3-5-050 EROSION CONTROL PERMITS.

(1) Except as noted in subsection (3) of this section, no person shall cause any change to improved or unimproved real property that causes, will cause, or is likely to cause a temporary or permanent increase in the rate of soil erosion from the site without first obtaining a permit from the City and paying prescribed fees...

3. TMC 3-5-060 PERMIT PROCESS.

(1) Applications for an Erosion Control Permit. Application for an Erosion Control Permit shall include an Erosion Control Plan which contains methods and interim facilities to be constructed or used concurrently and to be operated during construction to control erosion. The plan shall include either:

(a) A site specific plan outlining the protection techniques to control soil erosion and sediment transport from the site to less than one ton per acre per year as calculated using the Soil Conservation Service Universal Soil Loss Equation or other equivalent method approved by the City Engineer, or

(b) Techniques and methods contained and prescribed in the Soil Erosion Control Matrix and Methods, outlined in TMC 3-5.190 or the Erosion Control Plans - Technical Guidance Handbook, City of Portland and Unified Sewerage Agency, January, 1991.

(2) Site Plan. A site specific plan, pre-pared by an Oregon registered professional engineer, shall be required when the site meets any of the following criteria:

(a) greater than five acres;

(b) greater than one acre and has slopes greater than 20 percent;

(c) contains or is within 100 feet of a City-identified wetland or a waterway identified on FEMA floodplain maps; or

(d) greater than one acre and contains highly erodible soils.

FINDING:

The applicant has submitted plans showing erosion control on sheets C116 to C119 for an area of approximately 20.9 acres. This criterion is satisfied with conditions of approval PFR -5 and 6.

4. TMC 3-5-200 DOWNSTREAM PROTECTION REQUIREMENT.

Each new development is responsible for mitigating the impacts of that development upon the public storm water quantity system. The development may satisfy this requirement through the use of any of the following techniques, subject to the limitations and requirements in TMC 3-5-210: Construction of permanent on-site stormwater quantity detention facilities designed in accordance with this title;...

5. TMC 3-5-210 REVIEW OF DOWNSTREAM SYSTEM.

For new development other than the construction of a single family house or duplex, plans shall document review by the design engineer of the downstream capacity of any existing storm drainage facilities impacted by the proposed development. That review shall extend downstream to a point where the impacts to the water surface elevation from the development will be insignificant, or to a point where the conveyance system has adequate capacity, as determined by the City Engineer. To determine the point at which the downstream impacts are insignificant or the drainage system has adequate capacity, the design engineer shall submit an analysis using the following guidelines:

(1) evaluate the downstream drainage system for at least $\frac{1}{4}$ mile;

(2) evaluate the downstream drainage system to a point at which the runoff from the development in a build out condition is less than 10 percent of the total runoff of the basin in its current development status. Developments in the basin that have been approved may be considered in place and their conditions of approval to exist if the work has started on those projects;

(3) evaluate the downstream drainage system throughout the following range of storms: 2, 5, 10, 25 year;

(4) The City Engineer may modify items 1, 2, 3 to require additional information to determine the impacts of the development or to delete the provision of unnecessary information.

6. TMC 3-5-220 CRITERIA FOR REQUIRING ON-SITE DETENTION TO BE CONSTRUCTED.

The City shall determine whether the onsite facility shall be constructed. If the onsite facility is constructed, the development shall be eligible for a credit against Storm and Surface Water System Development Charges, as provided in City ordinance. On-site facilities shall be constructed when any of the following conditions exist:

(1) There is an identified downstream deficiency, as defined in TMC 3-5-210, and detention rather than conveyance system enlargement is determined to be the more effective solution...

FINDING:

The project area doesn't release into a basin that requires detention, therefore downstream conveyance will need to be evaluated to show there is no needed detention. The preliminary stormwater calculations indicate adequate conveyance of up to a 100-year storm. This criterion is satisfied with conditions of approval PFR - 7.

IV. TMC 3-5 PERMANENT ON-SITE WATER QUALITY FACILITIES

1. TMC 3-5-280 PLACEMENT OF WATER QUALITY FACILITIES.

Title III specifies that certain properties shall install water quality facilities for the purpose of removing phosphorous. No such water quality facilities shall be constructed within the defined area of existing or created wetlands unless a mitigation action, approved by the City, is constructed to replace the area used for the water quality facility.

FINDING:

The two water quality facilities are shown to be located outside both wetland and associated buffer. This criterion is met.

2. TMC 3-5-290 PURPOSE OF TITLE.

The purpose of this title is to require new development and other activities which create impervious surfaces to construct or fund on-site or off-site permanent water quality facilities to reduce the amount of phosphorous entering the storm and surface water system.

3. TMC 3-5-300 APPLICATION OF TITLE.

Title III of this Chapter shall apply to all activities which create new or additional impervious surfaces, except as provided in TMC 3-5.310.

4. TMC 3-5-310 EXCEPTIONS.

(1) Those developments with application dates prior to July 1, 1990, are exempt from the requirements of Title III.

The application date shall be defined as the date on which a complete application for development approval is accepted by the City in accordance with City regulations.

(2) Construction of one and two family (duplex) dwellings are exempt from the requirements of Title III.

(3) Sewer lines, water lines, utilities or other land development that will not directly increase the amount of storm water run-off or pollution leaving the site once construction has been completed and the site is either restored to or not altered from its approximate original condition are exempt from the requirements of Title III.

5. TMC 3-5-320 DEFINITIONS.

(1) "Stormwater Quality Control Facility" refers to any structure or drainage way that is designed, constructed and maintained to collect and filter, retain, or detain surface water run-off during and after a storm event for the purpose of water quality improvement. It may also include, but is not limited to, existing features such as constructed wetlands, water quality swales, low impact development approaches ("LIDA"), and ponds which are maintained as stormwater quality control facilities.

(2) "Low impact development approaches" or "LIDA: means stormwater facilities constructed utilizing low impact development approaches used to temporarily store, route or filter run-off for the purpose of improving water quality. Examples include; but are not limited to, Porous Pavement, Green Roofs, Infiltration Planters/Rain Gardens, Flow-Through Planters, LIDA Swales, Vegetated Filter Strips, Vegetated Swales, Extended Dry Basins, Constructed Water Quality Wetland, Conveyance and Stormwater Art, and Planting Design and Habitats.

(3) "Water Quality Swale" means a vegetated natural depression, wide shallow ditch, or constructed facility used to temporarily store, route or filter run-off for the purpose of improving water quality.

(4) "Existing Wetlands" means those areas identified and delineated as set forth in the Federal Manual for Identifying the Delineating Jurisdictional Wetlands, January, 1989, or as amended, by a qualified wetlands specialist.

(5) "Created Wetlands" means those wetlands developed in an area previously identified as a non-wetland to replace, or mitigate wetland destruction or displacement.

(6) "Constructed Wetlands" means those wetlands developed as a water quality or quantity facility, subject to change and maintenance as such. These areas must be clearly defined and/or separated from existing or created wetlands. This separation shall preclude a free and open connection to such other wetlands.

6. TMC 3-5-330 PERMIT REQUIRED.

Except as provided in TMC 3-5-310, no person shall cause any change to improved or unimproved real property that will, or is likely to, increase the rate or quantity of run-off or pollution from the site without first obtaining a permit from the City and following the conditions of the permit.

7. TMC 3-5-340 FACILITIES REQUIRED.

For new development, subject to the exemptions of TMC 3-5-310, no permit for construction, or land development, or plat or site plan shall be approved unless the conditions of the plat, plan or permit approval require permanent stormwater quality control facilities in accordance with this Title III.

8. TMC 3-5-345 INSPECTION REPORTS.

The property owner or person in control of the property shall submit inspection reports annually to the City for the purpose of ensuring maintenance activities occur according to the operation and maintenance plan submitted for an approved permit or architectural review.

9. TMC 3-5-350 PHOSPHOROUS REMOVAL STANDARD.

The stormwater quality control facilities shall be designed to remove 65 percent of the phosphorous from the runoff from 100 percent of the newly constructed impervious surfaces. Impervious surfaces shall include pavement, buildings, public and private roadways, and all other surfaces with similar runoff characteristics.

10. TMC 3-5-360 DESIGN STORM.

The stormwater quality control facilities shall be designed to meet the removal efficiency of TMC 3-5-350 for a mean summertime storm event totaling 0.36 inches of precipitation falling in four hours with an average return period of 96 hours.

11. TMC 3-5-370 DESIGN REQUIREMENTS.

The removal efficiency in TDC Chapter 35 specifies only the design requirements and are not intended as a basis for performance evaluation or compliance determination of the stormwater quality control facility installed or constructed pursuant to this Title III.

12. TMC 3-5-330 PERMIT REQUIRED.

Except as provided in TMC 3-5-310, no person shall cause any change to improved or unimproved real property that will, or is likely to, increase the rate or quantity of run-off or pollution from the site without first obtaining a permit from the City and following the conditions of the permit.

13. TMC -5-340 FACILITIES REQUIRED.

For new development, subject to the exemptions of TMC 3-5-310, no permit for construction, or land development, or plat or site plan shall be approved unless the conditions of the plat, plan or permit approval require permanent stormwater quality control facilities in accordance with this Title III.

14. TMC 3-5-390 FACILITY PERMIT APPROVAL.

A stormwater quality control facility permit shall be approved only if the following are met:

(1) The plat, site plan, or permit application includes plans and a certification prepared by an Oregon registered, professional engineer that the proposed stormwater quality control facilities have been designed in accordance with criteria expected to achieve removal efficiencies for total phosphorous required by this Title III. Clean Water Services Design and Construction Standards shall be used in preparing the plan for the water quality facility; and

(2) The plat, site plan, or permit application shall be consistent with the areas used to determine the removal required in TMC 3-5-350; and

(3) A financial assurance, or equivalent security acceptable to the City, is provided by the applicant which assures that the stormwater quality control facilities are constructed according to the plans established in the plat, site plan, or permit approval. The financial assurance may be combined with our financial assurance requirements imposed by the City; and

(4) A stormwater facility agreement identifies who will be responsible for assuring the long term compliance with the operation and maintenance plan.

15. TMC 3-5-420 RESIDENTIAL DEVELOPMENTS.

The permanent stormwater quality control facilities for the construction of any single family and duplex subdivision shall be adequately sized for the public improvements of the subdivision and for the future construction of single family and duplex houses on the individual lots at a rate of 2,640 square feet of impervious surface per dwelling unit.

FINDING:

The applicant has submitted plans showing two public water quality swales with preliminary stormwater calculations showing adequate treatment of impervious area. This criterion is satisfied with conditions of approval PFR 7 and 8.

B. CHAPTER 04-02: FIRE HYDRANT LOCATIONS AND RATES OF FLOW

I. TMC 4-2-010 HYDRANTS AND WATER SUPPLY FOR FIRE PROTECTION.

(1) Every application for a building permit and accompanying plans shall be submitted to the Building Division for review of water used for fire protection, the approximate location and size of hydrants to be connected, and the provisions for access and egress for firefighting equipment. If upon such review it is determined that the fire protection facilities are not required or that they are adequately provided for in the plans, the Fire and Life Safety Reviewer shall recommend approval to the City Building Official.

(2) If adequate provisions for such facilities are not made, the Fire and Life Safety Reviewer shall either recommend against approval of the plans or indicate to the applicant in writing where the plans are deficient or recommend approval of plans subject to conditions.

FINDING:

TVF&R has submitted an attached letter regarding their requirements. The applicant will need to address these requirements in the final plans.

The plans show proposed public fire hydrants adjacent to public streets with spacing greater than allowed by code. The public fire hydrants will need to be spaced to meet Public Works Construction Code. The fire hydrants will need to be red powder coated.

This criterion is satisfied with conditions of approval PFR -9.

C. TDC CHAPTER 13: SEWER SERVICE, SECTION 13.060 EXISTING SYSTEM

(2) Except for the five areas discussed below, the City is served by gravity lines. ...The five areas currently served by pump stations are as follows:... (b) The area along Nyberg Street and Borland Road east of I-5 is served by six pump stations. The pump stations pump sewage to the Nyberg Interceptor and then into the Lower Tualatin Interceptor. One of the pump stations is temporary. It is at the south end of Sequoia Ridge Subdivision. It collects sewage through gravity flow from the Sequoia Ridge and Venetia Subdivisions and can collect from the properties east of Venetia. It pumps up the hill to a line in SW Borland Road. This station will be removed when the Sagert/Leiser Properties (2 1E 30B, 300, 600, 700) are developed. Then its sewage will gravity flow to the west to the pump station on the west side of SW 65th Avenue north of I-205 and be pumped up the hill to the north.

FINDING:

The plans show the existing line from the pump station south of Sequoia Ridge Subdivision proposed to extend with gravity flow to the existing pump station on the west side of SW 65th Avenue north of I-205. The existing pump station will need to be decommissioned and salvaged. This criterion is satisfied with conditions of approval PFR -47.

D. TDC SECTION 31.063 NEIGHBORHOOD/ DEVELOPER MEETINGS.

(2) Prior to the submittal of an application listed in TDC 31.063(1) and following a pre-application meeting held with the City, the developer shall host a meeting for the surrounding property owners located within the mailing area designated in TDC 31.064(1)(c). Notice of the meeting shall be provided to Recognized Neighborhood Associations within the Notice Area of TDC 31.064(1)(c) and to designated representatives of recognized Citizen Involvement Organizations. The purpose of this meeting is to provide a means for the applicant and surrounding property owners to meet to review a development proposal and identify issues regarding the proposal so they can be considered prior to the application submittal. The meeting is intended to allow the developer and neighbors to share information and concerns regarding the project. The applicant may consider whether to incorporate solutions to these issues prior to application submittal.

(3) The Neighborhood/Developer Meeting shall be held on a weekday evening, or weekend no earlier than 10:00 a.m. and no later than 6:00 p.m., at a location within the City of Tualatin.

(4) The applicant shall at least 14 calendar days and no more than 28 calendar days prior to the meeting mail notice of the meeting pursuant to TDC 31.064(1) stating the date, time and location of the meeting and briefly discussing the nature and location of the proposal:

(6) The applicant shall, at least 14 calendar days before the meeting, post a sign pursuant to TDC 31.064(2). If the sign disappears prior to the meeting date, the applicant shall replace it within forty-eight (48) hours. The applicant shall remove the sign no later than fourteen (14) days after the meeting date.

(7) The applicant shall prepare meeting notes identifying the persons attending and the major points that were discussed and expressed.

(8) The applicant is required to hold one meeting prior to submitting an application for a specific site, but may hold additional meetings if desired.

(9) If an applicant fails to hold a neighborhood meeting, the application shall be deemed incomplete.

(10) The application shall include the following materials related to the Neighborhood/Developer meeting:

- (a) the mailing list for the notice;**
- (b) a copy of the notice;**
- (c) an affidavit of the mailing and posting;**
- (d) the original sign-in sheet of participants;**
- (e) the meeting notes described in TDC 31.063(7).**

(11) Applications shall be submitted to the City within 180 days of the Neighborhood/Developer meeting. If an application is not submitted in this time frame, the Developer shall be required to hold a new Neighborhood/Developer meeting.

FINDING:

The applicant held a public meeting that met the requirements of TDC Section 31.06 on February 18, 2015 at 6 pm. The Applicant provided 21 days notice prior to the meeting and posted a sign pursuant to TDC 31.064(2). The applicant provided notes from the meeting, the mailing list, a copy of the notice, and affidavit of mailing and posting, and the original sign in sheet. This criterion is satisfied.

E. TDC CHAPTER 34: SPECIAL REGULATIONS

I. TDC SECTION 34.210 APPLICATION FOR ARCHITECTURAL REVIEW, SUBDIVISION OR PARTITION REVIEW, OR TREE REMOVAL PERMIT.

(1) Architectural Review, Subdivision, or Partition. When a property owner wishes to remove trees, other than the exemptions permitted under TDC 34.200(3), to develop property, and the development is subject to Architectural Review, Subdivision Review, or Partition Review approval, the property owner shall apply for approval to remove trees as part of the Architectural Review, Subdivision Review, or Partition Review application process.

(a) The application for tree removal shall include:

(i) A Tree Preservation Site Plan, drawn to a legible scale, showing the following information: a north arrow; existing and proposed property lines; existing and proposed topographical contour lines; existing and proposed structures, impervious surfaces, wells, septic systems, and stormwater retention/detention facilities; existing and proposed utility and access locations/easements; illustration of vision clearance areas; and illustration of all trees on-site that are eight inches or more in diameter (including size, species, and tag i.d. number). All trees proposed for removal and all trees proposed for preservation shall be indicated on the site plan as such by identifying symbols, except as follows:

(A) Where Clean Water Services (CWS) has issued a Service Provider Letter that addresses the proposed development currently under consideration, and

(B) Where CWS has approved delineation of a “sensitive area” or “vegetated corridor” on the subject property, and

(C) Where CWS has required dedication of an easement that prohibits encroachment into the delineated area, then

(D) All trees located within the CWS-required easement need not be individually identified on the Tree Preservation Site Plan if the CWS-required easement boundary is clearly illustrated and identified on the Tree Preservation Site Plan.

(ii) A tree assessment prepared by a qualified arborist, including the following information: an analysis as to whether trees proposed for preservation can in fact be preserved in light of the development proposed, are healthy specimens, and do not pose an imminent hazard to persons or property if preserved; an analysis as to whether any trees proposed for removal could be reasonably preserved in light of the development proposed and health of the tree; a statement addressing the approval criteria set forth in TDC 34.230; and arborist’s signature and contact information. The tree assessment report shall have been prepared and dated no more than one calendar year proceeding the date the development application is deemed complete by the City. Where TDC 34.210(1)(a)(i)(A) through (D) are applicable, trees located within the CWS-required easement need not be included in the tree assessment report.

(iii) All trees on-site shall be physically identified and numbered in the field with an arborist-approved tagging system. The tag i.d. numbers shall correspond with the tag i.d. numbers illustrated on the site plan. Where TDC 34.210(1)(a)(i)(A) through (D) are applicable, trees located in the CWS-required easement need not be tagged.

(b) The application for tree removal shall be approved or denied based on the criteria in TDC 34.230.

(c) The approval or denial of an application to remove trees shall be a part of the Architectural Review, Subdivision Review, or Partition Review decision.

1. TDC SECTION 34.230 CRITERIA.

The Community Development Director shall consider the following criteria when approving, approving with conditions, or denying a request to cut trees.

(1) An applicant must satisfactorily demonstrate that any of the following criteria are met:

(a) The tree is diseased, and

(i) The disease threatens the structural integrity of the tree; or

(ii) The disease permanently and severely diminishes the esthetic value of the tree; or

(iii) The continued retention of the tree could result in other trees being infected with a disease that threatens either heir structural integrity or esthetic value.

- (b) The tree represents a hazard which may include but not be limited to:**
 - (i) The tree is in danger of falling;**
 - (ii) Substantial portions of the tree are in danger of falling.**
- (c) It is necessary to remove the tree to construct proposed improvements based on Architectural Review approval, building permit, or approval of a Subdivision or Partition Review.**

(2) If none of the conditions in TDC 34.240(1) are met, the Community Development Director shall evaluate the condition of each tree based on the following criteria. A tree given a rating of one on a factor will not be required to be retained.

FACTOR VARIATION OF CONDITION FACTOR AWARDED

Trunk Condition Sound and solid (5) Sections of bark missing (3) Extensive decay and hollow (1) ____

Crown Development Full and balanced (5) Full but unbalanced (3) Unbalanced and lacking a full crown (1) ____

Structure Sound (5) One major or several minor limbs dead (3) Two or more limbs dead (1) ____

***For deciduous trees only**

2. TDC SECTION 34.270 TREE PROTECTION DURING CONSTRUCTION.

(1) Any tree required to be retained either through Architectural Review, Subdivision or Partition Review, or permit process that will be impacted by nearby construction activities must be protected in accordance with the TDC 73.250(2).

FINDING:

The applicant submitted a Tree Protection and Removal Plan (Sheet C105-C109) identifies the locations of all trees on site eight inches or more in diameter. The CWS required easement boundary has been identified on the tree plan. Trees proposed for removal have also been identified. A tree assessment has been prepared and provided with this application.

The trees that are being proposed for removal as a part of this Subdivision Review are being removed to accommodate the construction of the proposed improvements for the subdivision plan. All tree removal is detailed in the included Arborist's report, as well as sheets C105 through C109. All proposed tree removal is necessary to construct the proposed improvements associated with the subdivision.

Trees in the Sequoia Ridge Natural Area will be protected throughout construction. Applicant will grant a conservation easement to preserve trees along east property lines of Tract F and Lot 79. City will accept a dedication of Tract F as Natural Area, if applicant plants it in northwest native trees, shrubs, and ground cover. There would be no compensation for the dedication of Tract F.

This criterion is satisfied with conditions of approval PFR -1, 10, and 46.

II. TDC SECTION 34.330 FENCE STANDARDS.

The following standards are minimum requirements for fences in a RL (Low Density Residential) or a RML (Medium Low Density Residential) Planning District, where an access-restricted lot line or property line abuts a public street classified as a major arterial, minor arterial, major collector, minor collector, or expressway by the Tualatin Functional Classification Plan, or abuts a state-owned interstate highway (I-5 or I-205).

(1) Subdivision or Partition of Property in a RL or RML Planning District. Where property is the subject of a subdivision or partition application, and has an access-restricted property line(s) or lot line(s) that abuts a major arterial, minor arterial, major collector, minor collector, or expressway right-of-way or an interstate highway property line for a distance greater than 60 feet, a masonry fence shall be installed along the arterial/ collector/expressway/interstate highway frontage, in conformance with design standards set forth in TDC 34.340 and the fence standards set forth below:

(a) Required fencing shall be in-stalled along the entire length of the access-restricted property line(s) or lot line(s) abutting the arterial/collector/expressway right-of-way or interstate highway property line, except as provided in TDC 34.330(3), prior to issuance of any building permit on any parcel or lot created by the partition or subdivision.

(b) Except as provided in TDC 34.330(3), required fencing shall be located entirely outside of the public right-of-way or state-owned interstate highway property, and as close as physically possible to, approximately parallel with, either the property line or lot line abutting the arterial/collector/expressway right-of-way or interstate highway property line, or in the case of an arterial/ collector/expressway street the ultimate right-of-way line, which-ever is located furthest from the centerline of the street right-of-way....

(c) Required fencing shall be installed such that stormwater drainage patterns and flow rates are not altered in a manner detrimental to property or persons.

(3) Exceptions to Fence Location or Configuration:

(a) For public streets classified as an arterial/collector/expressway, where the City Engineer determines that vehicular access is to be provided from the arterial/collector/expressway to a parcel or lot abutting the arterial/collector/expressway, the fence shall not be required along the arterial/collector/expressway frontage of that particular parcel or lot.

(b) For public streets classified as an arterial/collector/expressway, where the City Engineer determines that an opening or passage through the fence must be provided, the fence shall include such required opening. The same shall be provided in fences along state-owned interstate highways when required by the state or Tualatin Valley Fire & Rescue or the City Engineer.

(c) All vision clearance requirements set forth in TDC 73.400(16) shall be met.

(d) The City Engineer, in the case of public streets classified as an arterial/collector/expressway, or the state in the case of state-owned interstate highways, may require an alternate location or configuration of the fence alignment to accommodate stormwater facilities, easements, or other requirements, such as, but not limited to, bicycle paths, multi-use paths, or for maintenance purposes.

(e) For state-owned interstate highways, where an area of vegetation at least 200 linear feet in width runs parallel to the interstate highway and forms a visual, esthetic or acoustic barrier, or land in a Natural Resource Protection Overlay (NRPO) district or other protected area as defined in TDC Chapter 72 runs parallel to the inter-state highway, AND such land is located between the interstate highway property line and the developable area of a property being developed in the RL or RML Planning District, no fence shall be required. Where the area of vegetation is less than 200 linear feet in width, the required fence shall be located entirely outside the vegetated, NRPO or other protected area and as close as physically possible to, approximately parallel with, the edge of said vegetated, NRPO or other protected area on the developable portion of the property being developed.

1. TDC SECTION 34.340 FENCE DESIGN.

(1) Masonry Fence Design. (See Figure 34-2 for illustration)

(a) **Material and Color.** All components of fence visible from the public vantage point shall be constructed of stone, brick, stone-look or brick-look cast masonry or stone-look or brick-look cast vinyl or composite material. The color of the fence shall be that of natural stones, red clay brick, neutral brown-tones, or gray earth-tones.

(b) **Finished Face.** Fence shall be constructed such that the finished side of the fence faces the public right-of-way or state-owned interstate highway, and any structural components (metal brackets, etc.) are not visible from the public or highway vantage point.

(c) **Slopes.** Fences constructed on slopes shall be installed using a stair-step method, whereby each fence panel steps up or down the slope and remains level (zero-slope) rather than parallel to the grade of the underlying terrain.

(d) **Height.** For public streets classified as an arterial/collector/expressway, height of fence panels shall be six feet, and for interstate highways (I-5 or I-205) height of fence panels shall be a minimum of eight feet, measured from the underlying ground surface directly beneath the fence panels to the top edge of the cornice cap. (Any fence over six feet in height requires a building permit and engineered drawings.)

(i) For fences constructed on slopes, the height of fence measured at the up-slope end of each fence panel shall be six feet for public streets classified as an arterial/collector/express-way and a minimum of eight feet for interstate highways. (Any fence over six feet in height requires a building permit and engineered drawings.)

(ii) Pilasters, excluding pilaster caps, shall be no shorter than the shorter of the attached fence panels, including the cornice cap, and shall not extend more than six inches higher than the highest attached fence panel, including the cornice cap.

(iii) Height of pilaster caps shall be no greater than six inches, measured from the top of the underlying pilaster to the highest point on the cap.

(e) Ground Clearance. There shall be no ground clearance or gap visible between the bottom of the fence panels and the underlying ground surface. Where a pre-cast panel system is used, any gaps that result beneath panels shall be filled in with earth, rock, evergreen vegetation, or similar material. This provision does not prohibit the use of stormwater drainage holes.

(f) Pilasters. The horizontal run of fence must be broken up by pilasters, which shall be set at approximately regular intervals, no more than twenty feet apart on center. Pilasters shall be installed perpendicular to a zero-slope plane.

(g) Panels. Panels shall be 100 percent solid and opaque. The finished face shall have the appearance of a stacked or mortared stone wall or brick wall.

(h) Cornice. A cornice cap shall be installed on top of each of the fence panels. Cornice caps shall be masonry or brick in appearance, and shall match or closely compliment the colors and materials used to construct the fence panels and pilasters.

(i) Pilaster Caps. Decorative caps shall be installed on top of all pilasters such that the cap completely covers the surface area of the pilaster end. Caps shall be masonry or brick in appearance, and shall match or closely compliment the colors and materials used to construct the fence panels and pilasters. Illuminated pilaster caps are allowed, provided the lighting element is an integral internal component of the cap (i.e., no exposed light bulb) and the light is low-voltage or solar powered. Caps shall be no taller than six inches, measured from the surface of the pilaster end to the highest point on the pilaster cap.

(2) Variance Prohibited.

(a) Development unable to meet one or more of the design standards set forth in TDC 34.340(1) may alternatively submit application for Architectural Review.

(b) Application for Architectural Review shall be made pursuant to application procedures set forth in TDC 31.071. Approval or denial shall be based upon the criteria set forth in TDC 73.050, including objectives and standards set forth in TDC 73.221 and 73.222.

FINDING:

The applicant's narrative doesn't address masonry fence requirements. SW 65th Avenue, SW Borland Road, SW Sagert Street, and I-205 are all access restricted streets classified as major arterials. SW 65th Avenue has no access other than the intersection with SW Sagert Street and SW Borland Road has no access other than the intersection with proposed SW 61st Terrace. The residential south side of SW Sagert Street has intersections with SW 64th Terrace, SW 63rd Terrace, SW 62nd Terrace, and SW 61st Terrace. SW 65th Avenue, SW Borland Road, and SW Sagert Street have lengths adjacent to lots greater than 60 feet and therefore will need a masonry fence with appropriate vision clearance for public streets and the bicycle entrance from SW 65th Avenue to the 12-foot wide sidewalk on the southwest corner of the development per TDC 34.330 and 34.340 Fence Design or obtain an alternate approval through Architectural Review after the ability to issue Building Permits for lots 1, 2, 7, 8, 17, 18, 31, 32, 45, 46, 75, and 76. The I-205 frontage does not require a masonry fence per 34.330(3)(e). This criterion is satisfied with conditions of approval PFR -11 and 12.

F. TDC CHAPTER 36: SUBDIVIDING, PARTITIONING AND PROPERTY LINE ADJUSTMENTS

I. TDC SECTION 36.070 LAND DIVISIONS AND PROPERTY LINE ADJUSTMENTS.

(1) All land divisions shall be created by a subdivision or partition plat and must comply with ORS Chapter 92 and this Chapter.

(2) All property line adjustments shall be executed by deed and must comply with ORS Chapter 92 and this Chapter.

(3) No subsequent land division or property line adjustment shall be approved on the same lot or parcel until the previously approved land division or property line adjustment has been filed and recorded in accordance with the provisions of this Chapter, or the previous approval is withdrawn, modified or otherwise invalidated.

FINDING:

This narrative, along with drawings and other exhibits, have been provided as evidence demonstrating that the proposed development complies with the applicable regulations of the City of Tualatin and ORS Chapter 92. This land division is proposed to be created by a subdivision complying with all applicable standards. This criterion is satisfied.

II. TDC SECTION 36.080 APPROVAL OF STREETS AND WAYS.

(1) The subdivision or partition plat shall provide for the dedication of all public rights-of-way, reserve strips, easements, tracts and accessways, together with public improvements therein approved and accepted for public use.

(a) The applicant shall comply with the requirements of TDC Chapter 74, Public Improvement Requirements.

(b) The applicant shall comply with the design and construction standards set forth in the Public Works Construction Code.

(c) The applicant shall provide evidence to the City that property intended to be dedicated to the public is free of all liens, encumbrances, claims and encroachments.

(2) The subdivision or partition plat shall indicate the ownership and location of private easements and tracts, and the owner-ship and location of private improvements within public rights-of-way and easements.

(3) Approval of the subdivision or partition plat by the City shall constitute acceptance of all public rights-of-way, reserve strips, easements, tracts and accessways shown thereon, as well as public facilities located therein.

FINDING:

This application has been submitted for preliminary plat approval. It is meant to illustrate proposed right-of-way dedication, construction of utilities and streets, and other improvements necessary to satisfy Tualatin Development Code requirements. All required improvements will be completed in conjunction with the final subdivision plat process. This criterion is satisfied.

III. TDC SECTION 36.090 ISSUANCE OF BUILDING PERMITS.

(1) Except as provided in subsection (5) of this section no building permit or permits to connect to City utility services shall be issued for lots within a subdivision or partition plat until the City Engineer has determined that the corresponding public improvements are substantially complete to assure that the health and safety of the citizens will not be endangered from inadequate public facilities.

(2) Subject to submittal and approval of, and compliance with, the subdivision plan, as well as sufficient security to assure completion of the public portions of the subdivision, the applicant or individual lot owners within the subdivision may receive a building permit or utility service for not more than 50 percent of the platted lots within the subdivision prior to:

(a) the completion of all required public improvements in accordance with the Public Works Construction Code; and

(b) the acceptance of the public improvements by resolution of the City Council. (3) No building permits shall be issued or utility service approved for any lot which together with previously approved lots would exceed 50 percent of the platted lots within the subdivision until:

(a) all required public improvements have been completed in accordance with the Public Works Construction Code; and

(b) the public improvements have been accepted by resolution of the City Council.

FINDING:

The Applicant will comply with all requirements necessary to obtain building permits. Upon receiving a substantially complete status, the Applicant may request a number of building permits in order to initiate the construction of a series of two to four model homes. Code Section 36.090(2) allows for up to 50% of the homes, therefore 38, to be constructed after substantial completion of improvements and a recorded plat. Note: Prior to future Building Permit submittal for construction of single family residences the applicant shall obtain land use approval from the Planning Division in the form of an Architectural Review for Single Family Residence in compliance with TDC 31-071(7). This criterion is satisfied with conditions of approval PFR – 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, and 58.

IV. TDC SECTION 36.120 APPLICATIONS AND FILING FEE.

(1) A request for a Subdivision shall be subject to a Neighborhood/Developer Meeting pursuant to TDC 31.063.

(2) The applicant shall discuss the preliminary plans with the City Engineer in a pre-application conference prior to submitting an application. An applicant for a subdivision shall conduct a Neighborhood/Developer Meeting subject to TDC 31.063. Following the pre-application conference and the Neighborhood/Developer Meeting, the applicant shall prepare and submit a City of Tualatin development application, available from the City Engineer.

(3) The application shall contain:

(a) the proposed plat name, approved by the County Surveyor;

(b) the names, addresses and telephone numbers of the property owners and applicants, and when applicable, the name and address of the design engineer or surveyor;

(c) the signatures of the property owners and applicants; and

(d) the site location by address and current County Tax Assessor's map and tax lot numbers.

(e) A description of the manner in which the proposed division complies with each of the expedited criterion for an Expedited Subdivision Application.

(f) If a variance or minor variance is requested to the dimensional standards of the lots, or the minimum lot size, adequate information to show compliance with the approval criteria in TDC Chapter 33.

(g) A "Service Provider Letter" from Clean Water Services indicating that a "Stormwater Connection Permit" will likely be issued.

(h) The information on the Neighborhood/Developer Meeting specified in TDC 31.063(10).

(i) If a railroad-highway grade crossing provides or will provide the only access to the subject property, the applicant must indicate that fact in the application, and the City must notify the ODOT Rail Division and the railroad company that the application has been received.

(4) The subdivision application shall be submitted to the City Engineer, along with:

- (a) the subdivision plan;**
- (b) preliminary utility plans for streets, water, sanitary sewer and storm drainage;**
- (c) a black and white 8&1/2" x 11" site plan suitable for reproduction;**
- (d) a completed City fact sheet;**
- (e) a Clean Water Services Service Provider letter; and**
- (f) other supplementary material as may be required, such as:
 - (i) deed restrictions; or**
 - (ii) for all non-buildable areas or tracts to be dedicated or reserved for public use, a statement of ownership, use, covenants, conditions, limitations and responsibility for maintenance.****

(5) The following general information shall be shown on the subdivision plan:

- (a) appropriate identification clearly stating the map is a subdivision plan;**
- (b) proposed plat name, approved by the County Surveyor;**
- (c) the names, addresses and telephone numbers of the property owners and applicants, and when applicable, the name and address of the design engineer or surveyor;**
- (d) the date the plan was prepared;**
- (e) north arrow;**
- (f) scale of drawing;**
- (g) location of the subdivision by 1/4 Section, Township and Range;**
- (h) existing streets (public and private), including location, name, centerline, right-of-way and pavement width on and abutting the site, and the location of existing and proposed access points;**
- (i) proposed streets (public and private), including location, centerline, right-of-way and pavement width, approximate radius of curves and approximate grades of proposed streets on the subject property and within three hundred feet of the site;**
- (j) an outline plan demonstrating that the adjacent property can be divided in the future in a manner that is consistent with the subdivision plan, and illustrating the connections to transit routes, pedestrian and bike facilities, and accessways to adjacent properties;**
- (k) easements, including location, width and purpose of all recorded and proposed easements in or abutting the site;**

(l) public utilities, including the approximate location, size and grade of all existing and proposed sanitary sewers, the approximate location, size and grade of on-site and off-site storm drainage lines, and the approximate location and size of water lines;

(m) flood areas, including the location of any flood plain, drainage hazard areas and other areas subject to flooding or ponding;

(n) natural resources, including the location of natural features, such as rock outcroppings, wetlands, water courses, creeks, wooded areas and trees having a trunk diameter of eight inches or greater, as measured at a point four feet above ground level, proposed to be removed and to be retained on site;

(o) approximate lot dimensions, including all existing property lines and their lengths and the approximate location and dimensions of all proposed lots;

(p) approximate area of each lot;

(q) proposed lot numbers;

(r) existing structures, including the location and present use of all structures, wells and septic tanks on the site and an indication of which structures, wells and septic tanks are to remain after platting; indicate all City-designated historic landmarks;

(s) all lots and tracts of land intended to be dedicated or reserved for public use;

(t) a vicinity map showing a minimum one- mile radius;

(u) contour lines with intervals at a minimum of two feet for slopes up to five percent and five feet for slopes over five percent; and

(v) other information required by the City Engineer.

(6) The subdivision application shall be accompanied by a nonrefundable fee as established by City Council resolution. The subdivision application shall not be accepted until the fee has been paid to the City. This fee does not apply towards any building permit or other fees that may later be required.

(7) The applicant shall submit, along with the subdivision application:

(a) A list of mailing recipients pursuant to TDC .31.064(1).

(b) Proof of sign posting pursuant to TDC 31.064(2).

(8) Unless otherwise specified in the subdivision application, or approval, or in express direction from the City Engineer, any material submitted by the applicant with a subdivision application which exceeds the TDC requirements shall be considered a part of the subdivision plan approval.

(9) The applicant has the burden of demonstrating compliance with the applicable development regulations.

(10) The applicable time period for action on the subdivision application shall not commence until the City Engineer has determined that the application is complete.

(a) If the City Engineer fails to make such determination of completeness within 30 days of the date of its submission, or re-submission, the subdivision application shall be deemed complete upon the expiration of the 30-day period for purposes of commencing the applicable time period, unless:

(i) the application lacks information required to be submitted; or
(ii) the required fees have not been submitted; or
(iii) the City Engineer has notified the applicant in writing of the deficiencies in the application within 30 days of submission of the subdivision application.

(b) The City Engineer may subsequently require correction of any information found to be in error or submission of additional information not specified in this Chapter, as the City Engineer deems necessary to make an informed decision.

(11) The City Engineer shall prepare the standard form of Development Application for subdivision plans, including provisions which will best accomplish the intent of this section.

1. TDC SECTION 36.140 REVIEW PROCESS.

(1) Review of subdivision applications shall be a limited land use decision process. Before approval may be granted on a subdivision application, the City Engineer shall first establish that the subdivision proposal conforms to the Tualatin Development Code and applicable City ordinances and regulations, ... Failure of the proposal to conform is sufficient reason to deny the application.

(2) After the subdivision application is deemed complete, the City Engineer shall provide written notice of the application to and invite comments from:

(a) potentially affected governmental agencies such as the school district in which the subdivision is located, the fire district, the Oregon Department of Transportation, Tri-Met, Clean Water Services and Washington or Clackamas County;

(b) utility companies;

(c) City departments; and

(d) recipients pursuant to TDC 31.064(1).

(3) The notice sent in TDC 36.140(2) shall:

(a) state that written comments shall be submitted within 14 calendar days of the mailing date of the notice in order to be considered as a basis for a request for review;

(b) state that issues which may provide the basis for a request for review to the City Council and Land Use Board of Appeals shall be raised in writing prior to the expiration of the comment period. Issues shall be raised with sufficient clarity and detail to enable the decision maker to respond to the issue and state how a person may be adversely affected by the proposal;

(c) list the applicable criteria by code section for the decision;

(d) include the street address or other easily understood geographical reference to the subject property;

(e) state the place, date and time that comments are due, and that comments are due no later than 5:00 pm on the fourteenth calendar day after notice was sent;

(f) state that copies of all evidence relied upon by the applicant are available for review, and can be obtained at cost;

(g) state of the local government contact person and telephone number; and

(h) briefly summarize the local decision-making process for the limited land use decision being made.

(4) Failure of a person or agency to receive the notice required in TDC 36.140(2) shall not invalidate any proceeding in connection with the application, provided the City can demonstrate by affidavit that notice was given in accordance with this section.

(5) Comments must be received by the City Engineer within 14 calendar days of the date the notice was mailed. Signed comments shall be in writing. Comments must raise issues with sufficient detail and clarity to enable the decision-maker to respond to the issue. Requests for review may be made only by parties who submitted written comments and may be adversely affected by the decision within the 14 calendar-day period.

(6) Prior to making a decision, the City Engineer may conduct one or more review meetings with the applicant, governmental agencies, utility companies and any other interested parties.

(7) The approval of a subdivision application shall not automatically grant other approvals that may be required by the Development Code or City ordinances. However, a decision on a requested minor variance to the dimensional standards of lots or the minimum lot size, shall be included in the subdivision decision.

(8) Approval or denial of a subdivision shall be based upon and accompanied by a brief statement that

(a) explains the criteria and standards considered relevant to the decision;

(b) states the facts relied upon in making the decision; and

(c) explains the justification for the decision based on the criteria, standards and facts set forth.

(9) Notice of the decision shall be provided to the applicant, property owner, and any person who submitted written comments within the 14 calendar-day comment period. Notice of the decision shall include a description of rights to request a review of the decision.

(10) When the City Engineer determines that a complete application for a proposed development raises a substantial question over Code requirements, size, location or complexity and is likely to raise concern from a substantial portion of nearby property owners or residents, the City Engineer may request that the City Council review the subdivision without first reaching a decision. The City Council shall hold a hearing in accordance with TDC 31.077. This applies to all subdivisions except for expedited subdivisions which shall not be the subject of a public hearing. The City Engineer shall prepare a report for presentation to the City Council, which may include recommendations on the subdivision application and requested minor variances.

FINDING:

Pre-application meeting were held on October 18, 2013, January 29, 2015, and January 28, 2015. The applicant held a public meeting that met the requirements of Section 31.06 on February 18, 2015 at 6 pm. The applicant initially submitted materials on June 4, 2015. After addressing incompleteness items it was deemed complete on September 17, 2015.

Materials submitted included

- the proposed plat name, approved by the County Surveyor
- the names, addresses and telephone numbers of the property owners and applicants, and when applicable, the name and address of the design engineer or surveyor
- the signatures of the property owners and applicants
- the site location by address and current County Tax Assessor's map and tax lot numbers
- A description of the manner in which the proposed division complies with each of the expedited criterion for an Expedited Subdivision Application
- A "Service Provider Letter" from Clean Water Services indicating that a "Stormwater Connection Permit" will likely be issued
- The information on the Neighborhood/Developer Meeting specified in TDC 31.063(10)
- the subdivision plan
- preliminary utility plans for streets, water, sanitary sewer and storm drainage
- electronic black and white site plans suitable for reproduction at any size including 8&1/2" x 11"
- a completed City fact sheet
- Title Report with deed restrictions
- (ii) for all non-buildable areas or tracts to be dedicated or reserved for public use, a statement of ownership, use, covenants, conditions, limitations and responsibility for maintenance
- A list of mailing recipients pursuant to TDC .31.064(1)
- Proof of sign posting pursuant to TDC 31.064(2)
- Additional meeting notes with the neighborhood and adjacent commercial property owners dated May 20, 2014, December 5, 2013, January 12, 2015, and February 20, 2015

- Transportation Impact Analysis dated June 2, 2015 and Borland Update dated August 6, 2015
- Preliminary Storm Drainage Report
- Tree Assessment Report
- Design Modification request for SW Borland Road Access
- Design Modification request for SW 65th Avenue
- Clackamas County Recorded Document 84-16656-7 for Tualatin Professional Center within SW Sagert Street
- Select asbuilts of SW 65th Avenue SW Borland Road to SW Sagert Street Roadway and Drainage Improvements
- Electronic copies of submittals

Notice of the subdivision was mailed to the neighborhood mailing list and emailed to CIOs and Staff September 17, 2015 with public commentary period ending October 1, 2015. Eight comments from the public were received during the comment period and one afterwards. The developer responded to the comments October 16, 2015. All comments and responses are attached in the Appendixes. The information needed for a City fact sheet was submitted in the narrative under General Information and Site Information.

All shown tracts will either be consolidated with adjacent lots or be dedicated to the City. This criterion is satisfied with conditions of approval PFR -13.

V. TDC SECTION 36.410 DOUBLE FRONTAGE AND REVERSE FRONTAGE.

(1) Double frontage and reversed front-age lots should be avoided except where essential to provide separation of residential development from railroad tracks or crossings, traffic arterials or collectors, adjacent nonresidential uses, or to overcome specific disadvantages of topography and orientation.

(2) Residences on double frontage lots shall be oriented towards the lower classification street adjacent to the lot:

- (a) local street instead of collector or arterial; and**
- (b) collector street instead of arterial.**

(3) If two local streets are adjacent to a series of adjacent double frontage lots, then residences on all such lots shall be oriented towards the same local street.

FINDING:

Lots 1 and lots 46 through 54 are double frontage lots and adjacent to major arterials and collectors. All lots are oriented with driveways towards proposed local streets. This criterion is satisfied.

VI. TDC SECTION 36.420 EXISTING STRUCTURES AND APPURTENANCES.

(1) Any existing structures proposed to be demolished shall be removed prior to the City approval of the subdivision or partition plat. Any structures determined to be a historic City landmark shall be reviewed in accordance with TDC Chapter 68.

(2) Any existing wells shall be abandoned in the manner prescribed by State and County regulations prior to the City approval of the subdivision or partition plat.

(3) Any existing underground fuel or oil tanks, septic tanks and similar underground storage tanks shall be removed or filled as required by the Department of Environmental Quality prior to the City's approval of the subdivision or partition plat.

FINDING:

Plan sheets C111 to C114 show demolition of existing structures plus decommissioning and removal of wells and tanks. Permission to demolish the historic barn was completed through HIST-14-01, Historic Landmark Demolition Decision Barngrover Barn Removal which expires September 11, 2016. The applicant will need to complete demolition prior to this date or obtain another HIST approval or extension to demolish the historic barn. DEQ approves the decommissioning and removal of wells and tanks. The applicant will show the location of existing sanitary sewer septic tank for decommissioning. This criterion is satisfied with conditions of approval PFR -14, 40, and 41.

VII. TDC SECTION 36.450 SIDE LOT LINES.

The side lines of lots, as far as practicable, shall run at right angles to the street upon which the lots face.

FINDING:

The plans show the side lines of all lots generally run at right angles to the street upon which the lots face. This criterion is satisfied.

VIII. TDC SECTION 36.470 FRONTAGE ON PUBLIC STREETS.

All lots created after September 1, 1979 shall abut a public street, except for the following:

(1) Secondary condominium lots, which shall conform to TDC 73.400 and TDC 75;

(2) Lots and tracts created to preserve wetlands, greenways, Natural Areas and Stormwater Quality Control Facilities identified by TDC Chapters 71, 72 Figure 3-4 of the Parks and Recreation Master Plan and the Surface Water Management Ordinance, TMC Chapter 3-5 respectively, or for the purpose of preserving park lands in accordance with the Parks and Recreation Master Plan;

(3) Residential lots where frontage along a public street is impractical due to physical site restraints. Access to lots shall occur via a shared driveway within a tract. The tract shall have no adverse impacts to surrounding properties or roads and may only be approved if it meets the following criteria:

- (a) Does not exceed 250 feet in length,**
- (b) If the tract exceeds 150 feet in length, it has a turnaround facility as approved by the Fire Marshal for fire and life safety,**
- (c) The tract does not serve more than 6 lots,**
- (d) A public street is not needed to provide access to other adjacent properties as required by TDC Chapter 74,**
- (e) A recorded document providing for the ownership, use rights, and allocation for liability for construction and maintenance has been submitted to the City Engineer prior to issuance of a building permit, and**
- (f) Access easements have been provided to all properties needing access to the driveway.**

(4) Lots in the Manufacturing Park Planning District which have access to the public right-of-way in accordance with TDC 73.400 and TDC Chapter 75 via permanent access easement over one or more adjoining properties, creating uninterrupted vehicle and pedestrian access between the subject lot and the public right-of-way.

FINDING:

All lots shown on the applicant's subdivision plan abut public streets except Lot 2, which is adjacent to SW Borland Road, an access restricted major arterial. Access from Lot 2 to proposed SW 61st Terrace is proposed in an access easement across Lot 1. An access easement is not an acceptable means of providing access to Lot 2. Access to Lot 2 needs to be provided via flag pole with a width at least 20-feet. This criterion is satisfied with conditions of approval PFR -15.

G. TDC 38: SIGN REGULATIONS

I. TDC SECTION 38.060 SIGN PERMIT REQUIRED.

(3) A separate sign permit application shall be submitted for each sign erected, constructed, modified, relocated, replaced, face changed or structurally altered and for sign repair that includes these activities. Sign maintenance requires no permit. All proposed work on a sign shall be shown in the sign permit application.

(4) When required by the Uniform Building Code or the Building Official, a separate building permit shall be obtained from the City for the erection, construction, modification, relocation, replacement, change of sign face or alteration of a sign or sign structure.

(5) When required by the State Electrical Code or the Building Official, an electrical permit shall be obtained from the issuing authority before connecting an electrical sign to a source of electricity. The electrical components of signs shall meet the applicable electrical standards as shown by certification from those testing laboratories approved by the State of Oregon as meeting the testing standards for electrical safety as required by Oregon Revised Statutes 479.510 - 479.855 and Oregon Administrative Rule 918-330-000, as constituted on the effective date of this ordinance or as may hereafter be amended.

(6) Building and electrical permits shall be applied for in accordance with the procedures of the issuing agency, provided such permits are not issued until a sign permit has been issued.

FINDING:

The plans show monument signs at the entrance to the proposed subdivision at the southeast corners of the intersections of proposed SW 61st Terrace and SW Borland Road plus SW 65th Avenue and SW Sagert Street. Sign permitting is not a part of the subdivision land use decision and will require a separate permitting process. This criterion is satisfied with conditions of approval PFR -63.

H. TDC 40: LOW DENSITY RESIDENTIAL PLANNING DISTRICT (RL)

I. TDC SECTION 40.010 PURPOSE.

The purpose of this district is to provide low density residential areas in the City that are appropriate for dwellings on individual lots, as well as other miscellaneous land uses compatible with a low density residential environment.

FINDING:

The Applicant is proposing the subdivision of the subject property to provide low density residential lots for single family dwellings. This criterion is satisfied.

II. TDC SECTION 40.015 PERMITTED DENSITY.

Housing density shall not exceed 6.4 units per net acre, except as set forth below:

(1) The maximum density for small-lot subdivisions, and partitions and subdivisions affected by TDC 40.055, shall not exceed 7.5 dwelling units per net acre.

(2) The maximum density for retirement housing in accordance with TDC 34.170(2) shall not exceed 10 dwelling units per net acre.

1. TDC SECTION 1.020 DEFINITIONS.

Density, Maximum Net. Maximum net density applies only to partition, subdivision, and architectural review applications reviewed through the Expedited Process set forth in House Bill 3065, Sections 6-11, 1995 Legislature, and is the land area within the lot lines of a tax lot after land has been removed for rights-of-way and tracts. House Bill 3065's reference to 80 percent of maximum net density in Section 7(1)(a)(E) is calculated by taking the gross acreage and subtracting land removed for rights-of-way and tracts and multiplying that net acreage figure by the maximum allowed density and then multiplying that figure by 80 percent.

FINDING:

The southern portion of the subject site has been identified as a Greenway Protected in the NRPO per The City of Tualatin Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations. Per the requirements of TDC 40.055 the proposed Greenway has been located wholly within a tract. The proposed subdivision is affected by TDC 40.055, therefore the maximum allowed density of the site is 7.5 dwelling units per acre.

The net acreage of the site (after the removal of the right-of-way, greenway tract, CWS vegetative corridor tract, and water quality tract per TDC Section 1.020 and TDC 40.055(1)(v)), is 11.4 acres. The proposed 79 dwelling units result in a density of 7.0 dwelling units per net residential acre which is below the maximum of 7.5 dwelling units per acre. This criterion is satisfied.

III. TDC SECTION 40.020 PERMITTED USES.

(1) Single-family dwellings, including manufactured homes.

(2) Agricultural uses of land, such as truck gardening, horticulture, but excluding commercial buildings or structures and excluding the raising of animals other than the following:

(a) Normal household pets;

(b) Chickens as otherwise allowed by the Tualatin Municipal Code.

(3) Home occupations as provided in TDC 34.030 to 34.050.

(4) Public transit shelters.

(5) Greenways and Natural Areas, including but not limited to bike and pedestrian paths and interpretive stations.

(6) Residential homes.

(7) Residential facilities for up to 15 residents, not including staff.

(8) Family day care provider, provided that all exterior walls and outdoor play areas shall be a minimum distance of 400 feet from the exterior walls and pump islands of any automobile service station, irrespective of any structures in between.

(9) Sewer and water pump stations and pressure reading stations.

(10) Wireless communication facility attached, provided it is not on a single-family dwelling or its accessory structures.

(11) Accessory dwelling units as provided in TDC 34.300 to 34.310.

(12) Transportation facilities and improvements.

(13) Public park, public playground, and public recreation building.

FINDING:

The proposed single-family dwellings, greenways and natural areas, and transportation facilities and improvements are permitted outright in the RL zone. This criterion is satisfied.

IV. TDC 40.050 LOT SIZE FOR PERMITTED USES.

Except as otherwise provided, the lot size for a single-family dwelling shall be:

(1) The minimum lot area shall be an average of 6,500 square feet.

(2) The average lot width shall be at least 30 feet.

(3) When a lot has frontage on a public street, the minimum lot width shall be 50 feet on a street and 30 feet around a cul-de-sac bulb.

(4) The maximum building coverage shall be 45 percent.

(5) For flag lots, the minimum lot width at the street shall be sufficient to comply with at least the minimum access requirements contained in TDC 73.400(7) - (12).

FINDING:

The proposed lots range in size from 5,000 square feet to 9,012 square feet. With the removal of 16 small lots from the average lot size calculation (per Section 40.055 below), the overall average lot area is 6,502 square feet, which exceeds the minimum of 6,500 square feet per the requirements of subsection (1).

All lots exceed the 30-foot minimum average width in subsection (2).

All lots will have frontage on a public street and will meet the minimum width requirement of subsection (3) of 50 feet on a street and 30 feet around a cul-de-sac bulb.

The homes will meet the lot coverage standard of subsection (4). No more than 45% of any lot will be covered with buildings. This will be verified at time of building permit submission.

Lot 1 and Lot 2 will have frontage on Borland Road, but will access proposed SW 61st Terrace, a proposed local street. Lot 2 will become a flag lot with a pole to proposed SW 61st Terrace at least 20 feet wide. This criterion is satisfied with conditions of approval PFR -15 and 53.

V. TDC SECTION 40.055 LOT SIZE FOR GREENWAY AND NATURAL AREA TRACTS AND LOTS.

(1) The decision authority for partitions and subdivisions may allow one small lot for each 6,500 square feet of Tract created in the subdivision or partition process, provided the following criteria are met:

(a) Each Tract must be:

- (i) wholly in the Natural Re-source Protection Overlay (NRPO) District (TDC Chapter 72), or**
- (ii) wholly in an Other Natural Areas identified in Figure 3-4 of the Parks and Recreation Master Plan, or**
- (iii) wholly in a Clean Water Services Vegetated Corridor.**

(b) The ownership of each Tract must be one of the following:

- (i) dedicated to the City at the City's option, or**
- (ii) dedicated in a manner approved by the City to a non-profit conservation organization, or**
- (iii) retained in private ownership by the developer.**

(c) The small lot:

- (i) Shall be no less than 5,000 square feet and no more than 5,999.99 square feet.**
- (ii) The average lot width shall be at least 30 feet.**
- (iii) The minimum lot width shall be 50 feet on a street and 30 feet around a cul-de-sac bulb.**
- (iv) The maximum building coverage for lots less than 6,000 square feet shall be 45 percent.**
- (v) The subdivision's or partition's density, net of the Tracts, shall not exceed 7.5 dwelling units per acre.**

(2) The decision authority for partitions and subdivisions shall consider, but is not limited to, the following factors when determining if TDC 40.055(1)(b)(i - iii) are allowed:

(a) Does the Park and Recreation Master Plan designate the Tract for a greenway, pedestrian or bike path, public park, recreation, overlook or interpretive facility, or other public facility;

(b) Does the Tract include one or more designated Heritage Trees, or one or more significant trees;

(c) Does the Tract provide a significant view or esthetic element, or does it include a unique or intrinsically valuable element;

(d) Does the Tract connect publicly owned or publicly accessible properties;

(e) Does the Tract abut an existing park, greenway, natural area or other public facility;

(f) Does the Tract provide a public benefit or serve a public need;

(g) Does the Tract contain environmental hazards;

(h) Geologic stability of the Tract; and

(i) Future maintenance costs for the Tract.

(3) The following shall apply to small lots included in a partition or subdivision pursuant to (1) above:

(a) When a small lot abuts an existing lot in an approved and recorded subdivision or partition the small lot shall be no more than 500 square feet smaller than the abutting lot. For example, a new small lot shall be no less than 5,500 square feet if it abuts an existing lot of 6,000 square feet; 5,600 square feet if it abuts an existing lot of 6,100 square feet; 5,700 square feet if it abuts an existing lot of 6,200 square feet; and so on, up to 5,999 square feet if it abuts an existing lot of 6,499 square feet.

(b) When a small lot is directly across a local street from an existing lot in a City approved and recorded subdivision or partition the small lot shall be no more than 500 square feet smaller than the lot directly across the street. For purposes of this section, a small lot is directly across the street if one or more of its lot lines, when extended in a straight line across the local street, intersect the property line of the lot across the street.

(c) When a Tract or easement is between a small lot and an existing lot in a City approved and recorded subdivision or partition the small lot shall be separated from the existing lot by at least 50 feet.

(d) When a subdivision is constructed in phases, a small lot in a later phase may abut or be directly across a local street from an existing lot in an earlier phase.

FINDING:

The Applicant has proposed a 2.91 acre (127,760 square feet) tract which is wholly in the Natural Resource Overlay District. The Applicant has additionally proposed a 0.96 acre (41,818 square feet) tract for the purpose of the Saum Creek Greenway Trail. The two proposed tracts are to be dedicated to the City at the City's option. For the 168,578 square foot tract dedication, the Applicant is allowed 25 total small lots (168,578 square feet/6,500 square feet = 25.93 lots).

The Applicant has provided 16 small lots with a minimum square footage of 5,000 square feet and a maximum of 5,951 square feet. The average width of the proposed lots will meet the minimum average width of 30 feet. All proposed lots will have street frontage and will meet the minimum frontage requirement of 50 feet on a street and 30 feet around a cul-de-sac bulb. The maximum building coverage will not exceed 45 percent.

The lots proposed for the small lot allowance are lots 10, 33, 36, 41-43, 47-53 and 63-65.

The proposed 79 dwelling units result in a density of 7.0 dwelling units per net residential acre which is below the maximum of 7.5 dwelling units per acre.

The Park and Recreation Master Plan designates the area shown as Tract A as a greenway per subsection (a).

The Park and Recreation Master Plan designates the area shown as Tract B as a pedestrian path per subsection (a).

The applicant understands that based on the criteria of this section, ownership of Tracts A and B shall be determined by the City.

The Applicant is not proposing to locate any small lots abutting an existing lot in an approved or recorded subdivision or partition per subsection (a).

The Applicant is not proposing to locate any small lots directly across a local street from an existing lot in a City approved and recorded subdivision or partition per subsection (b).

The Applicant is not proposing to locate a tract or easement between any small lots and a City approved and recorded subdivision or partition per subsection (c)

The Applicant is not proposing a phased construction of the proposed subdivision (d).

This criterion is satisfied with conditions of approval PFR -43 and 53.

VI. TDC SECTION 40.070 SETBACK REQUIREMENTS FOR PERMITTED USES.

Except as otherwise provided, the setbacks for permitted uses shall be:

(1) The front yard setback shall be a minimum of 15 feet, except to an unenclosed porch, which shall be 12 feet.

(2) The setback to a garage door shall be a minimum of 20 feet.

(3) The side yard setback shall be a minimum of five feet.

(4) For a corner lot, the following provisions shall apply:

(a) one front yard setback shall be a minimum of 15 feet; it shall be determined by the orientation of the structure based on the location of the front door.

(b) the second front yard setback shall be a minimum of 10 feet.

(5) The rear yard setback shall be a minimum of 15 feet.

FINDING:

The plans show general possible footprints of structures with setbacks of 15 feet to the front and rear and 5 for the sides. All setback standards will be met at the time of building permit submittal. This criterion is satisfied with conditions of approval PFR 54.

VII. TDC SECTION 40.090 PROJECTIONS INTO REQUIRED YARDS.

Cornices, eaves, canopies, decks, sun-shades, gutters, chimneys, flues, belt courses, leaders, sills, pilasters, lintels, ornamental features, and other similar architectural features may extend or project into a required front or rear yard setback area not more than three feet and into a required side yard not more than two feet, or into the required open space as established by coverage standards in this chapter.

FINDING:

Future structure projections into yards will be maximum of front or rear yard setback area not more than three feet and into a required side yard not more than two feet. This criterion is satisfied with conditions of approval PFR -55.

VIII. TDC SECTION 40.100 STRUCTURE HEIGHT.

Except as otherwise provided, the maximum structure height is 35 feet.

FINDING:

Future structure heights will be a maximum of 35 feet. This criterion is satisfied with conditions of approval PFR -56.

I. TDC CHAPTER 72: NATURAL RESOURCE PROTECTION OVERLAY DISTRICT (NRPO)

I. TDC SECTION 72.010 PURPOSE.

(1) To identify and protect by preservation and conservation the designated significant natural resources and Other Natural Areas. The designated significant natural resources are greenways and natural areas, which include the riparian areas and scenic areas of the Tualatin River and certain creeks and drainage swales, wetlands, upland forests, meadows, fish and wildlife resources, and the geologic features of the Tonquin Scablands. Significant Natural Resources are identified on the Significant Natural Resource List and Map TDC 72.013 and Map 72-3, TDC). The significant natural resources designated for protection are shown on Map 72-1, TDC. Other Natural Areas are identified on Figure 3-4 of the Parks and Recreation Master Plan.

(3) To provide public access to scenic and riparian areas, where appropriate, by designating pedestrian and bicycle path locations.

(4) To provide specific design standards for development adjacent to, and within, greenways and natural areas in order to preserve and conserve them, and provide mechanisms for the granting of easements or dedications for Greenways, and Natural Areas while allowing reasonable economic development of property adjacent to the greenways and natural areas.

FINDING:

A portion of the project site has been identified in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) Wetland and Natural Areas Inventory Environmental and Social Value Assessment as the location of a portion of Wetland W9. The wetland located on site is a Significant Natural Resource categorized as “high” in Fish Habitat Value, Hydrologic Control, and Water Quality.

The Wetland has been determined to be Significant. This criterion is satisfied.

II. TDC SECTION 72.013 SIGNIFICANT NATURAL RESOURCES.

The following natural resource sites identified in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory (December, 1995) are Significant Natural Resources:

Unit #	Resource #	Assessors Map and Tax Lot		
S	F9	Interstate 5 Hwy ROW		
S2	F5	21E30A01300 21E30B00200	21E30A01600 21E30B00600	21E30A01700 21E30B00100

FINDING:

The project site, tax lot 21E30B00600, has been identified as a natural resource site in the City of Tualatin Natural Resource Inventory and Local Wetlands Inventory. This criterion is satisfied.

III. TDC SECTION 72.020 LOCATION OF GREEN-WAYS AND NATURAL AREAS.

(1) The designated significant natural resources are the Greenways and Natural Areas on Map 72-1, which shows the general location of the NRPO District. The general locations of Other [n] Natural Areas are shown on the Recreation Resources Map (Figure 3-4) of the Parks and Recreation Master Plan.

(2) Lands in the Wetland Protection District (WPD) are subject to Chapter 71, and other applicable regulations, but not Chapter 72.

FINDING:

The southern portion of the project site has been identified on Map 72-1: Natural Resource Protection Overlay District (NRPO) and Greenway Locations as the location of the Saum Creek Greenway, a greenway protected in the NRPO. This criterion is satisfied.

IV. TDC SECTION 72.030 GREENWAYS.

(1) Greenways can exhibit diverse characteristics. Those along the Tualatin River and Hedges, Nyberg and Saum Creeks can be natural in some sections and have pedestrian and bike paths in other sections. Greenways in built-up areas such as in subdivisions are typically landscaped with lawn and often include concrete pedestrian/bike paths.

(3) Creek Greenways (NRPO-GC).

(a) Except as provided in Subsections (b-d), the NRPO-GC District shall have a width of 50 feet centered on the centerline of Hedges Creek from SW Ibach Street to the western boundary of the Wet-lands Protection District and from the eastern boundary of the Wetlands Protection District to the Tualatin River, and centered on Nyberg Creek from SW Tonka Street to the Tualatin River.

(b) The NRPO-GC District shall have a width of 30 feet centered on the centerline of Nyberg Creek from SW Boones Ferry Road to SW Tonka Street.

(c) Property owners on opposite sides of a creek may enter into a written agreement to allow the NRPO-GC District to be off-center, but in no case shall it be less than 15 feet on one side of the creek. Such agreement shall be binding on property owners, their heirs and assigns; shall be approved by City Council and shall be placed on permanent file with the City Recorder.

(d) The NRPO-GC District shall have a width of 50 feet extending out from the top of the stream bank or from the upland edge of wetlands within the stream riparian area on the following creek sections:

- (i) Hedges Creek from SW 105th Avenue downstream to the private driveway culvert at the upper end of the fire pond at Tri-County Industrial Park,**
- (ii) Hedges Creek from the fire pond dam's outlet at Tri-County Industrial Park downstream to SW Tualatin-Sherwood Road, and**
- (iii) Saum Creek beginning east of I-5, just north of I-205 extending downstream to the Tualatin River, except:**
 - (A) a width of 25 feet ex-tending out from the upland edge of wet-lands in the stream riparian area for the severely constrained properties shown on Map 72-1, and**
 - (B) to the upland edge of the wetland in the stream riparian area adjacent to existing developed residential properties west of Atfalati Park shown on Map 72-1.**

FINDING:

This site contains a portion of the area designated as the Saum Creek Greenway. This criterion is satisfied.

V. TDC SECTION 72.060 DEVELOPMENT RESTRICTIONS IN GREENWAYS AND NATURAL AREAS.

(1) Except as provided in Subsection (2), no building, structure, grading, excavation, placement of fill, vegetation removal, impervious surface, use, activity or other development shall occur within Riverbank, Creek and Other Greenways, and Wetland and Open Space Natural Areas.

(2) The following uses, activities and types of development are permitted within Riverbank, Creek and Other Greenways, and Wetland and Open Space Natural Areas provided they are designed to minimize intrusion into riparian areas:

(a) Public bicycle or pedestrian ways, subject to the provisions of TDC 72.070.

(b) Public streets, including bridges, when part of a City approved transportation plan, and public utility facilities, when part of a City approved plan and provided appropriate restoration is completed.

(c) Except in Wetland Natural Areas, private driveways and pedestrian ways when necessary to afford access between portions of private property that may be bisected by a Greenway or Open Space Natural Area.

(d) Except in Creek Greenways and Wetland Natural Areas, outdoor seating for a restaurant within the Central Urban Renewal District, but outside of any sensitive area or its vegetated corridor.

(e) Public parks and recreational facilities including, but not limited to, boat ramps, benches, interpretive stations, trash receptacles and directional signage, when part of a City-approved Greenway or Natural Area enhancement plan.

(f) Landscaping, when part of a landscape plan approved through the Architectural Review process. City initiated landscape projects are exempt from the Architectural Review process. Landscaping in Greenways and Natural Areas shall comply with the approved Plant List in the Parks and Recreation Master Plan. When appropriate, technical advice shall be obtained from the Oregon Department of Fish and Wildlife, U.S. Soil Conservation Service, or similar agency, to ensure the proposed landscaping will enhance the preservation of any existing fish or wildlife habitats in the vicinity.

(g) Wildlife protection and enhancement, including the removal of non-native vegetation and replacement with native plant species.

(h) Except in Wetland Natural Areas, public boating facilities, irrigation pumps, water-related and water-dependent uses including the removal of vegetation necessary for the development of water-related and water-dependent uses, and replacement of existing structures with structures in the same location that do not disturb additional riparian surface.

(i) In Wetland Natural Areas, perimeter mowing and other cutting necessary for hazard prevention.

(3) The City may, through the subdivision, conditional use, architectural review, or other development approval process, attach appropriate conditions to approval of a development permit. Such conditions may include, but are not limited to:

- (a) Use of Greenways and Natural Areas for storm drainage purposes;**
- (b) Location of approved landscaping, pedestrian and bike access areas, and other non-building uses and activities in Greenways and Natural Areas;**
- (c) Setback of proposed buildings, parking lots, and loading areas away from the Greenway and Natural Area boundary.**

(4) Greenways and Natural Areas in which an access easement is owned by the City, but retained in private ownership, shall be maintained by the property owner in their natural state and may only be modified if a landscape and maintenance plan complies with the approved Plant List in the Parks and Recreation Master Plan, and has been approved through the Architectural Review process or by the Parks and Recreation Director when Architectural Review is not required.

(5) The Parks and Recreation Director shall be included as a commentor when a development application proposes dedication of Greenway or Natural Area property to the City or when development is pro-posed on Greenway or Natural Areas property maintained by the Parks and Recreation Department.

FINDING:

The Applicant is not proposing any buildings, structures, grading, excavation, placement of fill, vegetation removal, impervious surface, use, activity or other development within the Greenway and Wetland. There are no proposed pedestrian ways that connect to the trail across wetlands or open space. The wetland and associate buffer is shown in a separate tract than the one for greenway and trail purposes.

In order to minimize intrusion into the riparian area, the proposed pathway will be constructed as detailed in Section 72.070, below. This criterion is satisfied.

VI. TDC SECTION 72.070 GENERAL GUIDELINES FOR PEDESTRIAN AND BIKE PATHS IN GREENWAYS.

To construct bike and pedestrian paths in greenways, the developer of the path shall adhere to the following guidelines, wherever practicable:

- (1) Incorporate trails into the surrounding topography.**
- (2) Provide viewing opportunities for special vistas, wetlands, and unique natural features.**
- (3) Protect existing vegetation to the greatest extent possible. In wooded areas meander paths through the woods to avoid significant trees. An arborist should be consulted to determine methods for minimizing impact of construction of paths near trees greater than 5 inch caliper as measured 4 feet above-grade.**
- (4) Replant trees in the vicinity where they were removed. Use native species as outlined in the approved plant list incorporated in the Parks and Recreation Master Plan.**
- (5) Minimize impact on wetland environments. Build paths above wetlands wherever possible. Use boardwalks, bridges or other elevated structures when passing through a wetland. Direct trails away from sensitive habitat areas such as nesting or breeding grounds.**
- (6) Provide interpretive opportunities along the trail. Use interpretive signage and displays to describe plant and animal species, nesting areas, wildlife food sources, and geologic, cultural and historic features.**
- (7) Provide amenities along the trail. Place benches, picnic tables, trash receptacles and interpretive signage where appropriate.**
- (8) Where paths are placed in utility corridors, path design should be coordinated with the City's Engineering and Building Department and Operations Department to allow utility maintenance.**

(9) Mitigate surface water drainage near wetlands and streams. Where hard surface trails occur adjacent to wetlands or creeks, provide, when appropriate, an open water system through swales, trench percolation, or on-site detention ponds to prevent erosion and negative impacts.

(10) Incorporate signage. Place properly scaled and sited regulatory and guide signs to instruct users on accessibility, local conditions, safety concerns and mileage information.

FINDING:

The City's Parks and Transportation System plans indicate that an extension of the Saum Creek trail will ultimately be constructed adjacent to Saum Creek, along the Southern boundary of the property. The applicant has created a tract on the preliminary plat which would provide a location and alignment for the extension of the trail and will enter into an Improvement Agreement substantially like the attached draft Saum Creek Greenway Improvement Agreement. This criterion is satisfied with conditions of approval PFR -45.

VII. TDC SECTION 72.080 SHIFT OF DENSITY FOR RESIDENTIAL DEVELOPMENT ADJACENT TO GREENWAYS OR NATURAL AREAS.

(2) Small lots may be allowed in subdivisions and partitions in accordance with TDC 40.055 (RL District).

FINDING:

The applicant has provided responses for Section 40.055 (RL District) as a part of this narrative and the requirements are addressed in this decision. Sixteen (16) small lots are proposed in accordance with Section 40.055. This criterion is satisfied.

VIII. TDC SECTION 72.100 PARKS SYSTEMS DEVELOPMENT CHARGE (SDC) CREDIT.

Ordinance 833-91 establishes a System Development Charge for Parks in residential planning districts. The ordinance contains provisions for credits against the Parks SDC, subject to certain limitations and procedures. Credit may be received up to the full amount of the Parks SDC fee. Dedication of NRPO District Areas, Other Natural Areas or vegetated corridors located within or adjacent to the NRPO District listed in the SDC capital improvement list are eligible for a SDC credit. Dedication and improvement of bicycle and pedestrian paths may also be eligible for a SDC credit.

FINDING:

The Applicant may seek Parks SDC credits if required to construct a portion of the proposed Saum Creek Greenway pedestrian path.

This criterion is satisfied with conditions of approval PFR -50.

IX. TDC SECTION 72.110 EASEMENTS FOR PEDESTRIAN AND BICYCLE ACCESS.

In any portion of the NRPO District, the City may, through the subdivision, partition, conditional use, architectural review, or other applicable development approval process, require that easements for pedestrian and bicycle access and maintenance uses be granted as a condition of approval when said easements are necessary to achieve the purposes of the Parks and Recreation Master Plan, Greenways Development Plan, or Bikeways Plan.

FINDING:

As the NRPO is within a designated tract, further easements are unnecessary to achieve the purposes of the Parks and Recreation Master Plan, Greenways Development Plan and Bikeways Plan. The applicant will convey Tracts A and B by statutory warranty deed and execute and record Greenway easements covering the connecting pathway over the public sanitary sewer easement between Lots 69 and 70 prior to final plat approval.

This criterion is satisfied with conditions of approval PFR -43.

J. TDC CHAPTER 73: COMMUNITY DESIGN STANDARDS

I. TDC SECTION 73.250 TREE PRESERVATION.

(1) Trees and other plant materials to be retained shall be identified on the landscape plan and grading plan.

(2) During the construction process:

(a) The owner or the owner's agents shall provide above and below ground protection for existing trees and plant materials identified to remain.

(b) Trees and plant materials identified for preservation shall be protected by chain link or other sturdy fencing placed around the tree at the drip line.

(c) If it is necessary to fence within the drip line, such fencing shall be specified by a qualified arborist as defined in TDC 31.060.

(d) Neither top soil storage nor construction material storage shall be located within the drip line of trees designated to be preserved.

(e) Where site conditions make necessary a grading, building, paving, trenching, boring, digging, or other similar encroachment upon a preserved tree's drip-line area, such grading, paving, trenching, boring, digging, or similar encroachment shall only be permitted under the direction of a qualified arborist. Such direction must assure that the health needs of trees within the preserved area can be met.

(f) Tree root ends shall not remain exposed.

(3) Landscaping under preserved trees shall be compatible with the retention and health of said tree.

(4) When it is necessary for a preserved tree to be removed in accordance with TDC 34.210 the landscaped area surrounding the tree or trees shall be maintained and replanted with trees that relate to the present landscape plan, or if there is no landscape plan, then trees that are complementary with existing, nearby landscape materials. Native trees are encouraged

(5) Pruning for retained deciduous shade trees shall be in accordance with National Arborist Association "Pruning Standards For Shade Trees," revised 1979.

(6) Except for impervious surface areas, one hundred percent (100%) of the area preserved under any tree or group of trees retained in the landscape plan (as approved through the Architectural Review process) shall apply directly to the percentage of landscaping required for a development.

FINDING:

The applicant submitted a Tree Protection and Removal Plan (Sheet C105-C109) that identifies the locations of all trees on site eight inches or more in diameter. The CWS required easement boundary has been identified on the tree plan. Trees proposed for removal have also been identified. A tree assessment has been prepared and provided with this application.

The trees that are being proposed for removal as a part of this Subdivision Review are being removed to accommodate the construction of the proposed improvements for the subdivision plan. All tree removal is detailed in the included Arborist's report, as well as sheets C105 through C109. All proposed tree removal is necessary to construct the proposed improvements associated with the subdivision.

Trees in the Sequoia Ridge Natural Area shall be protected throughout construction. Applicant shall grant a conservation easement to preserve trees along east property lines of Tract F and Lot 79. City will accept a dedication of Tract F as Natural Area, if applicant plants it in northwest native trees, shrubs, and ground cover. There would be no compensation for the dedication of Tract F.

This criterion is satisfied with conditions of approval PFR -1, 10, and 46.

II. TDC SECTION 73.270 GRADING.

(1) After completion of site grading, top-soil is to be restored to exposed cut and fill areas to provide a suitable base for seeding and planting.

(2) All planting areas shall be graded to provide positive drainage.

(3) Neither soil, water, plant materials nor mulching materials shall be allowed to wash across roadways or walkways.

(4) Impervious surface drainage shall be directed away from pedestrian walkways, dwelling units, buildings, outdoor private and shared areas and landscape areas except where the landscape area is a water quality facility.

FINDING:

The applicant has submitted plans showing erosion control on sheets C116 to C119 for an area of approximately 20.9 acres. This criterion is satisfied with conditions of approval PFR -5 and 6.

III. TDC SECTION 73.280 IRRIGATION SYSTEM REQUIRED.

Except for townhouse lots, landscaped areas shall be irrigated with an automatic underground or drip irrigation system.

FINDING:

The plans indicate a water meter and splitting the water service in the planter strip for each lot, but don't clearly indicate that the landscaped areas will be irrigated. Irrigation is needed per TDC. This criterion is met with conditions of approval PFR -59.

TDC Section 73.370 Off-Street Parking and Loading.

(2) Off-Street Parking Provisions.

(a) The following are the minimum and maximum requirements for off-street motor vehicle parking in the City,

USE	MINIMUM MOTOR VEHICLE PARKING REQUIREMENT	MAXIMUM MOTOR VEHICLE PARKING REQUIREMENT	BICYCLE PARKING REQUIREMENT	PERCENTAGE OF BICYCLE PARKING TO BE COVERED
<u>Residential Uses:</u>				
(i) Detached single-family dwelling, residential home, residential facilities (located in low density (RL) planning districts) Townhouse	2.00 vehicle parking spaces per dwelling unit, residential home or residential facility (stalls or spaces within a residential garage not included, except as approved in Architectural Review).	None	None Required	N/A

FINDING:

Future permits for building construction will show 2 onsite parking spaces per lot. This criterion is met with conditions of approval PFR -57.

IV. TDC SECTION 73.400 ACCESS.

(2) Owners of two or more uses, structures, or parcels of land may agree to utilize jointly the same ingress and egress when the combined ingress and egress of both uses, structures, or parcels of land satisfies their combined requirements as designated in this code; provided that satisfactory legal evidence is presented to the City Attorney in the form of deeds, easements, leases or contracts to establish joint use. Copies of said deeds, easements, leases or contracts shall be placed on permanent file with the City Recorder.

(3) Joint and Cross Access.

(b) A system of joint use driveways and cross access easements may be required and may incorporate the following:

(i) a continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards.

(ii) a design speed of 10 mph and a maximum width of 24 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;

(iii) stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross access via a service drive;

(iv) a unified access and circulation system plan for coordinated or shared parking areas.

(c) Pursuant to this section, property owners may be required to:

(i) Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;

(ii) Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the city and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;

(iii) Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners;

(5) Lots that front on more than one street may be required to locate motor vehicle accesses on the street with the lower functional classification as determined by the City Engineer.

FINDINGS:

Lot 1 and Lot 2 will have frontage on SW Borland Road, a minor arterial. Motor vehicle access for lot 2 will be provided via a flag pole at least 20 feet wide to proposed SW 61st Terrace, a proposed local road. The 20-foot width will allow for a minimum 10-foot wide driveway with 5-foot setbacks to the property lines. This criterion is satisfied with conditions of approval PFR -15.

(6) Except as provided in TDC 53.100, all ingress and egress shall connect directly with public streets.

FINDINGS:

All lots shown on the Applicants plan have vehicular and pedestrian ingress and egress from private property to the public streets. This criterion is met.

(8) To afford safe pedestrian access and egress for properties within the City, a sidewalk shall be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section shall be constructed to City standards, except in the case of streets with inadequate right-of-way width or where the final street design and grade have not been established, in which case the sidewalks shall be constructed to a design and in a manner approved by the City Engineer. Sidewalks approved by the City Engineer may include temporary sidewalks and sidewalks constructed on private property; provided, however, that such sidewalks shall provide continuity with sidewalks of adjoining commercial developments existing or proposed. When a sidewalk is to adjoin a future street improvement, the sidewalk construction shall include construction of the curb and gutter section to grades and alignment established by the City Engineer.

FINDINGS:

The proposed development will provide sidewalks along all street frontages, as shown on the attached Site Plan (Sheet C200). All proposed sidewalks will be constructed to City Standards. All shown sidewalks are of widths that meet standards, within right-of-way, and connect to any existing adjacent sidewalks. This criterion is satisfied.

(9) The standards set forth in this Code are minimum standards for access and egress, and may be increased through the Architectural Review process in any particular instance where the standards provided herein are deemed insufficient to protect the public health, safety, and general welfare.

(10) Minimum access requirements for residential uses:

(a) Ingress and egress for single-family residential uses, including townhouses, shall be paved to a minimum width of 10 feet. Maximum driveway widths shall not exceed 26 feet for one and two car garages, and 37 feet for three or more car garages. For the purposes of this section, driveway widths shall be measured at the property line....

FINDINGS:

Future building permits for each lot will show driveways widths a minimum of 10 feet wide and with a maximum for 26 feet for one or two car garages and 37 for three or more. This criterion is satisfied with conditions of approval PFR -58.

(11) Minimum Access Requirements for Commercial, Public and Semi-Public Uses.

...In all other cases, ingress and egress for commercial uses shall not be less than the following:

Required Parking Spaces	Minimum Number Required	Minimum Pavement Width	Minimum Pavement Walkways, Etc.
1-99	1	32 feet for first 50 feet from ROW, 24' thereafter	Curbs required; walkway 1 side only
100-249	2	32 feet for first 50 feet from ROW, 24' thereafter	Curbs required; walkway 1 side only
Over 250	As required by City Engineer	As required by City Engineer	As required by City Engineer

(13) One-way Ingress or Egress.

When approved through the Architectural Review process, one-way ingress or egress may be used to satisfy the requirements of Subsections (7), (8), and (9). However, the hard surfaced pavement of one-way drives shall not be less than 16 feet for multi-family residential, commercial, or industrial uses.

FINDINGS:

No one way ingress or egress is shown. This criterion is satisfied.

(14) Maximum Driveway Widths and Other Requirements.

(a) Unless otherwise provided in this chapter, maximum driveway widths shall not exceed 40 feet.

(b) Except for townhouse lots, no driveways shall be constructed within 5 feet of an adjacent property line, except when two adjacent property owners elect to provide joint access to their respective properties, as provided by Subsection (2).

(c) There shall be a minimum distance of 40 feet between any two adjacent driveways on a single property unless a lesser distance is approved by the City Engineer.

(15) Distance between Driveways and Intersections.

Except for single-family dwellings, the minimum distance between driveways and intersections shall be as provided below. Distances listed shall be measured from the stop bar at the intersection.

(a) At the intersection of collector or arterial streets, driveways shall be located a minimum of 150 feet from the intersection.

(b) At the intersection of two local streets, driveways shall be located a minimum of 30 feet from the intersection.

(c) If the subject property is not of sufficient width to allow for the separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while still maintaining the 5-foot setback between the driveway and property line as required by TDC 73.400(14)(b).

(d) When considering a public facilities plan that has been submitted as part of an Architectural Review plan in accordance with TDC 31.071(6), the City Engineer may approve the location of a driveway closer than 150 feet from the intersection of collector or arterial streets, based on written findings of fact in support of the decision. The written approval shall be incorporated into the decision of the City Engineer for the utility facilities portion of the Architectural Review plan under the process set forth in TDC 31.071 through 31.077.

FINDINGS:

The Applicant is not proposing commercial use as a part of this development. The Applicant understands and acknowledges that the standards in this code are minimum standards for access and egress and they may be increased through the Architectural Review process. With construction of SW Sagert Street two 24-foot wide driveways for Tualatin Professional Center and one 24-foot wide driveway for MEI, both commercial uses, with access easement over Tract E are shown on the plan sheet C121. The west access for Tualatin Professional Center is approximately 75 feet from the intersection of SW 65th Avenue and SW Sagert Street and therefore access restricted to right-in/right-out as supported by the submitted Transportation Impact Analysis by Kittelson and Associates. The other two accesses are greater than 150 feet from the intersection and are not restricted. All accesses are greater than 30 feet from a intersection with a local street. For both lots, one access to each lot will need to be at least 32-foot wide. The access easement for MEI will need to match the width of the access. This criterion is satisfied with conditions of approval PFR -16.

(16) Vision Clearance Area.

(a) Local Streets - A vision clearance area for all local street intersections, local street and driveway intersections, and local street or driveway and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 10 feet from the intersection point of the right-of-way lines, as measured along such lines (see Figure 73-2 for illustration).

(b) Collector Streets - A vision clearance area for all collector/arterial street intersections, collector/arterial street and local street intersections, and collector/arterial street and railroad intersections shall be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 25 feet from the intersection point of the right-of-way lines, as measured along such lines. Where a driveway intersects with a collector/arterial street, the distance measured along the driveway line for the triangular area shall be 10 feet (see Figure 73-2 for illustration).

(c) Vertical Height Restriction - Except for items associated with utilities or publicly owned structures such as poles and signs and existing street trees, no vehicular parking, hedge, planting, fence, wall structure, or temporary or permanent physical obstruction shall be permitted between 30 inches and 8 feet above the established height of the curb in the clear vision area (see Figure 73-2 for illustration).

FINDINGS:

The Applicant has illustrated the required vision clearance area triangle for each proposed intersection on the submitted plans and Figure 1 and Figure 2 submitted under Appendix F. All required vision clearance areas will be maintained. This criterion is satisfied.

(17) Major driveways, as defined in 31.060, in new residential and mixed-use areas are required to connect with existing or planned streets except where prevented by topography, rail lines, freeways, pre-existing development or leases, easements or covenants, or other barriers.

FINDINGS:

No major driveways are proposed. This criterion is satisfied.

K. TDC CHAPTER 74: PUBLIC IMPROVEMENT REQUIREMENTS

I. TDC SECTION 74.120 PUBLIC IMPROVEMENTS.

(1) Except as specially provided, all public improvements shall be installed at the expense of the applicant. All public improvements installed by the applicant shall be constructed and guaranteed as to workmanship and material as required by the Public Works Construction Code prior to acceptance by the City. No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.

FINDINGS:

A conceptual land use plan set has been submitted to show the proposed public water, sanitary sewer, and storm drainage facilities meeting City requirements to serve the proposed development. The public improvements additionally include public streets and trail with connections to public streets. This criterion is satisfied with conditions of approval PFR -39 and 48.

TDC Section 74.130 Private Improvements.

All private improvements shall be in-stalled at the expense of the applicant. The property owner shall retain maintenance responsibilities over all private improvements.

FINDINGS:

Onsite improvements related to relocating Tualatin Professional Center's parking lot out of public right-of-way as well as the masonry fences required in TDC 34.32-340 are private improvements. This criterion is satisfied with conditions of approval PFR -16 and 51.

II. TDC SECTION 74.140 CONSTRUCTION TIMING.

(1) All the public improvements required under this chapter shall be completed and accepted by the City prior to the issuance of a Certificate of Occupancy; or, for subdivision and partition applications, in accordance with the requirements of the Subdivision regulations.

(2) All private improvements required under this chapter shall be approved by the City prior to the issuance of a Certificate of Occupancy; or for subdivision and partition applications, in accordance with the requirements of the Subdivision regulations.

FINDINGS:

The Applicant acknowledges the procedural requirements of this section. This criterion is satisfied with conditions of approval PFR -49.

III. TDC SECTION 74.210 MINIMUM STREET RIGHT-OF-WAY WIDTHS.

The width of streets in feet shall not be less than the width required to accommodate a street improvement needed to mitigate the impact of a proposed development. In cases where a street is required to be improved according to the standards of the TDC, the width of the right-of-way shall not be less than the minimums indicated in TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G.

(1) For subdivision and partition applications, wherever existing or future streets adjacent to property proposed for development are of inadequate right-of-way width the additional right-of-way necessary to comply with TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G shall be shown on the final subdivision or partition plat prior to approval of the plat by the City. This right-of-way dedication shall be for the full width of the property abutting the roadway and, if required by the City Engineer, additional dedications shall be provided for slope and utility easements if deemed necessary.

(3) For development applications that will impact existing streets not adjacent to the applicant's property, and to construct necessary street improvements to mitigate those impacts would require additional right-of-way, the applicant shall be responsible for obtaining the necessary right-of-way from the property owner. A right-of-way dedication deed form shall be obtained from the City Engineer and upon completion returned to the City Engineer for acceptance by the City. On subdivision and partition plats the right-of-way dedication shall be accepted by the City prior to acceptance of the final plat by the City. On other development applications the right-of-way dedication shall be accepted by the City prior to issuance of building permits. The City may elect to exercise eminent domain and condemn necessary off-site right-of-way at the applicant's request and expense. The City Council shall determine when condemnation proceedings are to be used.

(4) If the City Engineer deems that it is impractical to acquire the additional right-of-way as required in subsections (1)-(3) of this section from both sides of the center-line in equal amounts, the City Engineer may require that the right-of-way be dedicated in a manner that would result in unequal dedication from each side of the road. This requirement will also apply to slope and utility easements as discussed in TDC 74.320 and 74.330. The City Engineer's recommendation shall be presented to the City Council in the preliminary plat approval for subdivisions and partitions, and in the recommended decision on all other development applications, prior to finalization of the right-of-way dedication requirements.

FINDINGS:

The submitted plans show a modified collector section for SW Sagert Street between proposed SW 63rd Avenue and the Sequoia Ridge including 32 feet of paved width, 6 foot planter strip and 5 foot sidewalks in either direction. The modified collector section is designed to transition SW Sagert Street to the residential uses found within the proposed development and within Sequoia Ridge to the east. The right-of-way width varies from 70.5 to 50 feet, narrowing to assist in traffic speed reduction and match existing street cross-sections. The transition and meander of SW Sagert Street south of PGE's lot is due to high power transmission line guy wires for existing poles. Relocation of guy wires to continue a wider and straighter path would require replacement of existing poles with new steel poles. The applicant worked towards a successful solution of PGE proposing to dedicate adequate right-of-way to include a planter strip and sidewalk to resemble our standard cross-section in exchange of continuing to allow PGE interim access to SW Borland Avenue for their maintenance vehicles.

The Tualatin TSP designates SW 65th Avenue as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 29 foot ROW dedication along 65th, for a total half-street width of 47 feet. Proposed improvements include construction of a 12 foot center turn lane, as well as improving the east side of the street by widening the travel lane to 12 feet, constructing a 6 foot bike lane, a 7 foot planter strip, a 12 foot sidewalk and a 6 foot shoulder. The City Engineer determined this as an acceptable cross-section as it allows for construction of a modified cross-section south of SW Sagert Street to not adversely affect Atfalati Park and greenway to the south of the park. The cross-section reduces the major arterial cross-section from 5 to 3 lanes, but includes a 12-foot wide sidewalk on the east side as part of the connectivity between the Saum Creek Greenway Path to Tualatin River. The City believes this modification will not reduce Levels Of Service below code standards per the submitted traffic impact analysis.

The Tualatin TSP designates SW Borland Street as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 24 foot right-of-way dedication along Borland, for a total half-street width of 40.9 feet. Proposed improvements include widening the center turn lane to 11.7 feet, as well as improving the south side of the street by maintaining a 10 foot travel lane, constructing a 4.2 foot bike lane, 5 foot planter strip, 5 foot sidewalk and 14.7 foot landscaping area. The City Engineer determined this as an acceptable cross-section as it matches the width of right-of-way and street construction adjacent to Sequoia Ridge subdivision to the east, which doesn't encroach on a row of protected sequoia trees. The City believes this modification will not reduce Levels Of Service below code standards per the submitted traffic impact analysis.

In each of these cross-sections, unequal dedication is needed. This criterion is met.

(5) Whenever a proposed development is bisected by an existing or future road or street that is of inadequate right-of-way width according to TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G, additional right-of-way shall be dedicated from both sides or from one side only as determined by the City Engineer to bring the road right-of-way in compliance with this section.

FINDINGS:

The Tualatin TSP designates SW 65th Avenue as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 29 foot ROW dedication along 65th, for a total half-street width of 47 feet. Proposed improvements include construction of a 12 foot center turn lane, as well as improving the east side of the street by widening the travel lane to 12 feet, constructing a 6 foot bike lane, a 7 foot planter strip, a 12 foot sidewalk and a 6 foot shoulder. The City Engineer determined this as an acceptable cross-section as it allows for construction of a modified cross-section south of SW Sagert Street to not adversely affect Atfalati Park and greenway to the south of the park. The cross-section reduces the major arterial cross-section from 5 to 3 lanes, but includes a 12-foot wide sidewalk on the east side as part of the connectivity between the Saum Creek Greenway Path to Tualatin River. The City believes this modification will not reduce Levels of Service below code standards per the submitted traffic impact analysis.

The Tualatin TSP designates SW Borland Street as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 24 foot right-of-way dedication along Borland, for a total half-street width of 40.9 feet. Proposed improvements include widening the center turn lane to 11.7 feet, as well as improving the south side of the street by maintaining a 10 foot travel lane, constructing a 4.2 foot bike lane, 5 foot planter strip, 5 foot sidewalk and 14.7 foot landscaping area. The City Engineer determined this as an acceptable cross-section as it matches the width of right-of-way and street construction adjacent to Sequoia Ridge subdivision to the east, which doesn't encroach on a row of protected sequoia trees. The City believes this modification will not reduce Levels Of Service below code standards per the submitted traffic impact analysis.

(6) When a proposed development is adjacent to or bisected by a street proposed in TDC Chapter 11, Transportation Plan (Figure 11-3) and no street right-of-way exists at the time the development is proposed, the entire right-of-way as shown in TDC Chapter 74, Public Improvement Requirements, Figures 74-2A through 74-2G shall be dedicated by the applicant. The dedication of right-of-way required in this subsection shall be along the route of the road as determined by the City.

FINDINGS:

The 2013 Tualatin Transportation System Plan designates SW Sagert Street as a "Minor Arterial" west SW 65th Avenue and as a "Minor Collector" where it extends through the property. According to the TSP Figure 2 and Table 3, the preferred width for a Collector Street is a 76-foot wide right-of-way.

The existing ROW of Sagert Street between SW 65th Avenue and SW Wampanoag Drive is 78 feet in width. As shown on the submitted plans, proposed improvements between SW 65th Avenue and Wampanoag Drive include widening the center turn lane to 12 feet, providing a 12 foot travel lanes in each direction, a 5 foot bike lane on the south side and a 4.9 foot wide bike lane on the north side, a 5.5 foot sidewalk on both sides of the street, 3.5 feet of landscaping on the south side and 17.5 feet of landscaping on the north side.

The Tualatin TSP designates the necessity to extend Sagert Street through the proposed development from SW 65th Avenue to the Sequoia Ridge subdivision to the east.

As shown on the submitted plans, the roadway improvements for SW Sagert Street between SW 65th Avenue and the proposed SW 63rd Terrace include a 12 foot center turn lane, 12 foot travel lanes in either direction, 6 foot bike lanes in either direction, 6 foot planter strip and 5 foot sidewalks in either direction. Right-of-way width varies due to existing development constraints north of the proposed development from 70.5 feet to 75 feet.

The Tualatin TSP designates SW 65th Avenue as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 29 foot ROW dedication along 65th, for a total half-street width of 47 feet. Proposed improvements include construction of a 12 foot center turn lane, as well as improving the east side of the street by widening the travel lane to 12 feet, constructing a 6 foot bike lane, a 7 foot planter strip, a 12 foot sidewalk and a 6 foot shoulder.

The Tualatin TSP designates SW Borland Street as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 24 foot right-of-way dedication along Borland, for a total half-street width of 40.9 feet. Proposed improvements include widening the center turn lane to 11.7 feet, as well as improving the south side of the street by maintaining a 10 foot travel lane, constructing a 4.2 foot bike lane, 5 foot planter strip, 5 foot sidewalk and 14.7 foot landscaping area.

New public streets within the development will have a 50-foot right-of-way with 32 feet of improvements from curb to curb. A 5 foot sidewalk and a 4 foot wide planter strip will be provided from the edge of the curb.

Washington County has jurisdiction of the west half of SW 65th Avenue. Clackamas County has jurisdiction of the east half of SW 65th Avenue and the entirety of SW Borland Road. SW Sagert Street plus all the proposed local streets are the jurisdiction of the City of Tualatin. Clackamas and Washington County submitted attached memorandums with requirements dated October 1, 2015 and October 8, 2015, respectively. The applicant will need to complete the requirements of both County's memorandums.

The plans show a 12-foot wide sidewalk on the east side SW 65th Avenue at the south end of the development extending to SW 65th Avenue. It is not clear that this is only for bicycle entrance from SW 65th Avenue as there is no crosswalk for pedestrian safety. The plans will show that this is for a bicycle entrance from SW 65th Avenue only and include a pedestrian barrier with appropriate tapering per AASTO code. The sidewalk should extend as far south to the property line as possible.

The plans show a sidewalk for SW Borland Road. On the west side it connects to the street which is unsafe. The sidewalk should connect across PGE's lot to the existing sidewalk to the west for safe connectivity.

This criterion is satisfied with conditions of approval PFR – 17, 18, 19, 20, and 21.

IV. TDC SECTION 74.310 GREENWAY, NATURAL AREA, BIKE, AND PEDESTRIAN PATH DEDICATIONS AND EASEMENTS.

(1) Areas dedicated to the City for Greenway or Natural Area purposes or easements or dedications for bike and pedestrian facilities during the development application process shall be surveyed, staked and marked with a City approved boundary marker prior to acceptance by the City.

(2) For subdivision and partition applications, the Greenway, Natural Area, bike, and pedestrian path dedication and easement areas shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; or

FINDINGS:

The areas proposed as dedication to the City for Greenway or Natural Area purposes have been surveyed, and will be staked and marked with a City approved boundary marker, per the requirements of subsection (1).

The areas proposed as dedication to the City for Greenway, Natural Area, bike and pedestrian path dedication and easement areas have been shown to be dedicated to the City on the final subdivision plat, per the requirements of subsection (2). This criterion is satisfied with conditions of approval PFR -42 and 43.

V. TDC SECTION 74.330 UTILITY EASEMENTS.

(1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.

(2) For subdivision and partition applications, the on-site public utility easement dedication area shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; and

(3) For subdivision and partition applications which require off-site public utility easements to serve the proposed development, a utility easement shall be granted to the City prior to approval of the final plat by the City. The City may elect to exercise eminent domain and condemn necessary off-site public utility easements at the applicant's request and expense. The City Council shall determine when condemnation proceedings are to be used.

(5) The width of the public utility easement shall meet the requirements of the Public Works Construction Code. All subdivisions and partitions shall have a 6-foot public utility easement adjacent to the street and a 5-foot public utility easement adjacent to all side and rear lot lines.

FINDINGS:

A 6-ft wide public utility easement (PUE) is indicated on the submitted plat along the frontage of each lot. A 15-foot wide sanitary sewer and public access easement is shown between lots 69 and 70 to provide access to an existing sanitary manhole. An access and utility easement is shown on lot 1 access and utility service for lot 2 will not be needed as there will be a flag for lot 2 to proposed SW 61st Terrace. All easements will meet city dimensional requirements and be shown on the final recorded plat.

5-foot wide public utility easements will be needed at the sides and rear of all lots. 15-foot wide public easements are needed for public sanitary sewer and/or stormwater lines over private property. This criterion is satisfied with conditions of approval PFR -22 and 42.

VI. TDC SECTION 74.340 WATERCOURSE EASEMENTS.

(1) Where a proposed development site is traversed by or adjacent to a watercourse, drainage way, channel or stream, the applicant shall provide a storm water easement, drainage right-of-way, or other means of preservation approved by the City Engineer, conforming substantially with the lines of the watercourse. The City Engineer shall determine the width of the easement, or other means of preservation, required to accommodate all the requirements of the Surface Water Management Ordinance, existing and future storm drainage needs and access for operation and maintenance.

(2) For subdivision and partition applications, any watercourse easement dedication area shall be shown to be dedicated to the City on the final subdivision or partition plat prior to approval of the plat by the City; or

(3) For all other development applications, any watercourse easement shall be executed on a dedication form submitted to the City Engineer; building permits shall not be issued for the development prior to acceptance of the easement by the City.

(4) The storm water easement shall be sized to accommodate the existing water course and all future improvements in the drainage basin. There may be additional requirements as set forth in TDC Chapter 72, Greenway and Riverbank Protection District, and the Surface Water Management Ordinance. Water quality facilities may require additional easements as described in the Surface Water Management Ordinance.

FINDINGS:

Tracts are provided which contain a portion of Saum Creek, as well as the associated buffer area and future pedestrian path. Easements are not necessary as the tracts provide the necessary protection and preservation of the watercourse. This criterion is satisfied with conditions of approval PFR -43.

VII. TDC SECTION 74.350 TRACTS.

A dedicated tract or easement will be required when access to public improvements for operation and maintenance is required, as determined by the City Engineer. Access for maintenance vehicles shall be constructed of an all-weather driving surface capable of carrying a 50,000-pound vehicle. The width of the tract or easement shall be 15-feet in order to accommodate City maintenance vehicles. In subdivisions and partitions, the tract shall be dedicated to the City on the final plat. In any other development, an access easement shall be granted to the City and recorded prior to issuance of a building permit.

FINDINGS:

A proposed Water Quality Tract is located adjacent to SW 65th Avenue, in the southwest corner of the Subject Property. Because it can be accessed directly from a public street, no easement is required to allow access for operation and maintenance.

An additional public water quality facility is shown within Tract B, intended to be provided for a greenway trail. The public water quality facility will be in a separate tract, and will be accessible from a public street via Tract D and B. No public stormwater easement is needed to cross the greenway tract for maintenance activities. Tract D will be dedicated for stormwater maintenance access.

The driving surface for maintenance vehicles are shown to be of asphalt and extend appropriately to be 5-feet beyond the public sanitary sewer manhole at the southwest corner of the project, but made of concrete end prior to the stormwater manholes prior to the public water quality facilities. Surfaces need to extend to the public water quality facilities. These surfaces will be concrete and constructed according to the Public Works Construction Code. This criterion is satisfied with conditions of approval PFR -23, 24, and 42.

VIII. TDC SECTION 74.410 FUTURE STREET EXTENSIONS.

(1) Streets shall be extended to the proposed development site boundary where necessary to:

- (a) give access to, or permit future development of adjoining land;**
- (b) provide additional access for emergency vehicles;**
- (c) provide for additional direct and convenient pedestrian, bicycle and vehicle circulation;**
- (d) eliminate the use of cul-de-sacs except where topography, barriers such as railroads or freeways, existing development, or environmental constraints such as major streams and rivers prevent street extension.**
- (e) eliminate circuitous routes. The resulting dead end streets may be approved without a turnaround. A reserve strip may be required to preserve the objectives of future street extensions.**

(2) Proposed streets shall comply with the general location, orientation and spacing identified in the Functional Classification Plan (Figure 11-1), Local Streets Plan (TDC 11.630 and Figure 11-3) and the Street Design Standards (Figures 74-2A through 74-2G).

(a) Streets and major driveways, as defined in TDC 31.060, proposed as part of new residential or mixed residential/commercial developments shall comply with the following standards:

(i) full street connections with spacing of no more than 530 feet between connections, except where prevented by barriers;

(ii) bicycle and pedestrian accessway easements where full street connections are not possible, with spacing of no more than 330 feet, except where prevented by barriers;

(iii) limiting cul-de-sacs and other closed-end street systems to situations where barriers prevent full street extensions; and

(iv) allowing cul-de-sacs and closed-end streets to be no longer than 200 feet or with more than 25 dwelling units, except for streets stubbed to future developable areas.

(3) During the development application process, the location, width, and grade of streets shall be considered in relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. The arrangement of streets in a subdivision shall either:

(a) provide for the continuation or appropriate projection of existing streets into surrounding areas; or

(b) conform to a street plan approved or adopted by the City to meet a particular situation where topographical or other conditions make continuance of or conformance to existing streets impractical.

(4) The City Engineer may require the applicant to submit a street plan showing all existing, proposed, and future streets in the area of the proposed development.

(5) The City Engineer may require the applicant to participate in the funding of future off-site street extensions when the traffic impacts of the applicant's development warrant such a condition.

FINDINGS:

The Applicant proposes an east-west extension of SW Sagert Street that will extend between SW 65th Avenue and the Sequoia Ridge neighborhood to the east to provide connectivity. The Applicant also proposes the creation of a new north-south connection that will extend onto Borland Road to provide additional connectivity. A traffic study is included with this application detailing the proposed street extensions. The proposed streets all comply with the general location, orientation and spacing identified in the Functional Classification Plan, Local Streets Plan and Street Design Standards.

Full street connections are spaced less than 530 feet between connections. In addition to meeting this requirement, two bicycle and pedestrian accessways within Tracts will be dedicated to the City at the southeast and southwest corners of the development for access to the Saum Creek Greenway Trail. No cul-de-sacs or dead end streets are proposed and the extension of SW Sagert Street eliminates an existing dead end street.

This criterion is satisfied.

IX. TDC SECTION 74.420 STREET IMPROVEMENTS.

When an applicant proposes to develop land adjacent to an existing or proposed street, including land which has been excluded under TDC 74.220, the applicant should be responsible for the improvements to the adjacent existing or proposed street that will bring the improvement of the street into conformance with the Transportation Plan (TDC Chapter 11), TDC 74.425 (Street Design Standards), and the City' s Public Works Construction Code, subject to the following provisions:

(1) For any development proposed within the City, roadway facilities within the right-of-way described in TDC 74.210 shall be improved to standards as set out in the Public Works Construction Code.

(2) The required improvements may include the rebuilding or the reconstruction of any existing facilities located within the right-of-way adjacent to the proposed development to bring the facilities into compliance with the Public Works Construction Code.

(3) The required improvements may include the construction or rebuilding of off-site improvements which are identified to mitigate the impact of the development.

(4) Where development abuts an existing street, the improvement required shall apply only to that portion of the street right-of-way located between the property line of the parcel proposed for development and the centerline of the right-of-way, plus any additional pavement beyond the centerline deemed necessary by the City Engineer to ensure a smooth transition between a new improvement and the existing roadway (half-street improvement). Additional right-of-way and street improvements and off-site right-of-way and street improvements may be required by the City to mitigate the impact of the development. The new pavement shall connect to the existing pavement at the ends of the section being improved by tapering in accordance with the Public Works Construction Code.

(5) If additional improvements are required as part of the Access Management Plan of the City, TDC Chapter 75, the improvements shall be required in the same manner as the half-street improvement requirements.

(6) All required street improvements shall include curbs, sidewalks with appropriate buffering, storm drainage, street lights, street signs, street trees, and, where designated, bikeways and transit facilities.

(7) For subdivision and partition applications, the street improvements required by TDC Chapter 74 shall be completed and accepted by the City prior to signing the final subdivision or partition plat, or prior to releasing the security provided by the applicant to assure completion of such improvements or as otherwise specified in the development application approval.

(10) Streets within, or partially within, a proposed development site shall be graded for the entire right-of-way width and constructed and surfaced in accordance with the Public Works Construction Code.

(11) Existing streets which abut the proposed development site shall be graded, constructed, reconstructed, surfaced or repaired as necessary in accordance with the Public Works Construction Code and TDC Chapter 11, Transportation Plan, and TDC 74.425 (Street Design Standards).

(12) Sidewalks with appropriate buffering shall be constructed along both sides of each internal street and at a minimum along the development side of each external street in accordance with the Public Works Construction Code.

(13) The applicant shall comply with the requirements of the Oregon Department of Transportation (ODOT), Tri-Met, Washington County and Clackamas County when a proposed development site is adjacent to a roadway under any of their jurisdictions, in addition to the requirements of this chapter.

(14) The applicant shall construct any required street improvements adjacent to parcels excluded from development, as set forth in TDC 74.220 of this chapter.

(15) Except as provided in TDC 74.430, whenever an applicant proposes to develop land with frontage on certain arterial streets and, due to the access management provisions of TDC Chapter 75, is not allowed direct access onto the arterial, but instead must take access from another existing or future public street thereby providing an alternate to direct arterial access, the applicant shall be required to construct and place at a minimum street signage, a sidewalk, street trees and street lights along that portion of the arterial street adjacent to the applicant's property. The three certain arterial streets are S.W. Tualatin-Sherwood Road, S.W. Pacific Highway (99W) and S.W. 124th Avenue. In addition, the applicant may be required to construct and place on the arterial at the intersection of the arterial and an existing or future public non-arterial street warranted traffic control devices (in accordance with the Manual on Uniform Traffic Control Devices, latest edition), pavement markings, street tapers and turning lanes, in accordance with the Public Works Construction Code.

(16) The City Engineer may determine that, although concurrent construction and placement of the improvements in (14) and (15) of this section, either individually or collectively, are impractical at the time of development, the improvements will be necessary at some future date. In such a case, the applicant shall sign a written agreement guaranteeing future performance by the applicant and any successors in interest of the property being developed. The agreement shall be subject to the City's approval.

(17) Intersections should be improved to operate at a level of service of at least D and E for signalized and unsignalized intersections, respectively.

(18) Pursuant to requirements for off-site improvements as conditions of development approval in TDC 73.055(2)(e) and TDC 36.160(8), proposed multi-family residential, commercial, or institutional uses that are adjacent to a major transit stop will be required to comply with the City's Mid-Block Crossing Policy.

FINDINGS:

The Applicant's submitted plans show public street, storm drainage and sidewalk improvements in the SW 65th Avenue right-of-way, in compliance with these requirements.

SW Sagert Street will be fully constructed to meet applicable City street standards, extending east from the existing intersection and terminated at the existing stub that connects with SW Sequoia Drive.

SW Borland Road will be constructed in accordance with city standards.

All street improvements are detailed in the plan sheets submitted with this subdivision application. This criterion is satisfied.

X. TDC SECTION 74.425 STREET DESIGN STANDARDS.

(1) Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

(2) The proposed street design standards are shown in Figures 72A through 72G. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, and other amenities such as landscape strips. These figures are intended for planning purposes for new road construction, as well as for those locations where it is physically and economically feasible to improve existing streets

(3) In accordance with the Tualatin Basin Program for fish and wildlife habitat it is the intent of Figures 74-2A through 74-2G to allow for modifications to the standards when deemed appropriate by the City Engineer to address fish and wildlife habitat.

(4) All streets shall be designed and constructed according to the preferred standard. The City Engineer may reduce the requirements of the preferred standard based on specific site conditions, but in no event will the requirement be less than the minimum standard. The City Engineer shall take into consideration the following factors when deciding whether the site conditions warrant a reduction of the preferred standard:

(a) Arterials:

- (i) Whether adequate right-of-way exists**
- (ii) Impacts to properties adjacent to right-of-way**
- (iii) Current and future vehicle traffic at the location**
- (iv) Amount of heavy vehicles (buses and trucks).**

(b) Collectors:

- (i) Whether adequate right-of-way exists**
- (ii) Impacts to properties adjacent to right-of-way**
- (iii) Amount of heavy vehicles (buses and trucks)**
- (iv) Proximity to property zoned manufacturing or industrial.**

(c) Local Streets:

(i) Local streets proposed within areas which have environmental constraints and/or sensitive areas and will not have direct residential access may utilize the minimum design standard. When the minimum design standard is allowed, the City Engineer may determine that no parking signs are required on one or both sides of the street.

FINDINGS:

All local street construction is proposed according to the street design standards for the functional classification of the street. Right-of-way dedication and construction of improvements is proposed per the required standards.

The Tualatin TSP designates SW 65th Avenue as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 29 foot ROW dedication along 65th, for a total half-street width of 47 feet. Proposed improvements include construction of a 12 foot center turn lane, as well as improving the east side of the street by widening the travel lane to 12 feet, constructing a 6 foot bike lane, a 7 foot planter strip, a 12 foot sidewalk and a 6 foot shoulder. The City Engineer determined this as an acceptable cross-section as it allows for construction of a modified cross-section south of SW Sagert Street to not adversely affect Atfalati Park and greenway to the south of the park. The cross-section reduces the major arterial cross-section from 5 to 3 lanes, but includes a 12-foot wide sidewalk on the east side as part of the connectivity between the Saum Creek Greenway Path to Tualatin River. The right-of-way width will be 88 feet, greater than the minimum of 70 feet. This criterion is satisfied.

The Tualatin TSP designates SW Borland Street as a Major Arterial with a right-of-way width of 98 feet, therefore a half street requirement of 49 feet from centerline. The submitted plans show a 24 foot right-of-way dedication along Borland, for a total half-street width of 40.9 feet. Proposed improvements include widening the center turn lane to 11.7 feet, as well as improving the south side of the street by maintaining a 10 foot travel lane, constructing a 4.2 foot bike lane, 5 foot planter strip, 5 foot sidewalk and 14.7 foot landscaping area. The City Engineer determined this as an acceptable cross-section as it matches the width of right-of-way and street construction adjacent to Sequoia Ridge subdivision to the east, which doesn't encroach on a row of protected sequoia trees. The right-of-way width will be 88 feet, greater than the minimum of 70 feet. This criterion is satisfied.

The submitted plans show a modified collector section for SW Sagert Street between proposed SW 63rd Avenue and the Sequoia Ridge including 32 feet of paved width, 6 foot planter strip and 5 foot sidewalks in either direction. The modified collector section is designed to transition SW Sagert Street to the residential uses found within the proposed development and within Sequoia Ridge to the east. The right-of-way width varies from 70.5 to 50 feet, narrowing to assist in traffic speed reduction and match existing street cross-sections. The transition and meander of SW Sagert Street south of PGE's lot is due to high power transmission line guy wires for existing poles. Relocation of guy wires to continue a wider and straighter path would require replacement of existing poles with new steel poles. PGE and the applicant worked towards a successful solution of PGE proposing to dedicate adequate right-of-way to include a planter strip and sidewalk to resemble our standard cross-section in exchange of continuing to allow PGE interim access to SW Borland Avenue for their maintenance vehicles. The right-of-way width will vary from 70.5 down to 50 feet, less than the minimum of 62 feet to connect to the existing width of SW Sagert Street to the east within Sequoia Ridge Subdivision. This criterion is satisfied.

The submitted plans show a modified arterial section for SW Sagert Street to the west of SW 65th Avenue adjacent to Atfalati Park. This section will be improved to add bike lanes from the intersection of SW 65th Avenue and SW Sagert Street to the existing bike lanes to the west. The cross section width will be 78 feet, greater than the minimum of 70 feet to not adversely affect Atfalati Park. The plans do not clearly show how the existing hedge at the north property line will remain. The applicant will need to show on plans and in narrative how adjacent park lands (Atfalati Park) will be restored subsequent to 65th Ave. and Sagert St. road widening (e.g., tapering grades, salvaging and replanting trees, irrigation). This criterion is met with conditions of approval PFR – 18.

XI. TDC SECTION 74.430 STREETS, MODIFICATIONS OF REQUIREMENTS IN CASES OF UNUSUAL CONDITIONS.

(1) When, in the opinion of the City Engineer, the construction of street improvements in accordance with TDC 74.420 would result in the creation of a hazard, or would be impractical, or would be detrimental to the City, the City Engineer may modify the scope of the required improvement to eliminate such hazardous, impractical, or detrimental results. Examples of conditions requiring modifications to improvement requirements include but are not limited to horizontal alignment, vertical alignment, significant stands of trees, fish and wildlife habitat areas, the amount of traffic generated by the proposed development, timing of the development or other conditions creating hazards for pedestrian, bicycle or motor vehicle traffic. The City Engineer may determine that, although an improvement may be impractical at the time of development, it will be necessary at some future date. In such cases, a written agreement guaranteeing future performance by the applicant in installing the required improvements must be signed by the applicant and approved by the City.

(2) When the City Engineer determines that modification of the street improvement requirements in TDC 74.420 is warranted pursuant to subsection (1) of this section, the City Engineer shall prepare written findings of modification. The City Engineer shall forward a copy of said findings and description of modification to the applicant, or his authorized agent, as part of the Utility Facilities Review for the proposed development, as provided by TDC 31.072. The decision of the City Engineer may be appealed to the City Council in accordance with TDC 31.076 and 31.077.

(3) To accommodate bicyclists on streets prior to those streets being upgraded to the full standards, an interim standard may be implemented by the City. These interim standards include reduction in motor vehicle lane width to 10 feet [the minimum specified in AASHTO's A Policy on Geo-metric Design of Highways and Streets (1990)], a reduction of bike lane width to 4-feet (as measured from the longitudinal gutter joint to the centerline of the bike lane stripe), and a paint-stripped separation 2 to 4 feet wide in lieu of a center turn lane. Where available roadway width does not provide for these minimums, the roadway can be signed for shared use by bicycle and motor vehicle travel. When width constraints occur at an intersection, bike lanes should terminate 50 feet from the intersection with appropriate signing.

FINDINGS:

Approved modifications to the cross-section of SW Sagert Street east of the intersection of proposed SW 61st Terrace include a median to help identify a separation with the existing Sequoia Ridge subdivision and to encourage traffic to turn north to SW Borland Road and a reduced cross-section from west to east to transition into the existing width of SW Sagert Street.

The Applicant has submitted a design modification request to Clackamas County regarding the proposed access of a local street on SW Borland Road, an arterial. The Applicant has also submitted a design modification request to Clackamas County regarding the sidewalk at the intersection of SW Sagert Street and SW 65th Avenue. This criterion is satisfied with conditions of approval PFR -17.

XII. TDC SECTION 74.440 STREETS, TRAFFIC STUDY REQUIRED.

(1) The City Engineer may require a traffic study to be provided by the applicant and furnished to the City as part of the development approval process as provided by this Code, when the City Engineer determines that such a study is necessary in connection with a proposed development project in order to:

(a) Assure that the existing or proposed transportation facilities in the vicinity of the proposed development are capable of accommodating the amount of traffic that is expected to be generated by the proposed development, and/or

(b) Assure that the internal traffic circulation of the proposed development will not result in conflicts between on-site parking movements and/or on-site loading movements and/or on-site traffic movements, or impact traffic on the adjacent streets.

(2) The required traffic study shall be completed prior to the approval of the development application.

(3) The traffic study shall include, at a minimum:

(a) an analysis of the existing situation, including the level of service on adjacent and impacted facilities.

(b) an analysis of any existing safety deficiencies.

(c) proposed trip generation and distribution for the proposed development.

(d) projected levels of service on adjacent and impacted facilities.

(e) recommendation of necessary improvements to ensure an acceptable level of service for roadways and a level of service of at least D and E for signalized and unsignalized intersections respectively, after the future traffic impacts are considered.

(f) The City Engineer will determine which facilities are impacted and need to be included in the study.

(g) The study shall be conducted by a registered engineer.

(4) The applicant shall implement all or a portion of the improvements called for in the traffic study as determined by the City Engineer.

FINDINGS:

A traffic study conducted by Kittleson and Associates, Inc. has been provided as a part of this Subdivision Application. The study included analysis of the level of service at intersections determined by the City Engineer with existing and future development, safety, trip distribution, and recommendations of improvements. This criterion is satisfied.

XIII. TDC SECTION 74.450 BIKEWAYS AND PEDESTRIAN PATHS.

(1) Where proposed development abuts or contains an existing or proposed bikeway, pedestrian path, or multi-use path, as set forth in TDC Chapter 11, Transportation Figure 11-4, the City may require that a bikeway, pedestrian path, or multi-use path be constructed, and an easement or dedication provided to the City.

(2) Where required, bikeways and pedestrian paths shall be provided as follows:

(a) Bike and pedestrian paths shall be constructed and surfaced in accordance with the Public Works Construction Code.

(b) The applicant shall install the striping and signing of the bike lanes and shared roadway facilities, where designated.

FINDINGS:

The site includes a tract which will be created to contain a public pathway along the Saum Creek Greenway. The Applicant will work with the City to provide a tract to contain the proposed pedestrian pathway. The Applicant may also work with the City regarding the construction of the proposed pathway, subject to the availability of credits for System Development Charges.

The applicant shall construct on the Saum Creek Greenway Trail from 65th Ave. to the Venetia development property with connections as shown on the attached Saum Creek Greenway Trail Alignment Plan, an historical interpretive display, required vegetative enhancement and mitigation, and related greenway signage. Final design and construction standards for the pathway and related facilities shall be approved by the Community Services Director.

Applicant shall enter into an Improvement Agreement substantially like the attached draft Saum Creek Greenway Trail Improvement Agreement with City to construct the Saum Creek Greenway Trail and related improvements in accordance with the attached Deal Points summary no later than final plat approval.

Show the required maintenance access for 65th Ave. pump station on site plans.

This criterion is satisfied with conditions of approval PFR -19, 43, and 45.

XIV. TDC SECTION 74.460 ACCESSWAYS IN RESIDENTIAL, COMMERCIAL AND INDUSTRIAL SUBDIVISIONS AND PARTITIONS.

(1) Accessways shall be constructed by the applicant, dedicated to the City on the final residential, commercial or industrial subdivision or partition plat, and accepted by the City.

(2) Accessways shall be located between the proposed subdivision or partition and all of the following locations that apply:

(a) adjoining publicly-owned land intended for public use, including schools and parks. Where a bridge or culvert would be necessary to span a designated greenway or wetland to provide a connection, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland;

(b) adjoining arterial or collector streets upon which transit stops or bike lanes are provided or designated;

(c) adjoining undeveloped residential, commercial or industrial properties;

(d) adjoining developed sites where an accessway is planned or provided.

(3) In designing residential, commercial and industrial subdivisions and partitions, the applicant is expected to design and locate accessways in a manner which does not restrict or inhibit opportunities for developers of adjacent property to connect with an accessway. The applicant is to have reasonable flexibility to locate the required accessways. When developing a parcel which adjoins parcels where accessways have been constructed or approved for construction, the applicant shall connect at the same points to provide system continuity and enhance opportunities for pedestrians and bicyclists to use the completed accessway.

(4) Accessways shall be as short as possible, but in no case more than 600 feet in length.

(5) Accessways shall be as straight as possible to provide visibility from one end to the other.

(6) Accessways shall be located and improved within a right-of-way or tract of no less than 8 feet.

(7) Where possible, accessways shall be combined with utility easements.

(8) Accessways shall be constructed in accordance with the Public Works Construction Code.

(9) Curb ramps shall be provided wherever the accessway crosses a curb and shall be constructed in accordance with the Public Works Construction Code.

(10) The Federal Americans With Disabilities Act (ADA) applies to development in the City of Tualatin. Accessways shall comply with the Oregon Structural Specialty Code's (OSSC) accessibility standards.

(11) Fences and gates which prevent pedestrian and bike access shall not be allowed at the entrance to or exit from any accessway.

(12) Final design and location of accessways shall be approved by the City.

(13) Outdoor Recreation Access Routes shall be provided between a subdivision or partition and parks, bikeways and greenways where a bike or pedestrian path is designated.

FINDINGS:

Accessways have been planned for and will be located according to the standards of this section. The Applicant intends to work with the City regarding the construction of the trail through the construction documentation process.

The 15-foot wide public sanitary sewer and access easement with 12-foot wide maintenance path between lots 69 and 70 is shown in the location that the access is provided for the residents of the subdivision and the public to access the future public path along Saum Creek to the southeast. The 12-foot width exceeds the 8-foot minimum requirement, is less than 600 feet in length, is straight.

Tract C is shown to contain a public stormwater facility and will be dedicated to the City. A 12-foot wide concrete stormwater maintenance path will extend from the local street to the facility and serve as the beginning of an accessway connecting to SW 65th Avenue to the west. The accessway is shown as a 6-foot wide gravel trail. This accessway will be concrete and 8 feet wide. This criterion is satisfied with conditions of approval PFR – 26 and 45.

XV. TDC SECTION 74.470 STREET LIGHTS.

(1) Street light poles and luminaries shall be installed in accordance with the Public Works Construction Code.

(2) The applicant shall submit a street lighting plan for all interior and exterior streets on the proposed development

FINDINGS:

The project plan shows street lights. This criterion is satisfied.

XVI. TDC SECTION 74.475 STREET NAMES.

(1) No street name shall be used which will duplicate or be confused with the names of existing streets in the Counties of Washington or Clackamas, except for extensions of existing streets. Street names and numbers shall conform to the established pattern in the surrounding area.

(2) The City Engineer shall maintain the approved list of street names from which the applicant may choose. Prior to the creation of any street, the street name shall be approved by the City Engineer.

FINDINGS:

Proposed street names, as shown on the plat, are unique to this subdivision, except for the extension of existing streets. The street names and numbers conform to the established pattern in the surrounding area. Street name “E” is a placeholder for a street name from the approved list. The applicant will select a street name from the approved list. This criterion is satisfied with conditions of approval PFR -27.

XVII. TDC SECTION 74.480 STREET SIGNS.

(1) Street name signs shall be installed at all street intersections in accordance with standards adopted by the City.

(2) Stop signs and other traffic control signs (speed limit, dead-end, etc.) may be required by the City.

(3) Prior to approval of the final subdivision or partition plat, the applicant shall pay the City a non-refundable fee equal to the cost of the purchase and installation of street signs, traffic control signs and street name signs. The location, placement, and cost of the signs shall be determined by the City.

FINDINGS:

The plans show signalization of SW 65th Avenue and SW Sagert Street plus a stop control plan on sheet C015. Street name, speed limit, and traffic control signs are not indicated on the plans. The applicant will show street name, speed limit, and traffic control signs on final plans provide appropriate funds for signs. This criterion is satisfied with conditions of approval PFR -28, 29, 30, 31, and 39.

XVIII. TDC SECTION 74.485 STREET TREES.

(1) Prior to approval of a residential subdivision or partition final plat, the applicant shall pay the City a non-refundable fee equal to the cost of the purchase and installation of street trees. The location, placement, and cost of the trees shall be determined by the City. This sum shall be calculated on the interior and exterior streets as indicated on the final subdivision or partition plat.

(3) The Street Tree Ordinance specifies the species of tree which is to be planted and the spacing between trees.

FINDINGS:

The Applicant has provided a street tree planting plan along with the proposed development plans. The Applicant will provide appropriate funds for street trees in accordance with this Section.

The plans show Autumn Blaze Maple, Crimson King Maple, Scarlet Oak, and Greenspipe Linden within 4-foot wide planter strips, which are not approved. Approved street trees from the Street Tree Ordinance are required. Proposed street trees must be compatible with the 4-foot wide planter strips. Root barriers are required to be installed for trees that are within 10 feet of a public line or adjacent to a public sidewalk. Root barriers shall be 24-inch deep, 10-foot long root barrier centered on the tree trunk at the edge of the public easement or sidewalk. This criterion is satisfied with conditions of approval PFR -25 and 32.

XIX. TDC SECTION 74.610 WATER SERVICE.

(1) Water lines shall be installed to serve each property in accordance with the Public Works Construction Code. Water line construction plans shall be submitted to the City Engineer for review and approval prior to construction.

(2) If there are undeveloped properties adjacent to the subject site, public water lines shall be extended by the applicant to the common boundary line of these properties. The lines shall be sized to provide service to future development, in accordance with the City's Water System Master Plan, TDC Chapter 12.

(3) As set forth is TDC Chapter 12, Water Service, the City has three water service levels. All development applicants shall be required to connect the proposed development site to the service level in which the development site is located. If the development site is located on a boundary line between two service levels the applicant shall be required to connect to the service level with the higher reservoir elevation. The applicant may also be required to install or provide pressure reducing valves to supply appropriate water pressure to the properties in the proposed development site.

FINDINGS:

The Applicant has submitted a Sanitary Sewer and Water Plan (Sheet Set C400-C404) showing how water lines will be installed to serve the proposed lots. Detailed plans will be submitted for review and approval prior to construction, in accordance with subsection (1). Water service connections will be made as directed by the City Engineer, in accordance with subsection (3). Extension of the water service to undeveloped properties is not proposed, per subsection (2).

The plans show pairs of lots served by a single connection to a public water main that splits near the property line. Each lot must have a separate direct lateral to the public water main. Each lateral must be 1-inch in diameter. If needed, the applicant will need to install double check valve assemblies to meet the requirements of TMC 3-3.120(4).

The plans do not show extension of a public water line from within the proposed development south to adjacent undeveloped Tax Lot 21E30B 00700. This line will be extended to serve this undeveloped lot.

A Technical Memorandum for Hydraulic Modeling from Murray, Smith, and Associates dated July 12, 2015 evaluated the water service for this proposed subdivision and determined the proposed subdivision water distribution piping improvements are adequately sized and no recommended upsizing for system transmission needs are recommended.

This criterion is satisfied with conditions of approval PFR -3 and 33.

XX. TDC SECTION 74.620 SANITARY SEWER SERVICE.

(1) Sanitary sewer lines shall be installed to serve each property in accordance with the Public Works Construction Code. Sanitary sewer construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.

(2) If there are undeveloped properties adjacent to the proposed development site which can be served by the gravity sewer system on the proposed development site, the applicant shall extend public sanitary sewer lines to the common boundary line with these properties. The lines shall be sized to convey flows to include all future development from all up stream areas that can be expected to drain through the lines on the site, in accordance with the City's Sanitary Sewer System Master Plan, TDC Chapter 13.

FINDINGS:

The applicant has submitted a Sanitary Sewer and Water Plan (Sheet Set C400-C404) showing how sanitary sewer lines will be installed to serve the proposed lots. Detailed plans and calculations will be submitted for review and approval prior to construction, in accordance with subsection (1). Extension of the sanitary sewer service to the SW 65th Avenue pump station extends past the south property line to serve undeveloped Tax Lot 21E30B 00700. Sanitary sewer calculations will be required to show adequate capacity of lines and the SW 65th Avenue pump station.

The project will construct a gravity sanitary sewer main from the existing off-site pump station at Sequoia Ridge Subdivision, through the proposed subdivision, and discharging to the existing off-site pump station on the west side of SW 65th Avenue south of Atfalati Park. The gravity main serving the upstream offsite development will be sized to accommodate the upstream areas. The existing pump station will need to be decommissioned and salvaged.

The plans show a public sanitary sewer line from proposed SW 61st Terrace to lot 2. In this specific instance a private lateral is required instead of a public line. This criterion is satisfied with conditions of approval PFR -47, 60, and 61.

XXI. TDC SECTION 74.630 STORM DRAINAGE SYSTEM.

(1) Storm drainage lines shall be installed to serve each property in accordance with City standards. Storm drainage construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.

(2) The storm drainage calculations shall confirm that adequate capacity exists to serve the site. The discharge from the development shall be analyzed in accordance with the City's Storm and Surface Water Regulations.

(3) If there are undeveloped properties adjacent to the proposed development site which can be served by the storm drainage system on the proposed development site, the applicant shall extend storm drainage lines to the common boundary line with these properties. The lines shall be sized to convey expected flows to include all future development from all up stream areas that will drain through the lines on the site, in accordance with the Tualatin Drainage Plan in TDC Chapter 14.

FINDINGS:

The Applicant has submitted a Street and Storm Plan (Sheet Set C210-C214) showing how storm drainage lines and a storm water management facility will be installed to serve each proposed lots. Detailed plans will be submitted for review and approval prior to construction, in accordance with subsection (1).

The Applicant has provided a detailed stormwater management report including calculations detailing the preliminary design for the system which will serve this site in accordance with subsection (2). The stormwater management plan and report has been designed to meet the requirements of this section.

Extension of the stormwater system is not proposed, per subsection (3). Undeveloped Tax Lot 21E30B 00700 topography will allow it to directly outfall into Saum Creek.

The plans show a public stormwater line from proposed SW 61st Terrace to lot 2. In this specific instance a private lateral is required instead of a public line. This criterion is satisfied with conditions of approval PFR -61.

XXII. TDC SECTION 74.640 GRADING.

(1) Development sites shall be graded to minimize the impact of storm water runoff onto adjacent properties and to allow adjacent properties to drain as they did before the new development.

(2) A development applicant shall submit a grading plan showing that all lots in all portions of the development will be served by gravity drainage from the building crawl spaces; and that this development will not affect the drainage on adjacent properties. The City Engineer may require the applicant to remove all excess material from the development site.

FINDINGS:

The Applicant has prepared a site plan which illustrates the extent of the proposed development over the site. The proposed footprint of the development has been minimized to the greatest extent possible to provide access and utility services to the proposed lots and to avoid disturbances to natural topography and vegetation in accordance with subsection (1).

The Applicant has submitted a Grading and Erosion Control Plan (Sheet Set C115-119 and Sheet Set C120-C124) showing the proposed grading which will be primarily limited to street construction and the water quality facility. Grading on individual lots will be minimal. Drainage for new structures will be routed to the street with connections to the storm drainage system.

Grading on lots adjacent to the existing residential lots to the east and to the east side of PGE's lot are shown to end 15 feet from the property line retaining existing drainage patterns within this buffer. General site grading is shown to direct stormwater south to the two proposed public water quality facilities that release into Saum Creek wetland buffer via a public stormwater system within proposed right-of way including laterals for each lot. No narrative or profile of the stormwater system was provided to show that all crawl spaces will be served by gravity service. The applicant will submit plans and calculations that show all crawl spaces will be served by gravity stormwater service. This criterion is satisfied with conditions of approval PFR 5, 6, 36, and 62.

**XXIII. TDC SECTION 74.650 WATER QUALITY, STORM WATER
DETENTION AND EROSION CONTROL.**

The applicant shall comply with the water quality, storm water detention and erosion control requirements in the Surface Water Management Ordinance. If required:

(1) On subdivision and partition development applications, prior to approval of the final plat, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be satisfied and obtain a Stormwater Connection Permit from Clean Water Services; or

(3) For on-site private and regional non-residential public facilities, the applicant shall submit a stormwater facility agreement, which will include an operation and maintenance plan provided by the City, for the water quality facility for the City's review and approval. The applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City.

FINDINGS:

The Applicant has provided a Storm Drainage Report to demonstrate the feasibility of constructing a storm water quality treatment and detention pond within the Water Quality Tract, as indicated in the submitted plans.

The applicant has submitted a Service Provider Letter from Clean Water Services indicating that Sensitive Areas do not exist on-site. A CWS Memorandum was received dated September 30, 2015 for development on this site. The applicant will need to submit plans that are sufficient to obtain a Stormwater Connection Permit Authorization Letter that complies with the submitted Service Provider Letter conditions, for review and approval. This criterion is satisfied with conditions of approval PFR -35.

XXIV. TDC SECTION 74.660 UNDERGROUND.

(1) All utility lines including, but not limited to, those required for gas, electric, communication, lighting and cable television services and related facilities shall be placed underground. Surface-mounted transformers, surface-mounted connection boxes and meter cabinets may be placed above ground. Temporary utility service facilities, high capacity electric and communication feeder lines, and utility transmission lines operating at 50,000 volts or above may be placed above ground. The applicant shall make all necessary arrangements with all utility companies to provide the underground services. The City reserves the right to approve the location of all surface-mounted transformers.

(2) Any existing overhead utilities may not be upgraded to serve any proposed development. If existing overhead utilities are not adequate to serve the proposed development, the applicant shall, at their own expense, provide an underground system. The applicant shall be responsible for obtaining any off-site deeds and/or easements necessary to provide utility service to this site; the deeds and/or easements shall be submitted to the City Engineer for acceptance by the City prior to issuance of the Public Works Permit.

FINDINGS:

The Applicant acknowledges and will comply with the underground requirements of the Development Code and Public Works Code in constructing improvements for the proposed subdivision.

Aboveground utilities are only shown within SW Sagert Street and SW Borland Road right-of-way. PGE transmission lines exist north of proposed SW Sagert Street and within right-of-way south of Tualatin Professional Center. Two transmission lines are shown adjacent to this development within SW Borland Road right-of-way, one at the curb line on the south side and one crossing SW Borland Road from west of this development to east of this development. The lines shown are not shown to be undergrounded and no narrative identified the operation at 50,000 volts or above. The applicant will identify the operation voltage to be sufficient to remain aboveground or record a Street Improvement Agreement for undergrounding.

This criterion is satisfied with conditions of approval PFR -34.

XXV. TDC SECTION 74.670 EXISTING STRUCTURES.

(1) Any existing structures requested to be retained by the applicant on a proposed development site shall be connected to all available City utilities at the expense of the applicant.

(2) The applicant shall convert any existing overhead utilities serving existing structures to underground utilities, at the expense of the applicant.

(3) The applicant shall be responsible for continuing all required street improvements adjacent to the existing structure, within the boundaries of the proposed development site.

FINDINGS:

The Applicant is not proposing to retain any existing structures currently located on the site; therefore the standards of this section do not apply.

XXVI. TDC SECTION 74.700 REMOVAL, DESTRUCTION OR INJURY OF TREES.

It is unlawful for a person, without a written permit from the Operations Director, to remove, destroy, break or injure a tree, plant or shrub, that is planted or growing in or upon a public right-of-way within the City , or cause, authorize, or procure a person to do so, authorize or procure a person to injure, misuse or remove a device set for the protection of any tree, in or upon a public right-of-way.

FINDINGS:

Trees in the Sequoia Ridge Natural Area will be protected throughout construction. The Applicant will obtain any necessary Tree Removal Permits per City requirements and provide fees to the City for planting of street trees pursuant to Section 74.485. The applicant will need to show on plans and in narrative how adjacent park lands (Atfalati Park) will be restored subsequent to 65th Ave. and Sagert St. road widening (e.g., tapering grades, salvaging and replanting trees, irrigation). This criterion is satisfied with conditions of approval PFR – 10 and 18.

XXVII. TDC SECTION 74.720 PROTECTION OF TREES DURING CONSTRUCTION.

(1) During the erection, repair, alteration or removal of a building or structure, it is unlawful for the person in charge of such erection, repair, alteration or removal to leave a tree in or upon a public right-of-way in the vicinity of the building or structure without a good and sufficient guard or protectors to prevent injury to the tree arising out of or by reason of such erection, repair, alteration or removal.

(2) Excavations and driveways shall not be placed within six feet of a tree in or upon a public right-of-way without written permission from the City Engineer. During excavation or construction, the person shall guard the tree within six feet and all building material or other debris shall be kept at least four feet from any tree.

FINDINGS:

The above provisions will apply to ongoing care and maintenance of street trees following final plat recording and planting of street trees by the City of Tualatin.

Tree protection will be required during construction of the new public streets, utilities, and site grading. This criterion is satisfied with conditions of approval PFR -1 and 10.

XXVIII. TDC SECTION 74.740 PROHIBITED TREES.

It is unlawful for a person to plant a tree within the right-of-way of the City of Tualatin that is not in conformance with Schedule A. Any tree planted subsequent to adoption of this Chapter not in compliance with Schedule A shall be removed at the expense of the property owner.

XXIX. TDC SECTION 74.765 STREET TREE SPECIES AND PLANTING LOCATIONS.

All trees, plants or shrubs planted in the right-of-way of the City shall conform in species and location and in accordance with the street tree plan in Schedule A. If the Operations Director determines that none of the species in Schedule A is appropriate or finds appropriate a species not listed, the Director may substitute an unlisted species.

FINDINGS:

The plans show a street tree and landscape planting plan on sheets L100-L103. The plans show Autumn Blaze Maple, Crimson King Maple, Scarlet Oak, and Greenspipe Linden within 4-foot wide planter strips, which are not approved. Approved street trees from the Street Tree Ordinance are required. Proposed street trees must be compatible with the 4-foot wide planter strips.

A narrow planted median is shown within SW Sagert Street east of proposed SW 61st Terrace to designate an entrance to the existing Sequoia Ridge Subdivision. The trees and shrubs must consist of unlisted species determined by the Operations Director.

Root barriers are required to be installed for trees that are within 10 feet of a public line or adjacent to a public sidewalk. Root barriers shall be 24-inch deep, 10-foot long root barrier centered on the tree trunk at the edge of the public easement or sidewalk.

Shrubs are shown within right-of-way on SW Borland Road. SW Borland Road is Clackamas County's jurisdiction. The applicant will obtain approval from Clackamas County for plantings in SW Borland Road right-of-way

This criterion is satisfied with conditions of approval PFR 25 and 32.

L. TDC CHAPTER 75: ACCESS MANAGEMENT

I. TDC SECTION 75.010 PURPOSE.

The purpose of this chapter is to promote the development of safe, convenient and economic transportation systems and to preserve the safety and capacity of the street system by limiting conflicts resulting from uncontrolled driveway access, street intersections, and turning movements while providing for appropriate access for all properties.

II. TDC SECTION 75.030 FREEWAYS AND ARTERIALS DEFINED.

This section shall apply to all City, County and State public streets, roads and highways within the City and to all properties that abut these streets, roads and highways.

(1) Access shall be in conformance with TDC Chapter 73 unless otherwise noted below.

(2) Freeways and Arterials Designated. For the purposes of this chapter the following are freeways and arterials: ...

- (i) 65th Avenue from its intersection with Nyberg Street south to City limits;
- (j) Borland Road from 65th Avenue east to Saum Creek;...

(3) Applicability

(a) This chapter applies to all developments, permit approvals, land use approvals, partitions, subdivisions, or any other actions taken by the City Council or any administrative officer of the City pertaining to property abutting any road or street listed in TDC 75.030. In addition, any parcel not abutted by a road or street listed in TDC 75.030, but having access to an arterial by any easement or prescriptive right, shall be treated as if it did abut the arterial and this chapter applies. This chapter shall take precedence over any other TDC chapter and over any other ordinance of the City when considering any development, land use approval or other proposal for property abutting an arterial or any property having an access right to an arterial.

III. TDC SECTION 75.060 EXISTING DRIVEWAYS AND STREET INTERSECTIONS.

(1) Existing driveways with access onto arterials on the date this chapter was originally adopted shall be allowed to remain. If additional development occurs on properties with existing driveways with access onto arterials then this chapter applies and the entire site shall be made to conform with the requirements of this chapter.

(2) The City Engineer may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means.

FINDINGS:

SW Sagert Street east of SW 65th Avenue includes a median to restrict right-in/right-out movement approximately 220 feet long including taper to provide safety for turning movements within 150 feet of the intersection and adequate queue lengths for westbound left turning vehicles of 125 feet. This median restricts the west access from Tualatin Professional Center and proposed SW 64th Terrace. This restriction is identified in the Transportation Impact Analysis. This criterion is met.

IV. TDC SECTION 75.070 NEW INTERSECTIONS.

Except as shown in TDC Chapter 11, Transportation, (Figures 11-1 and 11-3), all new intersections with arterials shall have a minimum spacing of ½ mile between intersections.

FINDINGS:

A new intersection with SW Borland Road is shown with proposed local street proposed SW 61st Terrace. This intersection is approximately 430 feet west of SW 60th Avenue and 940 feet east of SW 65th Avenue, both less than ½ mile spacing, but in a location similar to Figure 11-3. This criterion is met.

V. TDC SECTION 75.080 ALTERNATE ACCESS.

Except as provided in 75.090 all properties which abut two roadways shall have access on the lowest classification road-way, preferable on a local street.

FINDINGS:

All proposed lots are shown to have access to a local street, including those that abut higher classified SW 65th Avenue, SW Borland Road, and SW Sagert Street. This criterion is met.

VI. TDC SECTION 75.110 NEW STREETS.

(1) New streets designed to serve as alternatives to direct, parcel by parcel, access onto arterials are shown in TDC Chapter 11, Transportation, (Figures 11-1 and 11-3). These streets are shown as corridors with the exact location determined through the partition, subdivision, public works permit or Architectural Review process. Unless modified by the City Council by the procedure set out below, these streets will be the only new intersections with arterials in the City. See map for changes

(2) Specific alignment of a new street may be altered by the City Engineer upon finding that the street, in the proposed alignment, will carry out the objectives of this chapter to the same, or a greater degree as the described alignment, that access to adjacent and nearby properties is as adequately maintained and that the revised alignment will result in a segment of the Tualatin road system which is reasonable and logical.

FINDINGS:

A new intersection with SW Borland Road is shown with proposed local street SW 61st Terrace. This intersection is approximately 430 feet west of SW 60th Avenue and 940 feet east of SW 65th Avenue, both less than ½ mile spacing, but in a location similar to Figure 11-3. The location on Figure 11-3 would be slightly offset from the Meridian Park Hospital's emergency access and necessitate right-in/right-out restriction. This would encourage residents from the Sagert Farm Subdivision to make use of local streets within Sequoia Ridge Subdivision when driving to/from the east. The point of connection shown proposed is slightly east of the center of the lot. This location allows for a full access intersection as it opposes the Meridian Park Hospital's emergency access which will allow residents to directly use SW Borland Road. This criterion is met.

VII. TDC SECTION 75.120 EXISTING STREETS.

The following list describes in detail the freeways and arterials as defined in TDC 75.030 with respect to access. Recommendations are made for future changes in accesses and location of future accesses. These recommendations are examples of possible solutions and shall not be construed as limiting the City's authority to change or impose different conditions if additional studies result in different recommendations from those listed below....

(9) 65TH AVENUE ...

(b) Borland Road to south city limits: A street connection will be constructed across from Sagert Street to serve property to the east of 65th Avenue.

(10) BORLAND ROAD

(a) Between 65th and the Entrance to Bridgeport School:

In this section of roadway, as the residential properties develop, all accesses to Borland shall be limited to street intersections. These street intersections shall be spaced a minimum of 500 feet apart. All development in this area shall be interconnected so there are no dead-end entrances from Borland Road....

FINDINGS:

A new intersection with SW Borland Road is shown with proposed local street SW 61st Terrace. This intersection is approximately 430 feet west of SW 60th Avenue and 940 feet east of SW 65th Avenue, both less than ½ mile spacing, but in a location similar to Figure 11-3. The location on Figure 11-3 would be slightly offset from the Meridian Park Hospital's emergency access and necessitate right-in/right-out restriction. This would encourage residents from the Sagert Farm Subdivision to make use of local streets within Sequoia Ridge Subdivision when driving to/from the east. The point of connection shown proposed is slightly east of the center of the lot. This location allows for a full access intersection as it opposes the Meridian Park Hospital's emergency access which will allow residents to directly use SW Borland Road. This criterion is met.

VI. ATTACHMENTS

The record includes all submitted materials that may be requested for viewing at the Planning Counter. The following which can be downloaded from the City of Tualatin's webpage:

Notice
Preliminary Land Use Plans
Narrative
Application
Title Report
Neighborhood Meeting May 2014
Neighborhood Meeting December 2014
Neighborhood Meeting January 2015
Tualatin Professional Center Meeting Minutes
Tualatin Professional Center Sagert St Clack County Recorded Doc 84-16656-7
MEI Building Meeting Minutes
PGE Meeting Notes
Arborist Report
Traffic Study
Clackamas County Modification Request Submittal - Borland
Clackamas County Modification Request Submittal - Sagert & 65th Modification
Geotechnical Report Addendum
Stormwater Report
Clean Water Services Service Provider Letter
Agency Requirements (also attached)
Citizen Comments With Developers Response (also attached)
Saum Creek Greenway Trail Improvement Agreement
Technical Memorandum for Hydraulic Modeling from Murray, Smith, and Associates



M. BARBARA CARTMILL
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Memorandum

DEVELOPMENT SERVICES BUILDING

150 BEAVERCREEK ROAD | OREGON CITY, OR 97045

TO: Tony Doran, City of Tualatin

FROM: Clackamas County Traffic Engineering and Development Review,
Robert Hixson *Robert Hixson*

DATE: October 1, 2015

RE: SB15-0002, Sagert Farms subdivision
Located near the southeasterly corner of Borland Road and 65th Avenue

Traffic Engineering and Development Review staff have visited the site and reviewed the submitted materials. We have the following comments:

Facts and Findings:

1. Following review of the submitted materials, Engineering staff are generally in agreement with the details illustrated on the plan set (dated 8-11-15) for improvements to Borland Road and 65th Avenue (easterly half) which are under the jurisdiction of Clackamas County.
2. On sheet C211, Engineering staff recommends that the applicant maximize the sidewalk width within the existing right-of-way of 65th Avenue at the northeast corner of 65th Avenue and Sagert Street.
3. On Sheet C220, Engineering staff recommends that the six-foot wide sidewalk along the Borland Road frontage be carried through the southerly curb ramps. Southerly from the southerly curb ramps, the sidewalk may transition to a five-foot width.
4. Two Design Modifications are included in the submitted materials. Clackamas County hereby approves the two Design Modification requests. Clackamas County will allow the proposed intersection of a new local street (SW 61st Terrace) with Borland Road. In addition, Clackamas County will allow the proposed modification request related to sidewalk width on 65th Avenue at the northeasterly corner of 65th Avenue and Sagert Street due to the existing constraints which do not allow for a wider sidewalk.
5. Structural sections for roadway improvements to Borland Road and the portion of 65th Avenue under County jurisdiction shall comply with the requirements of Roadway Standards Drawing C100 for arterial streets, or City requirements if the City structural section improvement requires a more substantial structural section than the County's.

6. The new local street intersecting Borland Road, SW 61st Terrace, shall align with an existing hospital driveway located on the northerly side of Borland Road as illustrated on the submitted 8-11-15 plan set.
7. Borland Road travel lane widths, turn lane widths, and bike lane widths, shall be as illustrated on sheet C220, which is dated 8-11-15. Some striping modifications will be required and will be more specifically identified when Clackamas County performs a plan review of Borland Road striping during a plan review phase following approval of the subdivision.
8. Signing and striping plans for Borland Road and 65th Avenue shall be provided to Clackamas County for review and approval as part of a plan set submittal in anticipation of issuance of a Development Permit.
9. A Development Permit from Clackamas County will be required prior to initiation of construction of improvements within the Borland Road right-of-way and the portion of the 65th Avenue right-of-way under County jurisdiction.
10. The applicant shall provide adequate intersection sight distances of 445 feet both easterly and westerly along Borland Road at the intersection of SW 61st Terrace and Borland Road. Intersection sight distances shall be measured in accordance with Clackamas County Roadway Standards requirements.
11. The proposed right-of-way dedication along the Borland Road frontage is acceptable to Clackamas County.
12. Following completion of the construction of improvements, the applicant shall provide paper copies of AS-BUILT plans to Clackamas County for Borland Road right-of-way improvements and 65th Avenue right-of-way improvements. The AS-BUILT plans shall be drawn on full size plan sheets with all features drawn to scale and shall be signed and stamped by a Professional Engineer registered in the State of Oregon.
13. The use of public rights-of-way for construction vehicle and materials staging is not authorized by the Roadway Standards and poses a potentially deleterious effect of the proposed use, because it contributes to congestion, reduces sight distance, and occupies shoulders intended for emergencies and other purposes. To protect the public from such effects, the applicant shall be required to submit a construction vehicle management plan for review and approval by the County DTD, Construction and Development Section, before the County issues a Development Permit. This may be accomplished with adequate notes on the plans indicating that no material or vehicle staging will occur within the right-of-way.

Development Engineering recommended conditions of approval:

- 1) All frontage improvements in Clackamas County right-of-way shall be in compliance with *Clackamas County Roadway Standards* unless the County formally agrees in writing to an alternate standard, possibly a City standard.
- 2) The applicant shall obtain a Development Permit from Clackamas County Department of Transportation and Development prior to the initiation of any construction activities associated with the project.
- 3) The applicant shall design and construct improvements to Borland Road and 65th Avenue along the entire site frontages of the subject property in accordance with the 8-11-15 plan set.
- 4) Structural section for Borland Road or 65th Avenue improvements shall consist of seven and one-half inches of Level 2 Hot Mix Asphalt Concrete (HMAC), Performance Grade (PG) 70-22, ½" dense top lift over ¾" dense lower lift or lifts, placed in two and one-half inch thick lifts, over four inches of ¾"-0 aggregate leveling course, over 10 inches of 1-½"-0 aggregate base course, over geotextile fabric, over compacted undisturbed subgrade, or an alternate approved by County Engineering staff.
- 5) All curbs shall typically be type "C", or curb and gutter if curb line slope is less than one percent, if they carry, direct or channel surface water.
- 6) The applicant shall provide and maintain adequate intersection sight distances at the SW 61st Terrace intersection with Borland Road. Adequate intersection sight distance for drivers turning left into the site shall also be provided and maintained. In addition, no plantings at maturity, retaining walls, embankments, fences or any other objects shall be allowed to obstruct minimum sight distance requirements.
Plans submitted in anticipation of issuance of a Development Permit shall include an exhibit illustrating sight lines for the intersection to insure sight lines are not obstructed by street trees or any other objects along the southerly side of Borland Road. Minimum intersection sight distances, at the intersection shall be 445 feet, both easterly and westerly along Borland Road, measured 14.5 feet back from the edge of the travel lane.
- 7) Applicant shall comply with County Roadway Standards clear zone requirements in accordance with Roadway Standards section 245.
- 8) Prior to the initiation of construction activities, the applicant shall submit to Clackamas County Engineering Office:
 - a) A set of street improvement construction plans for Borland Road and 65th Avenue, including a striping and signing plan for Borland Road and 65th Avenue, for review, in conformance with *Clackamas County Roadway Standards* Section 140, to Deana Mulder in Clackamas County's Engineering Office and obtain written approval, in the form of a Development Permit.

- i) The permit will be for road, curb, sidewalk, drainage, and other street improvements.
 - ii) A fee is required for the permit and will be calculated according to the current fee structure in place at the time of the Development Permit application.
 - iii) The applicant shall have an Engineer, registered in the state of Oregon, design and stamp construction plans for all required improvements, or provide alternative plans acceptable to the Engineering Division.
- 9) Following completion of the construction of improvements, the applicant shall provide paper copies of AS-BUILT plans to Clackamas County for Borland Road right-of-way improvements and 65th Avenue right-of-way improvements. The AS-BUILT plans shall be drawn on full size plan sheets with all features drawn to scale and shall be signed and stamped by a Professional Engineer registered in the State of Oregon.

MEMORANDUM

CITY OF TUALATIN
RECEIVED
OCT 05 2015
ENGINEERING &
BUILDING DEPARTMENT

Date: September 30, 2015
To: Tony Doran, Engineering Associate, City of Tualatin
From: Jackie Sue Humphreys, Clean Water Services (the District)
Subject: Sagert Farms Subdivision, SB15-0002, 21E30B 00600

Please include the following comments when writing your conditions of approval:

PRIOR TO ANY WORK ON THE SITE AND PLAT RECORDING

A Clean Water Services (the District) Storm Water Connection Permit Authorization must be obtained prior to plat approval and recordation. Application for the District's Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 07-20, (or current R&O in effect at time of Engineering plan submittal), and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.2.b-1.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans. If site area and any offsite improvements required for this development exceed one-acre of disturbance, project will require a 1200-CN Erosion Control Permit. If site area and any offsite improvements required for this development exceed five-acres of disturbance, project will require a 1200-C Erosion Control Permit.
- c. Detailed plans showing each lot within the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 07-20, Section 4.05.5, Table 4-1. Access shall be provided for maintenance of facility per R&O 07-20, Section 4.02.4.

- e. If use of an existing offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.
- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Site contains a "Sensitive Area." Applicant shall comply with the conditions as set forth in the Service Provider Letter No. 15-000154, dated May 21, 2015.
- i. Developer shall be required to preserve a corridor separating the sensitive area from the impact of development. The corridor must be set aside in a separate tract, not part of any buildable lot and, shall be subject to a "Storm Sewer, Surface Water, Drainage and Detention Easement over its entirety", or its equivalent.
- j. Detailed plans showing the sensitive area and corridor delineated, along with restoration and enhancement of the corridor.
- k. Prior to any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.
- l. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

CONCLUSION

This Land Use Review does not constitute the District's approval of storm or sanitary sewer compliance to the NPDES permit held by the District. The District, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



September 18, 2015

City of Tualatin
Tony Doran – Engineering Associate
18880 SW Martinazzi Ave.
Tualatin, OR 97062

Re: SB15-0002, Sagert Farms

Tax Lot ID#'s: 21E30B 00300 & 21E30B 00600

Dear Tony,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. Tualatin Valley Fire & Rescue endorses this proposal predicated on the following criteria and conditions of approval:

FIRE APPARATUS ACCESS:

1. **FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. (OFC 503.1.1))
2. **ADDITIONAL ACCESS ROADS – ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS:** Developments of one- or two-family dwellings, where the number of dwelling units exceeds 30, shall be provided with separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3. Exception: Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the International Fire Code, access from two directions shall not be required. (OFC D107)
3. **MULTIPLE ACCESS ROADS SEPARATION:** 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 area to be served (as identified by the Fire Code Official), measured in a straight line between accesses. (OFC D104.3) Exception: Buildings equipped throughout with an approved automatic fire sprinkler system (the approval of this alternate method of construction shall be accomplished in accordance with the provisions of ORS 455.610(5).
4. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read "NO PARKING - FIRE LANE" and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
5. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 1. 20-26 feet road width – no parking on either side of roadway
 2. 26-32 feet road width – parking is allowed on one side
 3. Greater than 32 feet road width – parking is not restricted

6. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked "NO PARKING FIRE LANE" at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)

7. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)

8. **ACCESS ROAD GRADE:** Fire apparatus access roadway grades shall not exceed 12%. When fire sprinklers* are installed, a maximum grade of 15% will be allowed.

0-12%	Allowed
13-15%	Special consideration with submission of written Alternate Methods and Materials request. Ex: Automatic fire sprinkler (13-D) system* in lieu of grade.
16-18%	Special consideration on a case by case basis with submission of written Alternate Methods and Materials request Ex: Automatic fire sprinkler (13-D) system* plus additional engineering controls in lieu of grade.
Greater than 18%	Not allowed**

*The approval of fire sprinklers as an alternate shall be accomplished in accordance with the provisions of ORS 455.610(5) and OAR 918-480-0100 and installed per section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the Oregon Fire Code (OFC 503.2.7 & D103.2)

** See Forest Dwelling Access section for exceptions.

9. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width), or two 10 foot sections with a center post or island.
 2. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
 3. Electric gates shall be equipped with a means for operation by fire department personnel
 4. Electric automatic gates shall comply with ASTM F 2200 and UL 325.

10. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)

11. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Code Official. See Application Guide Appendix A for further information. (OFC 503.4.1).

FIREFIGHTING WATER SUPPLIES:

12. **MUNICIPAL FIREFIGHTING WATER SUPPLY EXCEPTIONS:** The requirements for firefighting water supplies may be modified as approved by the fire code official where any of the following apply: (OFC 507.5.1 Exceptions)
1. Buildings are equipped throughout with an approved automatic fire sprinkler system (the approval of this alternate method of construction shall be accomplished in accordance with the provisions of ORS 455.610(5)).
 2. There are not more than three Group R-3 or Group U occupancies.

13. **SINGLE FAMILY DWELLINGS - REQUIRED FIRE FLOW:** The minimum available fire flow for one and two-family dwellings served by a municipal water supply shall be 1,000 gallons per minute. If the structure(s) is (are) 3,600 square feet or larger, the required fire flow shall be determined according to OFC Appendix B. (OFC B105.2)

14. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

FIRE HYDRANTS:

15. **FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS:** Where a portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
16. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the fire code official. (OFC C102.1)
17. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
18. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)

If you have questions or need further clarification, please feel free to contact me at (503) 649-8577.

Sincerely,



Ty Darby
Deputy Fire Marshal II

Cc: file



WASHINGTON COUNTY, OREGON

Department of Land Use and Transportation, Operations & Maintenance Division
1400 SW Walnut Street, MS 51, Hillsboro, Oregon 97123-5625
(503) 846-7623 · FAX: (503) 846-7620

October 8, 2015

Tony Doran
City of Tualatin
Engineering Division
22560 SW Pine Street
Sherwood, OR 97140
No. of pages: 4 (via Email)

RE: **Sagert Farms Subdivision**
City File Number: **SB15-0002**
Tax Map and Lot Number: **2SE30B0 300 & 600**
Location: **20130 SW 65th Avenue**

Washington County Department of Land Use and Transportation has reviewed the proposed development application to divide the subject tax lots into 79 single-family lots. The lots will have access to SW Borland Road via SW 61st Terrace and SW 65th Avenue via the extension of SW Sagert Street.

COMMENTS

1. Washington County Road Design and Construction Standards require that adequate sight distance be certified at all new intersections.

The applicant will be required to provide certification from a registered professional engineer that adequate intersection sight distance exists in both directions (or can be obtained pursuant to specific improvements) at the intersection of SW 65th Avenue, SW Sagert Street and SW Sagert Street extension. (Clackamas County)
2. The statewide Transportation Planning Rule requires provision for adequate transportation facilities in order for development to occur. Accordingly, the County has classified roads and road segments within the County system based upon their function. The current Transportation Plan (regularly updated) contains adequate right-of-way, road width and lane provision standards based upon each roadway's classification. Subject

right of way is considered deficient if half-width of the existing right of way does not meet that determined necessary within the County's current transportation plan.

The applicant shall dedicate additional right-of-way that is required to construct the traffic mitigation measures indicated in the submitted Transportation Impact Analysis (Kittleson & Associates – June 2, 2015/Updated August 6, 2015) and the City of Tualatin's Notice of Decision. (Clackamas County)

3. ***Washington County Traffic Engineering staff has reviewed the Traffic Impact Analysis (Kittleson & Associates – June 2, 2015/updated August 6, 2015) submitted for this development proposal for compliance with R&O 86-95. The County concurs with the traffic mitigation measures included in the applicant's Traffic Impact Analysis (pages 30 - 32) and supplemental access report (page 19). The applicant will need to coordinate with Washington County, Clackamas County and the City of Tualatin for all permitting, inspections, and approvals.***

REQUIRED CONDITIONS OF APPROVAL

IMPORTANT:

*Road improvements required along site frontage shall apply to frontage of all land within the subject site that abuts the County roadway. **The subject site shall be considered to include:** any lot or parcel to be partitioned or otherwise subdivided (regardless of whether it contains existing structures or not); **and** any contiguous lots or parcels that constitute phases of the currently proposed development.*

*If the applicant proposes to develop the project in phases, all County-required frontage improvements must be constructed with the first phase. In addition, off-site improvements **warranted** by the first phase must also be completed with the first phase.*

I. PRIOR TO ISSUANCE OF A BUILDING PERMIT BY THE CITY OF TUALATIN:

A. The following shall be recorded with Clackamas County/City of Tualatin/Washington County, as required:

1. Additional right-of-way that will be required to meet conditions identified in the County Traffic Engineer's review of the submitted Transportation Impact Analysis (Kittleson & Associates – June 2, 2015/updated August 6, 2015). Note: Coordination with Clackamas County and the City of Tualatin will be required prior to recordation of any easement dedications (*Contact Scott Young, Washington County Survey Division: 846-7933*).

B. Submit to **Washington County** Public Assurance Staff, 503-846-3843:

1. Completed "Design Option" form.
2. **\$10,000.00** Administration Deposit.

NOTE: The Administration Deposit is a cost-recovery account used to pay for County services provided to the developer, including plan review and approval, field inspections,

as-built approval, and project administration. The Administration Deposit amount noted above is an estimate of what it will cost to provide these services. If, during the course of the project, the Administration Deposit account is running low, additional funds will be requested to cover the estimated time left on the project (at then-current rates per the adopted Washington County Fee Schedule). If there are any unspent funds at project close out, they will be refunded to the applicant. Any point of contact with County staff can be a chargeable cost. If project plans are not complete or do not comply with County standards and codes, costs will be higher. There is a charge to cover the cost of every field inspection. Costs for enforcement actions will also be charged to the applicant.

3. A copy of the City/County Land Use Approval (Notice of Decision), signed and dated.
 4. Three (3) sets of complete engineering plans for construction of the following public improvements:
 - a. Signalization of the intersection of SW Sagert Street, SW Sagert Street extension and SW 65th Avenue to County standards in coordination with Clackamas County and City of Tualatin.
 - b. Modification of the SW Borland Road/SW 65th Avenue signal to County standards in coordination with Clackamas County and City of Tualatin.
 - c. Connection of SW Sagert Street extension to SW Sagert Street and SW 65th Avenue.
 - d. Improvements within the right-of-way as necessary to provide adequate intersection sight distance at the intersection of SW Sagert Street, SW Sagert Street extension and SW 65th Avenue.
 - e. All improvements within SW 65th Avenue right-of-way, including required traffic mitigation measures identified in the City of Tualatin's Notice of Decision (coordinate with Clackamas County/City of Tualatin).
- C. Obtain a Washington County **Facility Permit** upon completion of the following:
1. Obtain **APPROVED** plans from the Washington County Engineering Division and provide a financial assurance for the construction of the public improvements listed in conditions **I.B.4**.

NOTE: The Public Assurance staff (503-846-3843) will send the required forms to the applicant's representative **after** submittal and approval of items listed under **I.B**.

*The **Facility Permit** allows construction work within County rights-of-way and permits site access only after the developer first submits plans and obtains Washington County Engineering approval, obtains required grading and erosion control permits, and satisfies various other requirements of Washington County's Assurances Section including but not limited to execution of financial and contractual agreements. This process ensures that the developer accepts responsibility for construction of public improvements, and that improvements are closely monitored, inspected, and built to standard in a timely manner.*

Access will only be permitted under the required Washington County Facility Permit, and only following submittal and County acceptance of all materials required under the facility permit process.

II. PRIOR TO OCCUPANCY:

Obtain a Finaled Washington County **Facility Permit**, contingent upon the following:

- A. The road improvements required in condition **I.B.4.** above shall be completed and accepted by Washington County.

Requirements identified within this letter are considered by the County to be minimum warranted improvements (and/or analyses) that are necessitated by the proposed development, therefore it is requested that they be conveyed to the applicant within the City's Approval document. Please send a copy of the subsequent Final City Notice of Decision and any appeal information to the County.

Thank you for the opportunity to comment. If you have any questions, please contact me at 503-846-7639.

Naomi Vogel
Associate Planner

Cc: Traffic Services Section
Paul Seitz, Assurances Section
Transportation File

September 24, 2015

To:
City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Tony,
I am writing regarding the proposed subdivision **SB15-0002, Sagert Farms**. My property, **6035 SW Sequoia Drive, Tualatin, OR 97062**, abuts the proposed development. I have concerns regarding 2 large trees that are included in the arborist report.

I have sent communication to the site proposal Arborist. I have attached that letter to this e-mail (I will also send to you via USPS). I ask that you review the letter and my concerns as well. I will contact Mike Loomis of Lennar Northwest, Inc as well. I appreciate all that Lennar has done to address the neighborhood concerns to this point and hope these additional concerns can be addressed.

Thank you,
Bob Nelson
6035 SW Sequoia Dr.
Tualatin, OR 97062
503-307-3127
nelson@pacificu.edu

CITY OF TUALATIN
RECEIVED
SEP 28 2015
ENGINEERING &
BUILDING DEPARTMENT

September 24, 2015

Morgan Holen
Morgan Holen & Associates

Morgan,
I am a homeowner with a property that abuts a proposed subdivision in which you were consulted to do a Tree Assessment Report. Trees on my property were included in your report. I have a few questions.

Sagert Farm Subdivision – Tualatin, Oregon
Tree Assessment Report
May 10, 2015.

My biggest concern is regarding tree # 10982 (Redwood; 66" DBH; 28' C-Rad; Excellent condition). The tree is mostly on my property, but may have some trunk in the subject property. You recommended the tree for "retain". This tree has the largest DBH of all surveyed trees.

1. Why did you not give the recommendation to "Protect off-site tree" for tree # 10982? You gave tree #10979 (redwood with 10" DBH) 100' to the north the recommendation of "Protect off-site tree", but not tree #10982.
2. What is the recommended setback distance for construction activity (grading, earthmoving, foundations, nonporous surfaces) from a large redwood tree? I assume if is no closer than the dripline – but I would like your professional opinion.

The second tree I am concerned about is tree #10981 (Douglas Fir; 30" DBH; 24' C-Rad; Good condition).

1. What is the recommended construction setback for this Douglas Fir (tree # 10981)? Is it at the dripline?
2. Will tree #10981 be exposed to additional windthrow when tree #10978, 10977, and #10980 are removed?

The submitted plans appear to indicate that the tree protection fencing is only 15' from the Redwood and 20' from the Douglas Fir. I do not want the trees in, or near, my property to be at risk of harm due to construction or the new development. I would like to find out what the best practice is to maintain the integrity of existing large trees. They are very large and in close proximity to my family's home (and soon 2 more homes). These trees could present a major threat of danger if their health is compromised. Also, the cost of removal would exponentially rise after construction is complete.

Thank you in advance for your assistance in addressing my questions/concerns.

Sincerely,
Bob Nelson
6035 SW Sequoia Dr.
Tualatin, OR 97062
503-307-3127
nelson@pacificu.edu



Tree #10982 (redwood, 66"DBH, 28' C-Rad, Excellent Condition, "retain")



Tree #10981 (douglas fir, 30" DBH, 24'C-Rad, Good Condition, "retain")

SEP 25 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

September 24, 2015

City Engineer
ATTN: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR, 97062-7092

RE: Sagert Farms

Dear Tony;

My name is Nancy Falconer and I own the second house, (6075 SW Sequoia Dr.) south of the newly proposed Sagert St. extension onto Sequoia Dr.
My backyard property line abuts the proposed Sagert Farms Development.

These are my concerns:

- 1) The grading of the lots on SW 61st Terrace that abut my property on the west, specifically:
 - a) How will the current elevation along my property line where it meets the field be modified. My property is built UP to your property line and my concern is potential water run off causing erosion of my existing landscaping should this adjacent elevation be modified.
 - b) If modified from existing condition, what plan is in place to create proper drainage AWAY from my property and/or what type of wall is proposed to protect and keep the current condition of my landscaping intact?
- 2) Fence: What plan is there for a privacy fence to be installed and what material is suggested for use?
- 3) Traffic: How will this newly proposed project effect the traffic in Sequoia Ridge? And, what are the plans to encourage use of planned ingress/egress to and from Sagert Farms.

I would appreciate having answers to these concerns from Tualatin City engineer, Tony Duran, or Andrew Tull, 3J Consulting, Inc.

Thank you,



Nancy Falconer

njfalconer@frontier.com

503 692 5906 or cell, 503 201 8059

October 1, 2015

BY E-MAIL (tdoran@ci.tualatin.or.us) AND FIRST CLASS MAIL

City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Re: Sagert Farms proposed subdivision, 20130 SW 65th Avenue
Your file no. SB15-0002
Our client: Tualatin Professional Center Condominium Owners Association
Our file no. 4212.002

Dear Mr. Doran:

I am submitting these comments on the Sagert Farms application on behalf of Tualatin Professional Center Condominium Owners Association, the owners' association for the Tualatin Professional Center, an office property immediately north of the proposed subdivision.

The Association does not oppose the application itself, but does ask the city to require the applicant to make one change in the alignment of Sagert Street for the better safety of Tualatin Professional Center and the patients of the health care providers at the Center.

Sagert Street east of 65th Avenue is a half-street that also provides access to the two south driveways of the Center and the seven parking spaces in between. The Center is a cluster of four office buildings in the center of the property, with a parking lot on the east, another parking lot on the west, and seven parking spaces on the Center property, accessed directly from Sagert Street. The east parking lot and the west parking lot do not connect internally, and because of the steep grades at the north end of the Center, they cannot be connected on the north side.

The applicant proposes to eliminate the seven private parking spaces that currently access Sagert Street directly and to expand Sagert Street so as to eliminate eastbound access to the west parking lot. Patients and visitors to the west side of the Center would have to drive east on Sagert Street, turn right on the proposed 64th Terrace, and loop back on 63rd Terrace to access their destination, routing business traffic through the residential neighborhood. The enclosed Map 1 shows Lennar's proposed access route to the offices in the Center that use the west parking lot.

Such a convoluted access to the west side of the Center would run counter to several of the objectives of Tualatin's adopted Transportation System Plan, including the objectives of reducing trip length, facilitating efficient access for employees and customers to and from commercial lands, ensuring that emergency vehicles are able to provide services throughout the

Mr. Tony Doran
City of Tualatin
October 1, 2015
Page 2

city to support a safe community, and considering negative effects of alternatives on adjacent residential and business areas.

One awkwardness in the application is that Lennar proposes to remove some improvements that are on the Center property, such as the rock retaining wall that supports the Center's east parking lot (item 13 on Sheet C111 of the plans), the seven parking spaces (item 1 on Sheet C111), the storm drain (item 8 on Sheet C111). Another awkwardness is that Lennar proposes to place some temporary inlet protection around drains on the Center property (item 2 on Sheet C121) and, I think, to close the Center's access to Sagert Street during construction (item 3 on Sheet C121, "construct/maintain stabilized construction entrance per city std. drawings"). The existing Sagert Street is not simply a private driveway within a public street, but represents a half-street which the developer of the Center paid for.

The owners at the Center can, however, accommodate the proposed subdivision's reduction of their access, if the design of Sagert Street is modified slightly to provide a private accessway just north of Sagert Street between the west and east parking lots. If Sagert Street is built a few feet farther south – a few feet farther from the south building at the Center – then there will be enough room to put a two-lane driveway between the east and west parking lots, using a combination of public and private property. The new accessway would provide communication between the two lots and allow the Center to close the west driveway on Sagert (or to make it right-in, right-out only), because the east driveway would be accessible from either direction and cars entering there could get to and from both parking lots and all parts of the Center. The enclosed Map 2 shows the adjusted Sagert Street and the new connector in blue.

This connector may require a variance from city standards, but Lennar's proposal also requires a variance from city standards for minor collector streets, so the additional variance should not be an obstacle. TDC §75.140 allows commercial uses with 70 feet or more of frontage to have driveways onto minor collectors. Chapter 75 and the TSP imply that the city prefers to have landowners use combined accesses so that collector and higher streets have fewer driveways, not more, so the Center's proposal is consistent with the city's goals.

Thank you for considering the problems of providing safe and efficient access to the health care providers and unit owners at the Tualatin Professional Center.

Very truly yours,

FOLAWN ALTERMAN & RICHARDSON LLP

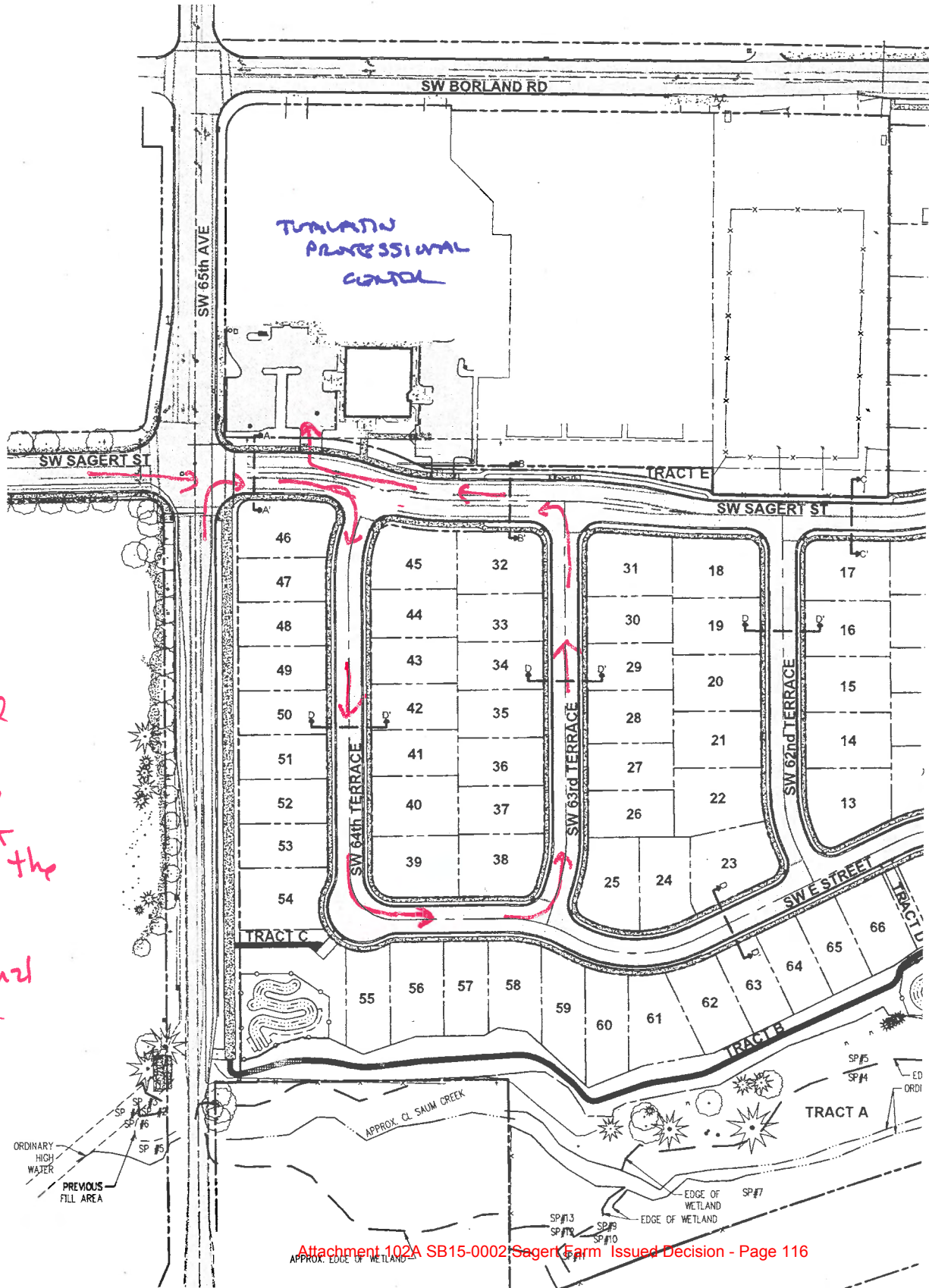


Dean N. Alterman

dean@farlawfirm.com

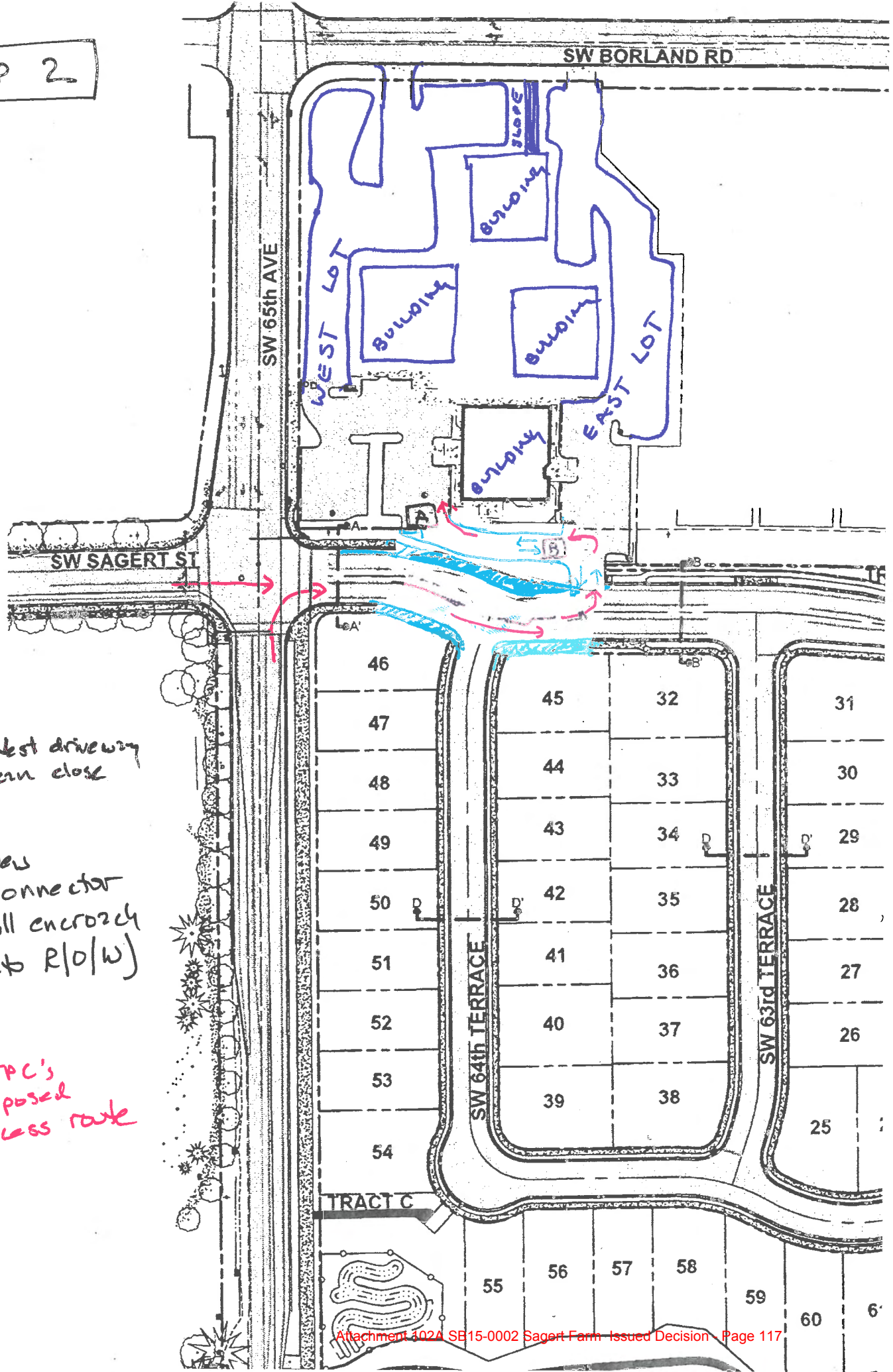
Enclosures: Map 1, Map 2
Copy: Tualatin Professional Center directors (with enclosures)

MAP 1



Lennar's proposed access route to the west part of the Tuzlabin Professional Center

MAP 2



A West driveway can close

B New connector (will encroach into R/O/W)

→ TPC's proposed access route



DAVID R. TENHULZEN, MD, DMD, PC
Physician, Surgeon, and Dentist
Oral & Maxillofacial Surgery

*Board Certified by the American Board of Oral and Maxillofacial Surgery
Fellow of the American Association of Oral and Maxillofacial Surgeons*

10/01/2015

City of Tualatin

Attn: Tony Doran, Engineering Associate

To Whom it May Concern:

I have been providing health care to the citizens of Tualatin and the surrounding communities for over 31 years at this same location. The proposal submitted for development of the Sagert farm will severely restrict access to our place of business. Not only will this impact my patients and my business in a negative manner, it will also restrict access to fire services, ambulance services and all other emergency services. I do not feel it is in the best interest of the people of this community or the business owners of the Tualatin Professional Center to restrict access in this manner.

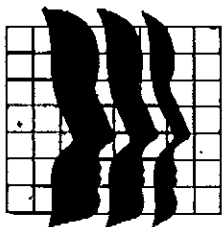
I would therefore encourage all those involved with the Sagert farm development to alter the proposed plan in whatever way possible so as to alleviate its destructive impact on the Tualatin Professional Center.

Sincerely,

David R. TenHulzen, MD, DMD, PC

6464 S.W. Borkind Road, Suite 10-3
Tualatin, Oregon 97062
(503) 692-5654
FAX (503) 692-9220
www.drtenhulzen.com

FAX COVER SHEET



Maxillofacial Surgery Associates
 David R. TenHulzen MD, DMD.
 6464 SW Borland Rd., Suite D-3
 Tualatin, OR 97062
 Phone: (503)692-5654
 Fax: (503)692-9220

Send to: <i>City of Tualatin</i>	From: <i>Dr. TenHulzen</i>
Attention: <i>Tony Doran</i>	Date: <i>10-01-2015</i>
Fax Number: <i>503-692-0147</i>	

- Urgent
- Reply ASAP
- Please comment
- Please review
- For your information

Total pages, including cover: 2

Comments:

Please call the office to confirm receipt of letter.

September 28, 2015

City Engineer
Att: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: SB15-0002, Sagert Farms

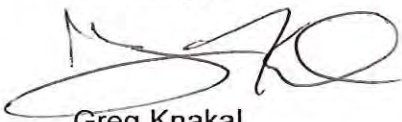
Dear Tony:

It is great to see that Tualatin is continuing to grow! I live at 6065 SW Sequoia Drive or the backside of the proposed development. My only concerns have to do with traffic. I am assuming the two traffic lights that I have highlighted on the attached form will be synched together so that these two intersections will flow properly?

Also will they be adding speed bumps through the new development to discourage cars from cutting through or do you feel the number of stop signs that are being installed will be adequate to keep this from happening? Lastly, it appears there is a proposed landscape median that will be installed near lot 75 that leads into the Sequoia Ridge development. I am hoping this is true as I think it is a nice feature.

Thank you for your time and for making Tualatin a great place to live.

Sincerely,



Greg Knakal
6065 SW Sequoia Drive
Tualatin, OR 97062
(503) 348-9483

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OCT 01 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

CITY OF TUALATIN
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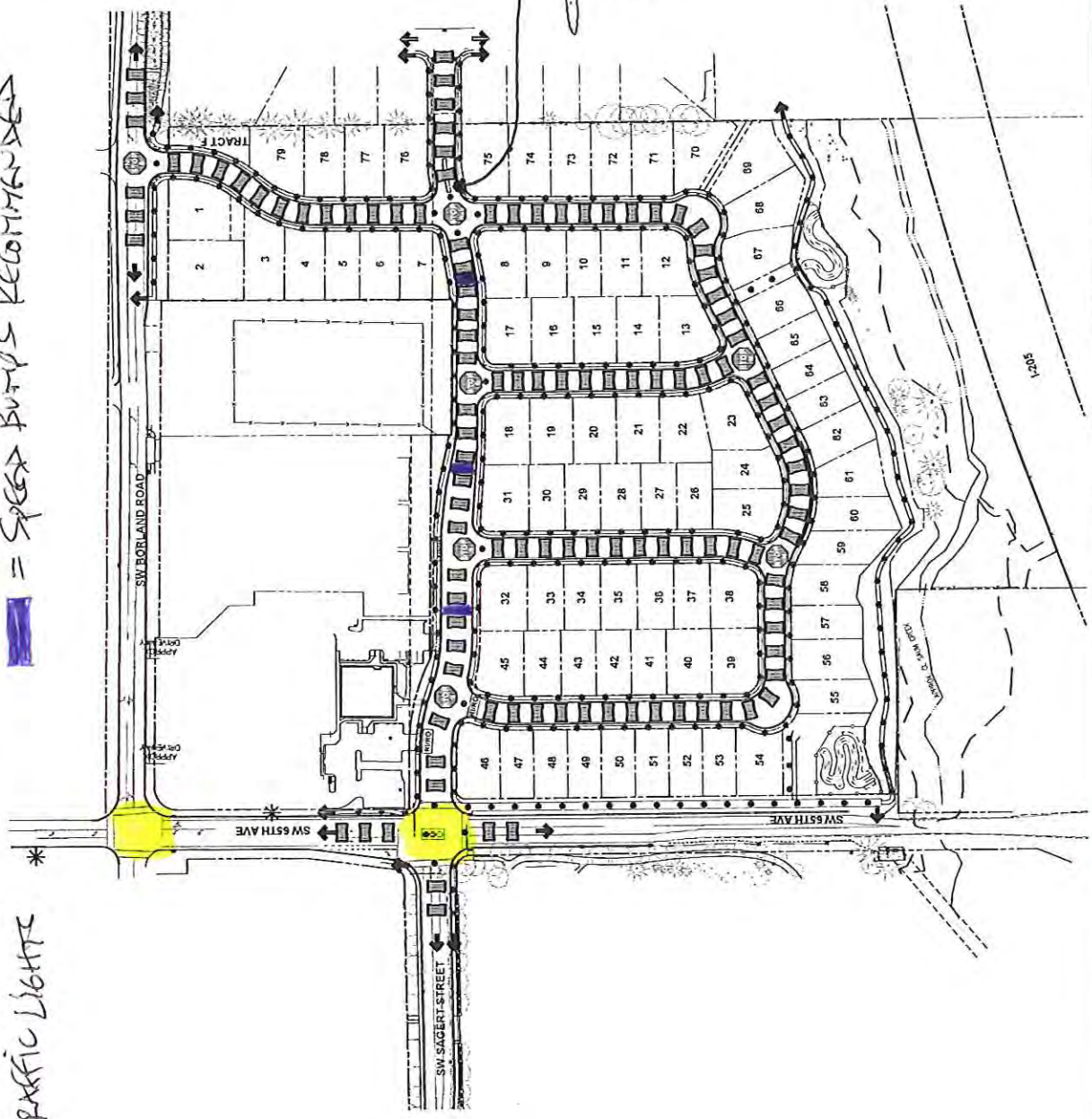
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ENGINEERING &
BUILDING DEPARTMENT

- LEGEND**
- BOUNDARY LINE
 - EXISTING ROADWAY
 - EXISTING CENTERLINE
 - EXISTING LOT LINE
 - LOT LINE
 - RIGHT-OF-WAY
 - ROAD CENTERLINE
 - ROAD CENTERLINE
 - AUTOMATIC CIRCULATION
 - PEDESTRIAN CIRCULATION
 - TRANSIT STOP
 - RIGHT IN - RIGHT OUT CONTROL
 - STOP CONTROL - SOUTH
 - STOP CONTROL - NORTH
 - STOP CONTROL - ALL WAY
 - CIRCULATION CONTINUES TO EXISTING TRAFFIC SYSTEM
 - SIGNALIZED INTERSECTION

TRAFFIC LIGHTS

SPGA BURNS RECOMMEND



City of Tualatin
Tony Doran,
Engineering Associate
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

10/01/2015

RE:
SB15-0002
Proposed Subdivision, Sagert Farms
20130 SW 65th Avenue TLID 2SE30B #300 & 600

Dear Mr. Doran

As you may recall, I am the Managing Agent of the Tualatin Professional Center property at 6464 SW Borland Rd, Tualatin, Oregon 97062.

The Sagert Farm Development, as presented, adversely affects all of the owners of Tualatin Professional Center in several ways. As proposed, the west side of the Center will have a right-in and right-out access off of the proposed eastbound extension of Sagert Road. The west side of the Center has only one other entrance, which is on Borland Road, which is also a right-in, right-out street to parking lot access.

The proposal removal of 14 parking spaces from the Center, alone, is detrimental to all of the property owners, as well as the patients of Tualatin Professional Center.

Additionally, as proposed, 88 of the 148 spaces that would remain at the Center would be on the west side of the complex. This is nearly two thirds of all the Center parking that would be limited by two right-in, right-out accesses only.

It will be nearly impossible for the owners at the Center to give access instructions to their patients for two thirds of the Center Parking. There is no practical way to explain to patients how they would have to enter the Sagert Farms subdivision driving eastward, then turn around and come into the west side of the Center on Sagert westbound. Many of the patients are elderly, and many of the patients are not regularly on the property.

Lennar homes, a for profit company, would be enriching itself at the detriment of Tualatin Professional Center. As it stands, I must object to the Sagert Farms Proposed Subdivision SB15-0002

James Marlow
Managing Agent,
Tualatin Professional Center
P.O. Box 10573
Portland, Oregon 97296



James Page Walker, D.D.S., P.C.
Specialist in Endodontics

9/30/2015

City of Tualatin
Attn: Tony Doran, Engineering Associate
18880 SW Martinazzi Ave
Tualatin, OR 97062

CITY OF TUALATIN
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OCT 01 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

Lennar is proposing a development that would cause significant economic damage to my practice and the value of my investment in the Tualatin Professional Center (TPC).

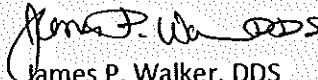
While they initially presented that they intended to be "good neighbors", their proposals and discussions have demonstrated alternative intentions. Although TPC has presented several very reasonable proposals for the proposed access to the development from 65th, none of them have been adopted. Consistently, their concerns for a few hundred thousand dollars of additional profit have always been more important than the millions of dollars invested in TPC. At our last meeting we were advised by their legal counsel that in essence "we will hurt you, it is just your choice about how much", hardly an honest approach to collaborative efforts. Additionally, in reviewing their Land Use Application, it is apparent they have withheld important information, demonstrating a lack of "good-faith" disclosure.

My main concerns are:

- 1) The restriction of access to the south-west and south-east parking areas of TPC during and after construction
- 2) The taking of TPC land without merit or compensation to the owners of TPC
- 3) The encumbrance of TPC land that will materially harm the professional practices located there
- 4) There is a lack of full disclosure. Therefore, there may be additional plan elements that are averse to me that I am not aware of.

I also would like to point out that the only stated basis of the driveway encumbrance is presented in the form of a contact between the city and the original TPC developer that clearly states that agreement expired nearly twenty-six and a half years ago on May 13th 1989. If the city or the Sagert family had intended to maintain this easement, they reasonably would have renewed that agreement or exercised that right by building the street extension. Tualatin and the Sagert family revoked this easement by not performing either action and in fact demonstrated their removal of this easement, by allowing TPC to openly and continuously use, improve and maintain the driveways and parking.

Sincerely


James P. Walker, DDS

September 27, 2015

CITY OF TUALATIN
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OCT 01 2015
ENGINEERING &
BUILDING DEPARTMENT

City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Ave
Tualatin, Oregon 97062-7092

Dear Mr. Doran

Thank you for the opportunity to comment on the notice of application of submittal regarding the development of Sagert Farms (SB15-0002).

My family and I live at 6085 SW Sequoia Drive, directly backing the proposed development on the east side. We have lived here for 8 years, and are very interested in the approach taken to develop this property. We have attended each of the meetings held with the public, by 3J Consulting and Lennar Homes. We appreciated their presentations, and taking under advisement our comments and the comments of others. I wish to make some of the comments I have shared with them here, as well as some other comments, in order to protect our interests and document the understanding we have regarding the development.

We understand that there will be no zoning change sought with respect to this development. We appreciate the developer's decision to build within the current zoning, and to avoid seeking to place more homes in the area than is allowed under current zoning.

The builder has represented that they will be mindful of the neighbors during construction, including keeping traffic and noise under control. We also understand that they will fence and landscape all of the properties.

We expressed that we would have appreciated some buffer between the new neighborhood and the existing neighborhood. We have a small back yard, and are concerned about how the new houses will fit in where the neighborhoods join. We understand that the developers are not proposing a greenspace or similar arrangement, but hope that they will make every reasonable effort to account for a smooth transition, and a layout of homes that does everything possible to ensure that our property is not unreasonably changed through the placement of the new homes.

I also want to comment on the trees that sit along the property line in our back yard. We believe they are mulberry trees, and they attract a great diversity of wildlife, and add scenic value and shade to the neighborhood. We understand that they have been identified to be protected. We expect that they will be, including maintenance of tree protection fencing during construction, and that no new construction or other activities would be allowed to damage them or their root systems, which would decrease the health of the trees, or cause us financial or other harm. We expect that we would be consulted if, for

any unexpected reason, the developer was required to take on any activities that could affect the trees, including trimming or digging near the roots.

We, and many others at the public meetings, expressed concern about the traffic flows through our neighborhood that may come about because of the new development. We are very concerned that traffic will cut through from Borland to Sagert across our existing neighborhood. If this happens, it could impose safety risks, increase noise, and change the feel of our neighborhood. We expect the city and developers to be mindful of this risk, which was expressed by numerous of our neighbors, and would ask that everything appropriate be done to monitor this situation and take any actions necessary to keep it under control. We have noticed and appreciate the installation of a four-way stop that is likely meant to address this situation to some extent.

Thank you for your consideration of these comments.

Sincerely,



Mark Thompson
6085 SW Sequoia Drive
Tualatin, Oregon 97062
503-691-1987



October 16, 2015

City of Tualatin
Tony Doran, EIT
Engineering Associate
18880 SW Martinazzi Avenue
Tualatin, OR 97062

**Sagert Farm Subdivision
SB15-0002
Tualatin, Oregon**

Dear Tony,

This letter has been prepared in order to respond to several public comments which have been received during the open comment period associated with the Sagert Farm Subdivision (SB15-0002). We appreciate the fact that the public is interested in this application and acknowledge that many of the comments received are generally positive and constructive in nature. As you know this project has been active for nearly 2 years and our team has made a genuine effort to reach out to our neighbors and listen to their comments during that time frame. As a result of this ongoing effort, several of our neighbor's suggestions have been included within the subdivision plans.

The following is a summary of the comments received in each of the letters submitted during the comment period followed by a response from the Applicant:

Mr. Bob Nelson Letter – September 24, 2015

Mr. Nelson raised concerns about tree numbers 10982, 10979, 10982, 10981, 10978, 10977, and 10980.

Applicant's Response Mr. Nelson raised some very good and detailed questions regarding tree protection along the project's boundary with Mr. Nelson's property. Due to the specificity of Mr. Nelson's questions, the project's arborist, Morgan Holen, has prepared a response which addresses each of Mr. Nelson's concerns in detail. This response has been attached hereto.

Mrs. Nancy Falconer – September 24, 2015

Ms. Falconer raised the following concerns:

1. The grading of lots on SW 61st Terrace with particular regard for erosion control, landscaping, and changes to the existing retaining wall.
2. Fencing – will a privacy fence be installed along the shared property line? If so, what material will be used?
3. Traffic – How will the new project affect traffic in Sequoia Ridge and what has been proposed to encourage the planned ingress/egress to and from the project?

Applicant's Response Regarding grading along the lots on SW 61st Terrace, we note that there are some grading challenges associated with the extension of Sagert near to SW 61st Terrace due to the presence of an existing berm located along the Sagert Road alignment. The project's team will work diligently to complete the required extension while minimizing impacts to adjoining private properties. If any temporary impacts or transitioning features are required, Lennar will work directly with the neighbors

through the construction plan review and site construction process to minimize impacts and to repair and replace any impacted landscape areas.

Regarding fencing, where existing fences exist along shared property lines, these will be evaluated as to whether they are of sufficient quality for retention. Where fences are found to be in need of replacement, Lennar will contact adjoining property owners and work out arrangements to replace fencing with new fencing materials.

Regarding the impacts on traffic within Sequoia Ridge, Lennar has prepared and submitted a detailed Traffic Impact Analysis with the land use application. This report is available within the City's submission materials and is present on the City's website. Lennar has gone to great lengths to make the potential for cut-through traffic into Sequoia Ridge unappealing to vehicular traffic. While a single connection to Sequoia Ridge is proposed at the west bound stub street within the Sequoia Ridge Neighborhood, this intersection has been provided with a preliminary design for a central median. The central median will have a traffic calming effect by narrowing down the travel lanes for vehicles moving in each direction. The first intersection to the west of the project's connection to Sequoia Heights will also be provided with a full four way stop. These traffic calming measures and the circuitous nature of Sagert, Sequoia Drive, and SW 60th Avenue should reduce the potential for cut-through traffic between Sagert Farms and Sequoia Ridge.

Dr. David R. TenHulsen, MD, DMD, PC – October 1, 2015

Dr. TenHulsen's letter addresses the restriction of access from Sagert Road for existing patients, ambulance, and fire service to the Tualatin Professional Center.

**Applicant's
Response**

The parking lot for the Tualatin Professional Center will be impacted by the extension of Sagert however, these impacts are necessary as the eastbound extension of Sagert from SW 65th Avenue has been contemplated since the Tualatin Professional Center was constructed. Lennar is proposing an extension which will occur only within the existing Sagert right-of-way. The alignment of Sagert is fixed by the virtue of existing improvements to the west of 65th Avenue as was discovered during the process of trying to push the Sagert alignment to the south as much as possible after the concerns of TPC were raised. The impacted portion of the TPC parking lot was constructed, not on the TPC's property, but within the public right-of-way. TPC did not construct this half street improvement at the time of its construction, rather, Lennar is shouldering the costs for the full width of the improvement. Lennar has also proposed to reconstruct the existing driveway and new landscaping along TPC's frontage, following the completion of the construction of the Sagert extension. We note that the parking configuration and access situation is less than ideal for access to the eastern and western lots however, the eastern parking lot will be provided with a left-turn from Sagert and both parking lots will continue to have access from Borland Road.

The proposed reconfigurations will take some time for patients to adjust to but we believe the changes are reasonable given TPC's situation.



Mr. Greg Knakal – September 28, 2015

Mr. Knakal inquired as to whether or not the two signals (one existing and one proposed) along Borland and 65th Avenue would be coordinated to provide synchronized movements. Mr. Knakal also inquired as to whether speed bumps would be installed along the extension of SW Sagert.

Applicant's Response The new signal at SW Sagert and SW 65th and the existing signal at SW Borland and SW 65th Avenue will be coordinated to work in tandem to move traffic as efficiently as possible through both intersections.

Lennar and the City have discussed the concept of placing speed cushions or speed bumps within the development along SW Sagert. Both the City and Lennar are in agreement that they are likely not necessary. Instead of speed bumps, Lennar will be installing a four way stop at the intersection of SW Sagert and SW 61st Avenue and a central median near the intersection of SW Sagert and SW 61st Terrace. These improvements should have the effect of calming traffic along SW Sagert.

Mr. James Marlow – October 1, 2015

Mr. Marlow felt that the Tualatin Professional Center was adversely affected by the proposed development. The center has a limited number of access points and the Borland Road entrance only provides right-in/right-out access. The proposal will remove a total of 14 parking spaces from the Center's parking lot. Nearly two thirds of the remaining spaces (88 of 148 remaining spaces) will only be accessed by right-in/right-out access points. Providing instructions to patients trying to access the site will be difficult to explain.

Applicant's Response The parking lot for the Tualatin Professional Center will be impacted by the extension of Sagert however, these impacts are necessary as the eastbound extension of Sagert from SW 65th Avenue has been contemplated since the Tualatin Professional Center was constructed. Lennar is proposing an extension which will occur only within the existing Sagert right-of-way. The alignment of Sagert is fixed because of the location of the existing improvements to the west of 65th Avenue. Lennar did discuss this potential solution with the City but intersection alignment is critical to ensuring safe movement for vehicles. The impacted portion of the TPC parking lot was constructed, not on the TPC's property, but within the public right-of-way. TPC did not construct this half street improvement at the time of its construction, rather, Lennar is shouldering the costs for the full width of the improvement. Lennar has also proposed to reconstruct the existing driveway and new landscaping along TPC's frontage, following the completion of the construction of the Sagert extension. We note that the parking configuration and access situation is less than ideal for access to the eastern and western lots however, the eastern parking lot will be provided with a left-turn from Sagert and both parking lots will continue to have access from Borland Road.

The proposed reconfigurations will take some time for patients to adjust to but we believe that the changes are reasonable given TPC's situation.

Mr. Dean Alterman on behalf of the Owners of the Tualatin Professional Center – October 1, 2015

Mr. Alterman does not oppose the proposed land use application but would request a change to the preliminary circulation plan to provide for better safety for the patients of the health care providers at the Center.

He states the circulation within the Center is limited from east to west – a significant grade change exists at the northern end of the property, preventing east/west circulation. Eastbound access to the



western parking lot would be eliminated as part of Lennar's proposed subdivision plan and because of the proposed improvements to SW Sagert.

The proposed change runs afoul of several provisions of the City's Transportation System Plan including the objectives of reducing trip length, facilitating efficient access and customers to and from commercial lands, ensuring that emergency vehicles are able to provide services throughout the City to support a safe community, and considering negative effects of alternatives on adjacent residential and business areas.

Lennar proposes to remove some improvements that are located on the Center property, such as the rock retaining wall that supports the Center's east parking lot, seven parking spaces, and a storm drain. Lennar also proposes to locate a temporary inlet protection around drains on the center property and a stabilized construction entrance.

The owners of the TPC can support a proposed reduction of their access if the design of Sagert Street is modified slightly to provide a private accessway just north of Sagert Street between the west and east parking lots. If Sagert Street is built a few feet farther south, then there will be enough room to place a two-way driveway between the east and western parking lots, using a combination of public and private property. The new accessway would enable movement between the two parking areas.

The new connector may require a variance from City standards but Lennar's proposal also requires a variance from City standards for minor collector streets, so the additional variance should not be an obstacle. TDC 75.140 permits commercial uses with 70 feet or more of frontage to have driveways onto minor Collector streets. Chapter 75 and the TSP imply that the City prefers to have landowners use combined accesses so that collector and higher classification streets have fewer driveways, not more, so the Center's proposal is consistent with the City's goals.

**Applicant's
Response**

The proposed improvements will remove one movement from the existing access from the Tualatin Professional Center's movement by preventing a left turn from SW Sagert into the center's western parking lot. Access via right turns will still be permitted and the property will still have access to the western parking lot from Borland. While we note that the owners of the TPC speculate that a northern connection point for the parking lot is not possible, without an engineering analysis, this conclusion is premature. We note that the owners of the TPC have not consulted with a professional engineer to analyze any on-site construction options to improve circulation following the loss of the unrestricted use of the Sagert right-of-way.

Lennar proposes to make improvements within the existing Sagert right-of-way to allow for the construction of the anticipated public street. This improvement will require impacts to the existing parking lot for the center beyond the edge of the existing right-of-way, as a significant portion of the center's southern parking lot is currently located within the right-of-way. Lennar has proposed the inlet protection and the stabilized construction entrance, and additional improvements to TPC's property in order to leave the reconstructed parking lot in a repaired state. These improvements are shown on the proposed preliminary construction plans. Lennar is committed to 1) repairing the impacts to the TPC site in a manner which will re-establish the parking areas to the extent they can be retained, 2) re-establish the site's access from Sagert in a manner which is acceptable to the City, and 3) protect the TPC's property during the construction process from erosion and heavy equipment impacts. The proposed temporary construction and erosion control activities would be considered to be best management practices for sites with existing infrastructure during construction activities.



Lennar has explored a number of options for the redesign of the access to the site's southern parking lots. The proposed design submitted by the owners of the TPC is similar to another design which was not supported by the City's staff, nor by Lennar's transportation consultants. Lennar and Lennar's engineer have suggested on several occasions that the owners of the TPC should engage a professional engineer to review options for safe functional access to and throughout the center's property and this recommendation continues to stand.

The proposed improvements to SW Sagert represent not a variance, but an allowed modification to the City's standard improvements for a Minor Collector. The proposed modifications have been proposed to respond to several site specific concerns related to safety, decreased parking/increased impacts, the speed of traffic moving along Sagert, and the re-classification of SW Sagert as a minor collector during a recent TSP update. The modifications benefit all three parties by reducing the impacts to both TPC and Lennar (adjusting the alignment as far south as possible, which is what is currently proposed), and also the City by beginning a narrowing of the roadway and creating a traffic calming effect. The proposed modifications have been evaluated by Lennar's traffic engineer and by the City Engineer. All of the proposed modifications are within the City Engineer's purview to enable and no formal variance application is necessary.

The City's Transportation System Plan (TSP) does permit access to a collector for sites with a minimum frontage of at least 70 feet. The TPC does have more than 70 feet of frontage and two access points will be provided, both to the east and western parking areas. The property will have access to the eastern parking area via a full access driveway. The western parking area will only have access via a right-in/right-out configuration due to safety concerns about the presence of a full access intersection. The previously requested full access point to the western parking lot would create an unsafe condition with the potential for conflicting turning movements and unsafe queuing onto 65th Avenue.

The proposed design of the center's revised access scenario has been well vetted by Lennar's traffic engineers and the City's Engineering staff. The City's TSP, while promoting combining of driveways, also places a very high regard upon safety and it is likely that the existing access points to the TPC property would not be approvable if the center were to re-apply with the same access points under today's codes and standards.

Lennar has stated at multiple points throughout this design process that they are committed to reducing the impact upon the TPC property where possible and that they are willing to repair the impacts to TPC's existing infrastructure to create a finished look to the revised parking area. Given the situation, Lennar is of the opinion that the loss of access for left turning vehicles to the western parking lot is the best possible outcome for the TPC's parking lot, given the location of the parking lot within the existing right-of-way.

Mr. Mark Thompson – September 27, 2015

Mr. Thompson appreciates the neighborhood outreach process and that this project will not involve a zone change. He would like to see a buffer along the existing homes to the east. Mr. Thompson is of the understanding that the "mulberry trees" along the shared property line are intended to be protected. He also wishes to ensure that tree fencing is maintained to prevent damage to these trees and would request consultation if these trees were required to be removed to accommodate construction. There is concern about the potential for cut-through traffic from Borland to Sagert through the existing Sequoia Heights neighborhood, however the four way stop proposed along Sagert is appreciated.



Applicant's Response Lennar has proposed to install tree fencing along the trees which have been identified for retention within the development. Lennar's arborist has recommended that site construction activities which occur near to trees or tree protection fencing be carried out only with on-site observation from the project's arborist. Lennar is prepared to involve the project's arborist if any trees which are identified for construction may require removal during construction activities.

Dr. James Walker, DDS, PC – September 30, 2015

Dr. Walker is concerned Lennar's proposal will damage his practice and investment in the Tualatin Professional Center. He states that the TPC has presented several reasonable proposals for access to TPC from SW 65th and legal counsel for Lennar presented that "we will hurt you, it is just your choice about how much". He believes it is apparent that information has been presented in the land use application which was withheld from TPC, representing a lack of good-faith.

His primary concerns are as follows:

1. Restriction of access to the southwest and southeast parking areas.
2. The taking of TPC land without merit or compensation to the owners of TPC.
3. There is a lack of full disclosure. Additional plan elements may be proposed which I am not aware of.
4. The driveway encumbrance was required by a contract between the TPC developer and the City. The contract expired on May 13th 1989. If the City or Sagert intended to maintain this easement, they should have renewed that agreement or exercised that right by building the street section. Tualatin and the Sagert Family revoked this easement by not performing either option and by allowing TPC to use, maintain, and improve the driveways and the parking area.

Applicant's Response Lennar has made a genuine effort to coordinate the effects of the required and proposed extension of SW Sagert within the existing right-of-way along TPC's frontage with the owners of the TPC. This right-of-way, and the improvements which existed therein, were in place when the center was constructed. No change in value to the existing condominiums has occurred, an item of on-going concern has simply been triggered by a proposed development to construct a site using the existing right-of-way and the owners of the center are now required to deal with an existing condition which until now, had been dormant.

Lennar met with the owners of the TPC on three separate occasions (May 16, 2014, on February 20, 2015, and on June 12, 2015), to discuss options for the improvements to SW Sagert and to discuss the potential impacts to the western parking area. Facing an uncertain result during the initial meetings, Lennar and their consultants have worked diligently to reduce impacts to the TPC property throughout this process showing much more than just a good faith effort, but a genuine neighborly effort to accommodate the TPC site to the best of their ability given the constraints

Regarding the concerns listed within Dr. Walker's letter, we have the following responses:

1. The proposed access to the center from Sagert Street provides adequate but not perfect access to both parking lots. The proposed design would allow TPC to have full access to the eastern parking lot from Sagert Street. Only the western access point would be affected through the installation of a right-in/right out configuration has been proposed due to safety concerns. The site will retain the existing access to the western parking lot from Borland Road.
2. No right-of-way will be required to facilitate the construction of the Sagert Street Extension. The land upon which construction activities are proposed, is already existing right-of-way and not TPC's property.



3. Lennar has made significant efforts to examine a variety of options for the TPC's property and has arranged for several meetings to communicate these options. Lennar has made extraordinary efforts to accommodate the desires of the TPC's ownership group.
4. As a result of the negotiations between the City and the original developer of the TPC, the right-of-way necessary to complete the extension of SW Sagert was dedicated to the City in 1995 (Document Number 95-006450). The City has no obligation to renew or reaffirm its status as the owner of the City's right-of-ways.

Marion and Jim Ortman – October 13, 2015

The Ortman's raised concerns about commuters using Borland Road and SW 65th to get to I-205, which has increased traffic flow onto SW Sagert. The letter notes that the Ortman's were not able to attend any of the public meetings held for the project and wondered if there were going to be intersection improvements at Sagert/Borland/65th Avenue. They also wondered if any studies had been completed regarding the installation of a round-a-bout. They would also like to know what the current plans are for traffic control at the 65th and Sagert intersection.

Applicant's Response

Lennar completed a series of public meetings and consultations to explain the proposed transportation improvements and the subdivision process. Lennar also completed a detailed transportation impact analysis which is available on the City's website for review. Several comments received from the neighbors who attended the meetings which specifically requested traffic calming measures were incorporated into the proposed development and transportation system. Among these were four way stops along Sagert through the development, and a central median to calm traffic, just before the connection to the existing portion of Sagert within Sequoia Ridge.

SW Sagert and SW 65th will receive a new full traffic signal as a result of the development. This traffic signal will be coordinated to work in tandem with the signal at SW 65th and Borland Road. The signals will be coordinated to allow traffic to move through both intersections as efficiently as possible. The Traffic Impact Analysis submitted with the land use application indicates that residents can expect a level of slight improvement of the function of both intersections as a result of the off-site improvements.

Please feel free to give me a call if you have any questions or need any additional clarification.

Sincerely,



Andrew Tull
Principal Planner
3J Consulting, Inc.

Attached: Arborist's Response Memorandum – September 29, 2015

Copy: Mr. Mike Loomis, Lennar
Mr. Mike Anders, Lennar
Mr. John Howorth, 3J Consulting, Inc.
Mrs. Kelly Hossani, Miller Nash Graham & Dunn, LLP
File



DATE: September 30, 2015
TO: Andrew Tull, 3J Consulting
FROM: Morgan Holen, Project Arborist
RE: Sagert Farms – Arborist Response to September 24, 2015 Letter from Bob Nelson

MHA15017

This memorandum is provided in response to the questions and concerns presented in the September 24, 2015 letter from Bob Nelson who lives at 6035 SW Sequoia Drive in Tualatin, directly adjacent to the Sagert Farms project site. Excerpts from Mr. Nelson’s letter are included below in bold type; responses from the project arborist follow each question or concern.

Why did you not give the recommendation to “Protect off-site tree” for tree # 10982? You gave tree #10979 (redwood with 10” DBH) 100’ to the north the recommendation of “Protect off-site tree”, but not tree #10982.

The difference has to do with how tree survey points appear on the tree survey drawing that was used to conduct the tree inventory fieldwork. The tree inventory data includes recommendations to “protect off-site tree” for trees with survey points located completely off-site or on property boundaries, while recommendations for trees with survey points located on-site were classified as either “retain” or “remove”. The survey point for tree 10982 is shown on-site, although the trunk of the tree is large enough to cross over onto Mr. Nelson’s property. The survey point for tree 10979 is shown on the property boundary, therefore this tree was classified as “protect off-site”. Regardless, both trees are recommended for preservation with protection during construction.

What is the recommended setback distance for construction activity (grading, earthmoving, foundations, nonporous surfaces) from a large redwood tree? I assume if is no closer than the dripline – but I would like your professional opinion.

and

The second tree I am concerned about is tree #10981 (Douglas Fir; 30” DBH; 24’ C-Rad; Good condition). What is the recommended construction setback for this Douglas Fir (tree # 10981)? Is it at the dripline?

We recommend construction encroachment no closer than one half the crown radius distance limited to one quadrant of the total root zone and arborist oversight of work that is necessary within the encroachment area to supervise construction and provide on-the-ground recommendations to minimize tree root impacts. The crown radius along the west side of tree 10982 measured 28-feet. Therefore, encroachment should be limited to no closer than 14-feet beneath the dripline; this is where tree protection fencing is illustrated on the tree protection plan. The crown radius along the west side of tree 10981 measured 24-feet. Therefore, encroachment should be limited to no closer than 12-feet beneath the dripline; tree protection fencing is illustrated at 14-feet on the tree protection plan.

The project arborist should supervise work that is necessary beneath the dripline within the allowable encroachment area to evaluate potential root impacts and provide recommendations as needed to avoid critical root impacts. Such oversight, recommendations, and implementation of the arborist’s recommendations should be documented in tree protection monitoring reports submitted to the developer.

The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report specify that construction that is necessary beneath protected tree driplines should be monitored by the project arborist and note that it is the developer's responsibility to coordinate with the project arborist as needed prior to working beneath the dripline of any protected tree. These recommendations should be translated as specifications onto the tree protection plan; this could be required by the City as a Condition of Approval.

Considering the species and general condition of both trees, the tree protection recommendations provided allow for limited encroachment within the dripline area, while providing sufficient protection during construction.

Will tree #10981 be exposed to additional windthrow when tree #10978, 10977, and #10980 are removed?

During the tree inventory fieldwork, trees were evaluated in terms of potential impacts from exposure by adjacent tree removal. Trees 10977 and 10978 are planned for removal for construction. Tree 10980 is an off-site Douglas-fir with a unique treatment classification: "re-evaluate at the time of adjacent tree removal". The May 10, 2015 Tree Assessment Report states that tree 10980 "is an 18-inch diameter Douglas-fir located in the City's open space tract east of the project site in the northeast area. This tree is intermediate in crown class and the proposed removal of two on-site Douglas-firs (#10977 and #10978) for construction on lot 78 is likely to expose this tree resulting in an increased risk of windthrow. Therefore, tree #10980 should be re-evaluated by a qualified arborist at the time of clearing in terms of hazard risk potential and removal may be recommended. The applicant should coordinate with the City to obtain authorization to remove this tree if it is determined that the tree presents a foreseeable threat of danger after being exposed by adjacent tree removal" (pages 3-4).

Tree 10981 was classified as "retain" and no significant negative impacts are anticipated from exposure by adjacent tree removal. The nearby trees planned for removal are not in direct competition with this tree, nor do they provide important shelter for this tree from predominant winds. Tree 10981 has relatively good structure, including good taper and height to diameter and live crown ratios, which are all indicators of stability. The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report specify that stumps of removed trees located within 30-feet of protected trees should be removed under the direction of the project arborist to help minimize underground impacts to potentially interconnected roots. Again, these recommendations should be translated as specifications onto the tree protection plan, which could be required by the City as a Condition of Approval. We also anticipate the opportunity to visually assess protected trees following tree removal activities and would document any concerns or recommendations as needed.

The submitted plans appear to indicate that the tree protection fencing is only 15' from the Redwood and 20' from the Douglas Fir. I do not want the trees in, or near, my property to be at risk of harm due to construction or the new development. I would like to find out what the best practice is to maintain the integrity of existing large trees. They are very large and in close proximity to my family's home (and soon 2 more homes). These trees could present a major threat of danger if their health is compromised. Also, the cost of removal would exponentially rise after construction is complete.

The tree protection plan specifies tree protection fencing to be installed at the 15-foot rear yard setback along the eastern property boundary. The tree protection measures recommended in our May 10, 2015 Tree Assessment Report will provide sufficient tree protection while allowing limited construction

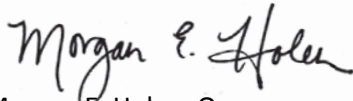
encroachment beneath protected tree driplines. However, it is the developer's responsibility to ensure that the tree protection plan is followed. The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report note that "The project arborist should supervise proper execution of this plan during construction and will be available on-call. It is the developer's responsibility to coordinate with the project arborist as needed." Furthermore, "After the project has been completed, the project arborist should provide a final report that describes the measures needed to maintain and protect the remaining trees." Translating these recommendations onto the tree protection plan as specifications is again suggested.

We have worked with Lennar on numerous development projects to provide on-the-ground assistance and document tree protection plan implementation and look forward to providing consulting arborist assistance during the construction phase of the Sagert Farms project. Arborist site visits will be documented in monitoring reports that Lennar may provide to Mr. Nelson and other interested parties upon request. The condition of tree protection measures and implementation of arborist recommendations will be described in these reports. If, at any time, unforeseen or unnecessary construction impacts were to occur to any protected tree, it would be documented in these reports along with recommendations for remedial treatments. The trees planned for retention can be adequately protected during construction so long as the tree protection plan is implemented with the recommendations provided in the May 10, 2015 Tree Assessment Report.

We want to thank Mr. Nelson for reviewing the tree protection plan and submitting his written comments to us with the opportunity to respond.

Please contact us if you have questions or need any additional information.

Thank you,
Morgan Holen & Associates, LLC



Morgan E. Holen, Owner
ISA Certified Arborist, PN-6145A
ISA Tree Risk Assessment Qualified
Forest Biologist



TECHNICAL MEMORANDUM

DATE: July 12, 2015

PROJECT: Tualatin – Hydraulic Analysis

TO: Mr. Jerald A. Postema – Public Works Director
City of Tualatin

FROM: Brian Ginter, P.E.
Murray, Smith & Associates, Inc.

RE: Water System Hydraulic Analysis – Sagert Farm Subdivision

Introduction

As requested, this memorandum has been prepared to present the findings of our analysis of the water service to the proposed Sagert Farm Subdivision located southwest of the intersection of SW Sagert Street and SW 65th Avenue. This memorandum presents the findings of this analysis for the City’s use in determining the water system improvements necessary to meet fire flow and pressure requirements.

Background

The City’s water system hydraulic model was used to perform a hydraulic analysis of pressure and fire flow performance in the City’s water system under peak demand conditions with fire flow events evaluated at each proposed hydrant in the subdivision. The hydraulic model was updated to include water system improvements and extension of distribution mains through the subdivision as presented in the preliminary design drawings (C201 and C401-C404) submitted to the City by 3J Consulting, Inc. for the Type II Land Use permitting process (drawings dated 5/27/2015). The proposed subdivision consists of 79 single family residential lots. The proposed subdivision is located within the City’s existing Pressure Zone B, served by the Norwood Reservoirs at a nominal hydraulic grade of 400 feet above mean sea level (msl).

Analysis and Findings

The hydraulic model was updated as described above and fire flow performance tested at each hydrant in the subdivision. The proposed subdivision water distribution piping is 8-inch diameter throughout, with connection to existing water mains at:

- SW Sagert Street and SW 65th Avenue
- SW Borland Road at SW 61st Terrace
- SW Sagert Road west of SW 61st Terrace

A summary of specific model conditions for this analysis is presented below:

Demand Conditions: 2030 Maximum Day Demand

Fire Flow: 1,500 gpm

Physical Condition: Existing facilities plus proposed subdivision improvements

Model nodes representing proposed hydrants in the subdivision, the fire flow capacity tested, and the calculated minimum pressure within the area influenced by the fire flow in Pressure Zone B are summarized in Table 1 below:

**Table 1
Fire Flow Analysis Results**

Model Node ID	Location	Fire Flow Rate (gpm)	Minimum Pressure (psi)
J10002	SW Sagert St. at SW 64 th Terr.	1,500	41
J10010	SW 61 st Terr. at SW Borland Rd.	1,500	40
J10012	SW 61 st Terr. south of SW Sagert St.	1,500	40
J10018	SW 'E' St. east of SW 63 rd Terr.	1,500	41

Based on the findings of this analysis and a review of overall system improvement needs presented in the Water System Master Plan, the proposed subdivision water distribution piping improvements are adequately sized and no recommended upsizing for system transmission needs are recommended.

Please do not hesitate to contact us if you have any questions or comments in this regard. We would be happy to meet with you personally to discuss the findings presented in this memorandum.



M. BARBARA CARTMILL
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Memorandum

DEVELOPMENT SERVICES BUILDING

150 BEAVERCREEK ROAD | OREGON CITY, OR 97045

TO: Tony Doran, City of Tualatin

FROM: Clackamas County Traffic Engineering and Development Review,
Robert Hixson *Robert Hixson*

DATE: October 1, 2015

RE: SB15-0002, Sagert Farms subdivision
Located near the southeasterly corner of Borland Road and 65th Avenue

Traffic Engineering and Development Review staff have visited the site and reviewed the submitted materials. We have the following comments:

Facts and Findings:

1. Following review of the submitted materials, Engineering staff are generally in agreement with the details illustrated on the plan set (dated 8-11-15) for improvements to Borland Road and 65th Avenue (easterly half) which are under the jurisdiction of Clackamas County.
2. On sheet C211, Engineering staff recommends that the applicant maximize the sidewalk width within the existing right-of-way of 65th Avenue at the northeast corner of 65th Avenue and Sagert Street.
3. On Sheet C220, Engineering staff recommends that the six-foot wide sidewalk along the Borland Road frontage be carried through the southerly curb ramps. Southerly from the southerly curb ramps, the sidewalk may transition to a five-foot width.
4. Two Design Modifications are included in the submitted materials. Clackamas County hereby approves the two Design Modification requests. Clackamas County will allow the proposed intersection of a new local street (SW 61st Terrace) with Borland Road. In addition, Clackamas County will allow the proposed modification request related to sidewalk width on 65th Avenue at the northeasterly corner of 65th Avenue and Sagert Street due to the existing constraints which do not allow for a wider sidewalk.
5. Structural sections for roadway improvements to Borland Road and the portion of 65th Avenue under County jurisdiction shall comply with the requirements of Roadway Standards Drawing C100 for arterial streets, or City requirements if the City structural section improvement requires a more substantial structural section than the County's.

6. The new local street intersecting Borland Road, SW 61st Terrace, shall align with an existing hospital driveway located on the northerly side of Borland Road as illustrated on the submitted 8-11-15 plan set.
7. Borland Road travel lane widths, turn lane widths, and bike lane widths, shall be as illustrated on sheet C220, which is dated 8-11-15. Some striping modifications will be required and will be more specifically identified when Clackamas County performs a plan review of Borland Road striping during a plan review phase following approval of the subdivision.
8. Signing and striping plans for Borland Road and 65th Avenue shall be provided to Clackamas County for review and approval as part of a plan set submittal in anticipation of issuance of a Development Permit.
9. A Development Permit from Clackamas County will be required prior to initiation of construction of improvements within the Borland Road right-of-way and the portion of the 65th Avenue right-of-way under County jurisdiction.
10. The applicant shall provide adequate intersection sight distances of 445 feet both easterly and westerly along Borland Road at the intersection of SW 61st Terrace and Borland Road. Intersection sight distances shall be measured in accordance with Clackamas County Roadway Standards requirements.
11. The proposed right-of-way dedication along the Borland Road frontage is acceptable to Clackamas County.
12. Following completion of the construction of improvements, the applicant shall provide paper copies of AS-BUILT plans to Clackamas County for Borland Road right-of-way improvements and 65th Avenue right-of-way improvements. The AS-BUILT plans shall be drawn on full size plan sheets with all features drawn to scale and shall be signed and stamped by a Professional Engineer registered in the State of Oregon.
13. The use of public rights-of-way for construction vehicle and materials staging is not authorized by the Roadway Standards and poses a potentially deleterious effect of the proposed use, because it contributes to congestion, reduces sight distance, and occupies shoulders intended for emergencies and other purposes. To protect the public from such effects, the applicant shall be required to submit a construction vehicle management plan for review and approval by the County DTD, Construction and Development Section, before the County issues a Development Permit. This may be accomplished with adequate notes on the plans indicating that no material or vehicle staging will occur within the right-of-way.

Development Engineering recommended conditions of approval:

- 1) All frontage improvements in Clackamas County right-of-way shall be in compliance with *Clackamas County Roadway Standards* unless the County formally agrees in writing to an alternate standard, possibly a City standard.
- 2) The applicant shall obtain a Development Permit from Clackamas County Department of Transportation and Development prior to the initiation of any construction activities associated with the project.
- 3) The applicant shall design and construct improvements to Borland Road and 65th Avenue along the entire site frontages of the subject property in accordance with the 8-11-15 plan set.
- 4) Structural section for Borland Road or 65th Avenue improvements shall consist of seven and one-half inches of Level 2 Hot Mix Asphalt Concrete (HMAC), Performance Grade (PG) 70-22, ½" dense top lift over ¾" dense lower lift or lifts, placed in two and one-half inch thick lifts, over four inches of ¾"-0 aggregate leveling course, over 10 inches of 1-½"-0 aggregate base course, over geotextile fabric, over compacted undisturbed subgrade, or an alternate approved by County Engineering staff.
- 5) All curbs shall typically be type "C", or curb and gutter if curb line slope is less than one percent, if they carry, direct or channel surface water.
- 6) The applicant shall provide and maintain adequate intersection sight distances at the SW 61st Terrace intersection with Borland Road. Adequate intersection sight distance for drivers turning left into the site shall also be provided and maintained. In addition, no plantings at maturity, retaining walls, embankments, fences or any other objects shall be allowed to obstruct minimum sight distance requirements.
Plans submitted in anticipation of issuance of a Development Permit shall include an exhibit illustrating sight lines for the intersection to insure sight lines are not obstructed by street trees or any other objects along the southerly side of Borland Road. Minimum intersection sight distances, at the intersection shall be 445 feet, both easterly and westerly along Borland Road, measured 14.5 feet back from the edge of the travel lane.
- 7) Applicant shall comply with County Roadway Standards clear zone requirements in accordance with Roadway Standards section 245.
- 8) Prior to the initiation of construction activities, the applicant shall submit to Clackamas County Engineering Office:
 - a) A set of street improvement construction plans for Borland Road and 65th Avenue, including a striping and signing plan for Borland Road and 65th Avenue, for review, in conformance with *Clackamas County Roadway Standards* Section 140, to Deana Mulder in Clackamas County's Engineering Office and obtain written approval, in the form of a Development Permit.

- i) The permit will be for road, curb, sidewalk, drainage, and other street improvements.
 - ii) A fee is required for the permit and will be calculated according to the current fee structure in place at the time of the Development Permit application.
 - iii) The applicant shall have an Engineer, registered in the state of Oregon, design and stamp construction plans for all required improvements, or provide alternative plans acceptable to the Engineering Division.
- 9) Following completion of the construction of improvements, the applicant shall provide paper copies of AS-BUILT plans to Clackamas County for Borland Road right-of-way improvements and 65th Avenue right-of-way improvements. The AS-BUILT plans shall be drawn on full size plan sheets with all features drawn to scale and shall be signed and stamped by a Professional Engineer registered in the State of Oregon.

MEMORANDUM

CITY OF TUALATIN
RECEIVED
OCT 05 2015
ENGINEERING &
BUILDING DEPARTMENT

Date: September 30, 2015
To: Tony Doran, Engineering Associate, City of Tualatin
From: Jackie Sue Humphreys, Clean Water Services (the District)
Subject: Sagert Farms Subdivision, SB15-0002, 21E30B 00600

Please include the following comments when writing your conditions of approval:

PRIOR TO ANY WORK ON THE SITE AND PLAT RECORDING

A Clean Water Services (the District) Storm Water Connection Permit Authorization must be obtained prior to plat approval and recordation. Application for the District's Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 07-20, (or current R&O in effect at time of Engineering plan submittal), and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.2.b-1.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans. If site area and any offsite improvements required for this development exceed one-acre of disturbance, project will require a 1200-CN Erosion Control Permit. If site area and any offsite improvements required for this development exceed five-acres of disturbance, project will require a 1200-C Erosion Control Permit.
- c. Detailed plans showing each lot within the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 07-20, Section 4.05.5, Table 4-1. Access shall be provided for maintenance of facility per R&O 07-20, Section 4.02.4.

- e. If use of an existing offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.
- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Site contains a "Sensitive Area." Applicant shall comply with the conditions as set forth in the Service Provider Letter No. 15-000154, dated May 21, 2015.
- i. Developer shall be required to preserve a corridor separating the sensitive area from the impact of development. The corridor must be set aside in a separate tract, not part of any buildable lot and, shall be subject to a "Storm Sewer, Surface Water, Drainage and Detention Easement over its entirety", or its equivalent.
- j. Detailed plans showing the sensitive area and corridor delineated, along with restoration and enhancement of the corridor.
- k. Prior to any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.
- l. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

CONCLUSION

This Land Use Review does not constitute the District's approval of storm or sanitary sewer compliance to the NPDES permit held by the District. The District, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



September 18, 2015

City of Tualatin
Tony Doran – Engineering Associate
18880 SW Martinazzi Ave.
Tualatin, OR 97062

Re: SB15-0002, Sagert Farms

Tax Lot ID#'s: 21E30B 00300 & 21E30B 00600

Dear Tony,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. Tualatin Valley Fire & Rescue endorses this proposal predicated on the following criteria and conditions of approval:

FIRE APPARATUS ACCESS:

1. **FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. (OFC 503.1.1))
2. **ADDITIONAL ACCESS ROADS – ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS:** Developments of one- or two-family dwellings, where the number of dwelling units exceeds 30, shall be provided with separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3. Exception: Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the International Fire Code, access from two directions shall not be required. (OFC D107)
3. **MULTIPLE ACCESS ROADS SEPARATION:** 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 area to be served (as identified by the Fire Code Official), measured in a straight line between accesses. (OFC D104.3) Exception: Buildings equipped throughout with an approved automatic fire sprinkler system (the approval of this alternate method of construction shall be accomplished in accordance with the provisions of ORS 455.610(5).
4. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read “NO PARKING - FIRE LANE” and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
5. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 1. 20-26 feet road width – no parking on either side of roadway
 2. 26-32 feet road width – parking is allowed on one side
 3. Greater than 32 feet road width – parking is not restricted

6. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked "NO PARKING FIRE LANE" at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)

7. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)

8. **ACCESS ROAD GRADE:** Fire apparatus access roadway grades shall not exceed 12%. When fire sprinklers* are installed, a maximum grade of 15% will be allowed.

0-12%	Allowed
13-15%	Special consideration with submission of written Alternate Methods and Materials request. Ex: Automatic fire sprinkler (13-D) system* in lieu of grade.
16-18%	Special consideration on a case by case basis with submission of written Alternate Methods and Materials request Ex: Automatic fire sprinkler (13-D) system* plus additional engineering controls in lieu of grade.
Greater than 18%	Not allowed**

*The approval of fire sprinklers as an alternate shall be accomplished in accordance with the provisions of ORS 455.610(5) and OAR 918-480-0100 and installed per section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the Oregon Fire Code (OFC 503.2.7 & D103.2)

** See Forest Dwelling Access section for exceptions.

9. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width), or two 10 foot sections with a center post or island.
 2. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
 3. Electric gates shall be equipped with a means for operation by fire department personnel
 4. Electric automatic gates shall comply with ASTM F 2200 and UL 325.

10. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)

11. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Code Official. See Application Guide Appendix A for further information. (OFC 503.4.1).

FIREFIGHTING WATER SUPPLIES:

12. **MUNICIPAL FIREFIGHTING WATER SUPPLY EXCEPTIONS:** The requirements for firefighting water supplies may be modified as approved by the fire code official where any of the following apply: (OFC 507.5.1 Exceptions)
1. Buildings are equipped throughout with an approved automatic fire sprinkler system (the approval of this alternate method of construction shall be accomplished in accordance with the provisions of ORS 455.610(5)).
 2. There are not more than three Group R-3 or Group U occupancies.

13. **SINGLE FAMILY DWELLINGS - REQUIRED FIRE FLOW:** The minimum available fire flow for one and two-family dwellings served by a municipal water supply shall be 1,000 gallons per minute. If the structure(s) is (are) 3,600 square feet or larger, the required fire flow shall be determined according to OFC Appendix B. (OFC B105.2)

14. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

FIRE HYDRANTS:

15. **FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS:** Where a portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
16. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the fire code official. (OFC C102.1)
17. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
18. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)

If you have questions or need further clarification, please feel free to contact me at (503) 649-8577.

Sincerely,



Ty Darby
Deputy Fire Marshal II

Cc: file



WASHINGTON COUNTY, OREGON

Department of Land Use and Transportation, Operations & Maintenance Division
1400 SW Walnut Street, MS 51, Hillsboro, Oregon 97123-5625
(503) 846-7623 · FAX: (503) 846-7620

October 8, 2015

Tony Doran
City of Tualatin
Engineering Division
22560 SW Pine Street
Sherwood, OR 97140
No. of pages: 4 (via Email)

RE: **Sagert Farms Subdivision**
City File Number: **SB15-0002**
Tax Map and Lot Number: **2SE30B0 300 & 600**
Location: **20130 SW 65th Avenue**

Washington County Department of Land Use and Transportation has reviewed the proposed development application to divide the subject tax lots into 79 single-family lots. The lots will have access to SW Borland Road via SW 61st Terrace and SW 65th Avenue via the extension of SW Sagert Street.

COMMENTS

1. Washington County Road Design and Construction Standards require that adequate sight distance be certified at all new intersections.

The applicant will be required to provide certification from a registered professional engineer that adequate intersection sight distance exists in both directions (or can be obtained pursuant to specific improvements) at the intersection of SW 65th Avenue, SW Sagert Street and SW Sagert Street extension. (Clackamas County)
2. The statewide Transportation Planning Rule requires provision for adequate transportation facilities in order for development to occur. Accordingly, the County has classified roads and road segments within the County system based upon their function. The current Transportation Plan (regularly updated) contains adequate right-of-way, road width and lane provision standards based upon each roadway's classification. Subject

right of way is considered deficient if half-width of the existing right of way does not meet that determined necessary within the County's current transportation plan.

The applicant shall dedicate additional right-of-way that is required to construct the traffic mitigation measures indicated in the submitted Transportation Impact Analysis (Kittleson & Associates – June 2, 2015/Updated August 6, 2015) and the City of Tualatin's Notice of Decision. (Clackamas County)

3. ***Washington County Traffic Engineering staff has reviewed the Traffic Impact Analysis (Kittleson & Associates – June 2, 2015/updated August 6, 2015) submitted for this development proposal for compliance with R&O 86-95. The County concurs with the traffic mitigation measures included in the applicant's Traffic Impact Analysis (pages 30 - 32) and supplemental access report (page 19). The applicant will need to coordinate with Washington County, Clackamas County and the City of Tualatin for all permitting, inspections, and approvals.***

REQUIRED CONDITIONS OF APPROVAL

IMPORTANT:

*Road improvements required along site frontage shall apply to frontage of all land within the subject site that abuts the County roadway. **The subject site shall be considered to include:** any lot or parcel to be partitioned or otherwise subdivided (regardless of whether it contains existing structures or not); **and** any contiguous lots or parcels that constitute phases of the currently proposed development.*

*If the applicant proposes to develop the project in phases, all County-required frontage improvements must be constructed with the first phase. In addition, off-site improvements **warranted by** the first phase must also be completed with the first phase.*

I. PRIOR TO ISSUANCE OF A BUILDING PERMIT BY THE CITY OF TUALATIN:

A. The following shall be recorded with Clackamas County/City of Tualatin/Washington County, as required:

1. Additional right-of-way that will be required to meet conditions identified in the County Traffic Engineer's review of the submitted Transportation Impact Analysis (Kittleson & Associates – June 2, 2015/updated August 6, 2015). Note: Coordination with Clackamas County and the City of Tualatin will be required prior to recordation of any easement dedications (*Contact Scott Young, Washington County Survey Division: 846-7933*).

B. Submit to **Washington County** Public Assurance Staff, 503-846-3843:

1. Completed "Design Option" form.
2. **\$10,000.00** Administration Deposit.

NOTE: The Administration Deposit is a cost-recovery account used to pay for County services provided to the developer, including plan review and approval, field inspections,

as-built approval, and project administration. The Administration Deposit amount noted above is an estimate of what it will cost to provide these services. If, during the course of the project, the Administration Deposit account is running low, additional funds will be requested to cover the estimated time left on the project (at then-current rates per the adopted Washington County Fee Schedule). If there are any unspent funds at project close out, they will be refunded to the applicant. Any point of contact with County staff can be a chargeable cost. If project plans are not complete or do not comply with County standards and codes, costs will be higher. There is a charge to cover the cost of every field inspection. Costs for enforcement actions will also be charged to the applicant.

3. A copy of the City/County Land Use Approval (Notice of Decision), signed and dated.
 4. Three (3) sets of complete engineering plans for construction of the following public improvements:
 - a. Signalization of the intersection of SW Sagert Street, SW Sagert Street extension and SW 65th Avenue to County standards in coordination with Clackamas County and City of Tualatin.
 - b. Modification of the SW Borland Road/SW 65th Avenue signal to County standards in coordination with Clackamas County and City of Tualatin.
 - c. Connection of SW Sagert Street extension to SW Sagert Street and SW 65th Avenue.
 - d. Improvements within the right-of-way as necessary to provide adequate intersection sight distance at the intersection of SW Sagert Street, SW Sagert Street extension and SW 65th Avenue.
 - e. All improvements within SW 65th Avenue right-of-way, including required traffic mitigation measures identified in the City of Tualatin's Notice of Decision (coordinate with Clackamas County/City of Tualatin).
- C. Obtain a Washington County **Facility Permit** upon completion of the following:
1. Obtain **APPROVED** plans from the Washington County Engineering Division and provide a financial assurance for the construction of the public improvements listed in conditions **I.B.4**.

NOTE: The Public Assurance staff (503-846-3843) will send the required forms to the applicant's representative **after** submittal and approval of items listed under **I.B**.

*The **Facility Permit** allows construction work within County rights-of-way and permits site access only after the developer first submits plans and obtains Washington County Engineering approval, obtains required grading and erosion control permits, and satisfies various other requirements of Washington County's Assurances Section including but not limited to execution of financial and contractual agreements. This process ensures that the developer accepts responsibility for construction of public improvements, and that improvements are closely monitored, inspected, and built to standard in a timely manner.*

Access will only be permitted under the required Washington County Facility Permit, and only following submittal and County acceptance of all materials required under the facility permit process.

II. PRIOR TO OCCUPANCY:

Obtain a Finaled Washington County **Facility Permit**, contingent upon the following:

- A. The road improvements required in condition **I.B.4.** above shall be completed and accepted by Washington County.

Requirements identified within this letter are considered by the County to be minimum warranted improvements (and/or analyses) that are necessitated by the proposed development, therefore it is requested that they be conveyed to the applicant within the City's Approval document. Please send a copy of the subsequent Final City Notice of Decision and any appeal information to the County.

Thank you for the opportunity to comment. If you have any questions, please contact me at 503-846-7639.

Naomi Vogel
Associate Planner

Cc: Traffic Services Section
Paul Seitz, Assurances Section
Transportation File

September 24, 2015

To:
City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Tony,
I am writing regarding the proposed subdivision **SB15-0002, Sagert Farms**. My property, **6035 SW Sequoia Drive, Tualatin, OR 97062**, abuts the proposed development. I have concerns regarding 2 large trees that are included in the arborist report.

I have sent communication to the site proposal Arborist. I have attached that letter to this e-mail (I will also send to you via USPS). I ask that you review the letter and my concerns as well. I will contact Mike Loomis of Lennar Northwest, Inc as well. I appreciate all that Lennar has done to address the neighborhood concerns to this point and hope these additional concerns can be addressed.

Thank you,
Bob Nelson
6035 SW Sequoia Dr.
Tualatin, OR 97062
503-307-3127
nelson@pacificu.edu

CITY OF TUALATIN
RECEIVED
SEP 28 2015
ENGINEERING &
BUILDING DEPARTMENT

September 24, 2015

Morgan Holen
Morgan Holen & Associates

Morgan,
I am a homeowner with a property that abuts a proposed subdivision in which you were consulted to do a Tree Assessment Report. Trees on my property were included in your report. I have a few questions.

Sagert Farm Subdivision – Tualatin, Oregon
Tree Assessment Report
May 10, 2015.

My biggest concern is regarding tree # 10982 (Redwood; 66" DBH; 28' C-Rad; Excellent condition). The tree is mostly on my property, but may have some trunk in the subject property. You recommended the tree for "retain". This tree has the largest DBH of all surveyed trees.

1. Why did you not give the recommendation to "Protect off-site tree" for tree # 10982? You gave tree #10979 (redwood with 10" DBH) 100' to the north the recommendation of "Protect off-site tree", but not tree #10982.
2. What is the recommended setback distance for construction activity (grading, earthmoving, foundations, nonporous surfaces) from a large redwood tree? I assume if is no closer than the dripline – but I would like your professional opinion.

The second tree I am concerned about is tree #10981 (Douglas Fir; 30" DBH; 24' C-Rad; Good condition).

1. What is the recommended construction setback for this Douglas Fir (tree # 10981)? Is it at the dripline?
2. Will tree #10981 be exposed to additional windthrow when tree #10978, 10977, and #10980 are removed?

The submitted plans appear to indicate that the tree protection fencing is only 15' from the Redwood and 20' from the Douglas Fir. I do not want the trees in, or near, my property to be at risk of harm due to construction or the new development. I would like to find out what the best practice is to maintain the integrity of existing large trees. They are very large and in close proximity to my family's home (and soon 2 more homes). These trees could present a major threat of danger if their health is compromised. Also, the cost of removal would exponentially rise after construction is complete.

Thank you in advance for your assistance in addressing my questions/concerns.

Sincerely,
Bob Nelson
6035 SW Sequoia Dr.
Tualatin, OR 97062
503-307-3127
nelson@pacificu.edu



Tree #10982 (redwood, 66"DBH, 28' C-Rad, Excellent Condition, "retain")



Tree #10981 (douglas fir, 30" DBH, 24'C-Rad, Good Condition, "retain")

SEP 25 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

September 24, 2015

City Engineer
ATTN: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR, 97062-7092

RE: Sagert Farms

Dear Tony;

My name is Nancy Falconer and I own the second house, (6075 SW Sequoia Dr.) south of the newly proposed Sagert St. extension onto Sequoia Dr.
My backyard property line abuts the proposed Sagert Farms Development.

These are my concerns:

- 1) The grading of the lots on SW 61st Terrace that abut my property on the west, specifically:
 - a) How will the current elevation along my property line where it meets the field be modified. My property is built UP to your property line and my concern is potential water run off causing erosion of my existing landscaping should this adjacent elevation be modified.
 - b) If modified from existing condition, what plan is in place to create proper drainage AWAY from my property and/or what type of wall is proposed to protect and keep the current condition of my landscaping intact?
- 2) Fence: What plan is there for a privacy fence to be installed and what material is suggested for use?
- 3) Traffic: How will this newly proposed project effect the traffic in Sequoia Ridge? And, what are the plans to encourage use of planned ingress/egress to and from Sagert Farms.

I would appreciate having answers to these concerns from Tualatin City engineer, Tony Duran, or Andrew Tull, 3J Consulting, Inc.

Thank you,



Nancy Falconer

njfalconer@frontier.com

503 692 5906 or cell, 503 201 8059

October 1, 2015

BY E-MAIL (tdoran@ci.tualatin.or.us) AND FIRST CLASS MAIL

City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Re: Sagert Farms proposed subdivision, 20130 SW 65th Avenue
Your file no. SB15-0002
Our client: Tualatin Professional Center Condominium Owners Association
Our file no. 4212.002

Dear Mr. Doran:

I am submitting these comments on the Sagert Farms application on behalf of Tualatin Professional Center Condominium Owners Association, the owners' association for the Tualatin Professional Center, an office property immediately north of the proposed subdivision.

The Association does not oppose the application itself, but does ask the city to require the applicant to make one change in the alignment of Sagert Street for the better safety of Tualatin Professional Center and the patients of the health care providers at the Center.

Sagert Street east of 65th Avenue is a half-street that also provides access to the two south driveways of the Center and the seven parking spaces in between. The Center is a cluster of four office buildings in the center of the property, with a parking lot on the east, another parking lot on the west, and seven parking spaces on the Center property, accessed directly from Sagert Street. The east parking lot and the west parking lot do not connect internally, and because of the steep grades at the north end of the Center, they cannot be connected on the north side.

The applicant proposes to eliminate the seven private parking spaces that currently access Sagert Street directly and to expand Sagert Street so as to eliminate eastbound access to the west parking lot. Patients and visitors to the west side of the Center would have to drive east on Sagert Street, turn right on the proposed 64th Terrace, and loop back on 63rd Terrace to access their destination, routing business traffic through the residential neighborhood. The enclosed Map 1 shows Lennar's proposed access route to the offices in the Center that use the west parking lot.

Such a convoluted access to the west side of the Center would run counter to several of the objectives of Tualatin's adopted Transportation System Plan, including the objectives of reducing trip length, facilitating efficient access for employees and customers to and from commercial lands, ensuring that emergency vehicles are able to provide services throughout the

Mr. Tony Doran
City of Tualatin
October 1, 2015
Page 2

city to support a safe community, and considering negative effects of alternatives on adjacent residential and business areas.

One awkwardness in the application is that Lennar proposes to remove some improvements that are on the Center property, such as the rock retaining wall that supports the Center's east parking lot (item 13 on Sheet C111 of the plans), the seven parking spaces (item 1 on Sheet C111), the storm drain (item 8 on Sheet C111). Another awkwardness is that Lennar proposes to place some temporary inlet protection around drains on the Center property (item 2 on Sheet C121) and, I think, to close the Center's access to Sagert Street during construction (item 3 on Sheet C121, "construct/maintain stabilized construction entrance per city std. drawings"). The existing Sagert Street is not simply a private driveway within a public street, but represents a half-street which the developer of the Center paid for.

The owners at the Center can, however, accommodate the proposed subdivision's reduction of their access, if the design of Sagert Street is modified slightly to provide a private accessway just north of Sagert Street between the west and east parking lots. If Sagert Street is built a few feet farther south – a few feet farther from the south building at the Center – then there will be enough room to put a two-lane driveway between the east and west parking lots, using a combination of public and private property. The new accessway would provide communication between the two lots and allow the Center to close the west driveway on Sagert (or to make it right-in, right-out only), because the east driveway would be accessible from either direction and cars entering there could get to and from both parking lots and all parts of the Center. The enclosed Map 2 shows the adjusted Sagert Street and the new connector in blue.

This connector may require a variance from city standards, but Lennar's proposal also requires a variance from city standards for minor collector streets, so the additional variance should not be an obstacle. TDC §75.140 allows commercial uses with 70 feet or more of frontage to have driveways onto minor collectors. Chapter 75 and the TSP imply that the city prefers to have landowners use combined accesses so that collector and higher streets have fewer driveways, not more, so the Center's proposal is consistent with the city's goals.

Thank you for considering the problems of providing safe and efficient access to the health care providers and unit owners at the Tualatin Professional Center.

Very truly yours,

FOLAWN ALTERMAN & RICHARDSON LLP

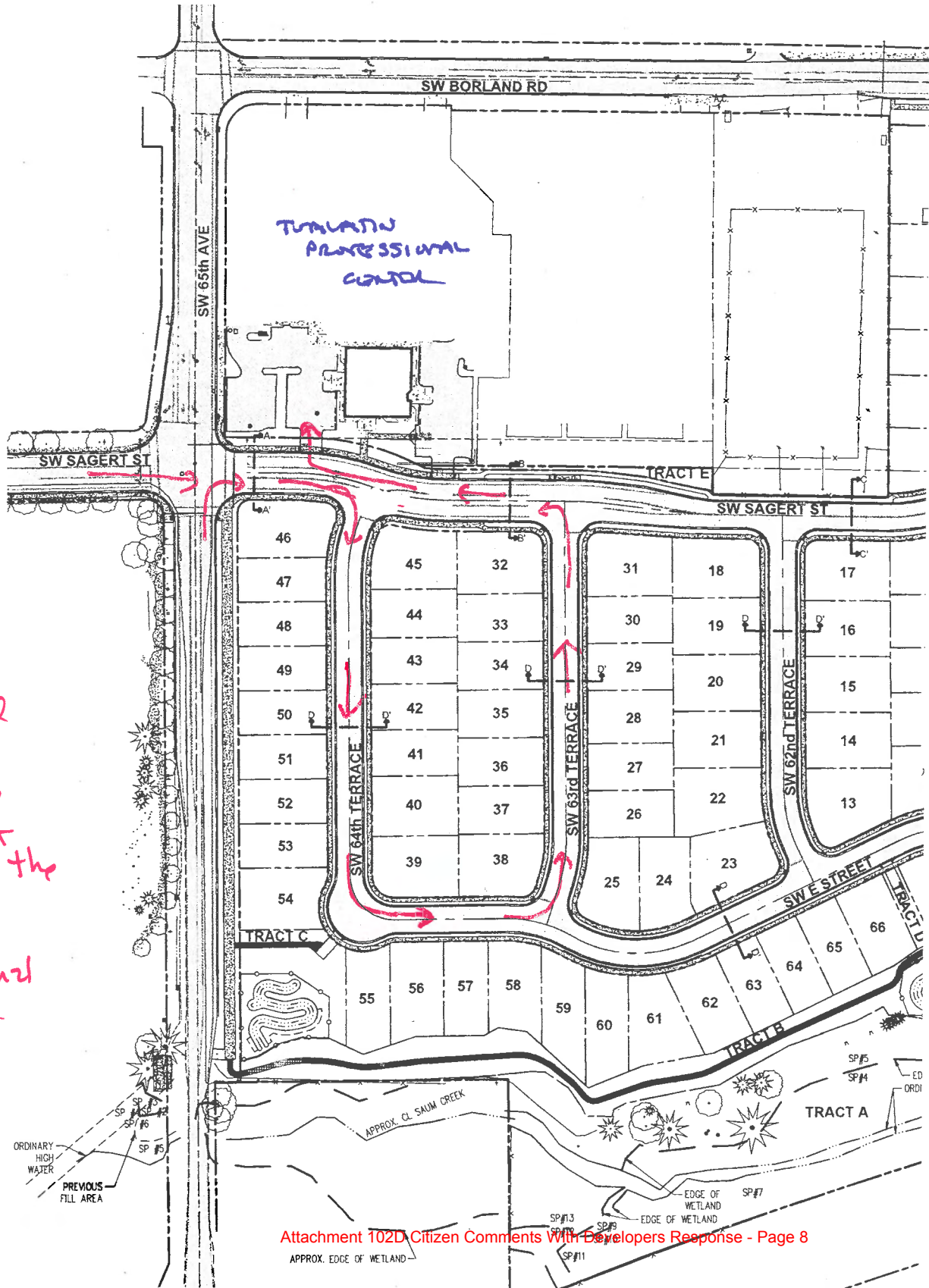


Dean N. Alterman

dean@farlawfirm.com

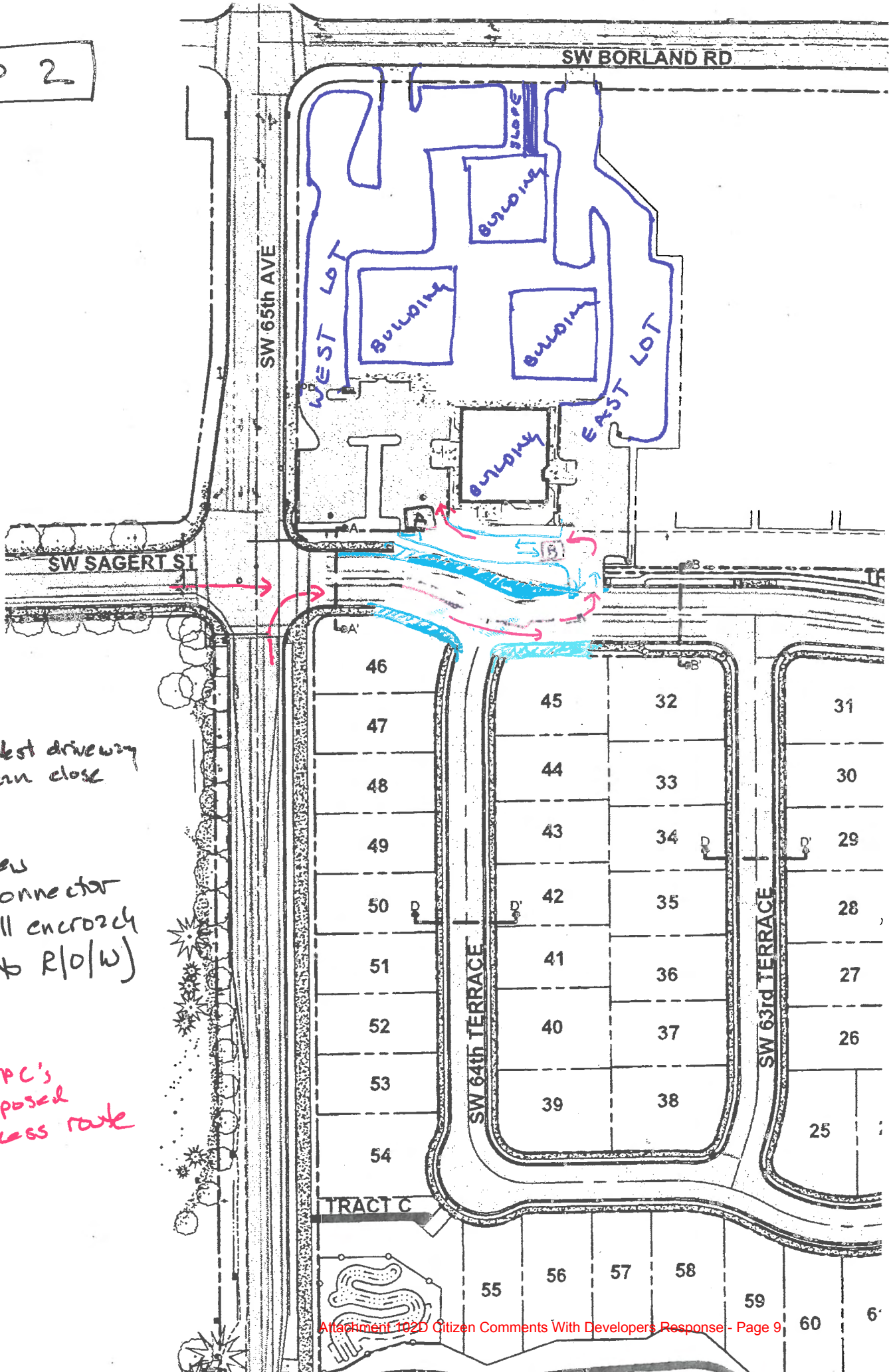
Enclosures: Map 1, Map 2
Copy: Tualatin Professional Center directors (with enclosures)

MAP 1



Lennar's proposed access route to the west part of the Tuzlabin Professional Center

MAP 2



A West driveway can close

B New connector (will encroach into R/O/W)

→ TPC's proposed access route



DAVID R. TENHULZEN, MD, DMD, PC

Physician, Surgeon, and Dentist

Oral & Maxillofacial Surgery

*Board Certified by the American Board of Oral and Maxillofacial Surgery
Fellow of the American Association of Oral and Maxillofacial Surgeons*

10/01/2015

City of Tualatin

Attn: Tony Doran, Engineering Associate

To Whom it May Concern:

I have been providing health care to the citizens of Tualatin and the surrounding communities for over 31 years at this same location. The proposal submitted for development of the Sagert farm will severely restrict access to our place of business. Not only will this impact my patients and my business in a negative manner, it will also restrict access to fire services, ambulance services and all other emergency services. I do not feel it is in the best interest of the people of this community or the business owners of the Tualatin Professional Center to restrict access in this manner.

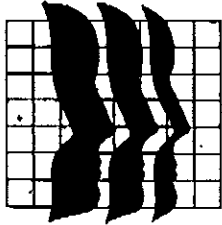
I would therefore encourage all those involved with the Sagert farm development to alter the proposed plan in whatever way possible so as to alleviate its destructive impact on the Tualatin Professional Center.

Sincerely,

David R. TenHulzen, MD, DMD, PC

6464 S.W. Borkind Road, Suite 10-3
Tualatin, Oregon 97062
(503) 692-5654
FAX (503) 692-9220
www.drtenhulzen.com

FAX COVER SHEET



Maxillofacial Surgery Associates
 David R. TenHulzen MD, DMD
 6464 SW Borland Rd., Suite D-3
 Tualatin, OR 97062
 Phone: (503)692-5654
 Fax: (503)692-9220

Send to: <i>City of Tualatin</i>	From: <i>Dr. Tenhulzen</i>
Attention: <i>Tony Doran</i>	Date: <i>10-01-2015</i>
Fax Number: <i>503-692-0147</i>	

- Urgent
- Reply ASAP
- Please comment
- Please review
- For your information

Total pages, including cover: 2

Comments:

Please call the office to confirm receipt of letter.

September 28, 2015

City Engineer
Att: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: SB15-0002, Sagert Farms

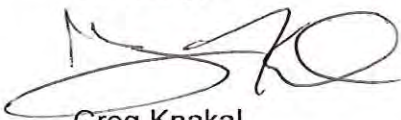
Dear Tony:

It is great to see that Tualatin is continuing to grow! I live at 6065 SW Sequoia Drive or the backside of the proposed development. My only concerns have to do with traffic. I am assuming the two traffic lights that I have highlighted on the attached form will be synched together so that these two intersections will flow properly?

Also will they be adding speed bumps through the new development to discourage cars from cutting through or do you feel the number of stop signs that are being installed will be adequate to keep this from happening? Lastly, it appears there is a proposed landscape median that will be installed near lot 75 that leads into the Sequoia Ridge development. I am hoping this is true as I think it is a nice feature.

Thank you for your time and for making Tualatin a great place to live.

Sincerely,



Greg Knakal
6065 SW Sequoia Drive
Tualatin, OR 97062
(503) 348-9483

CITY OF TUALATIN
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OCT 01 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

CITY OF TUALATIN
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OCT 02 2015

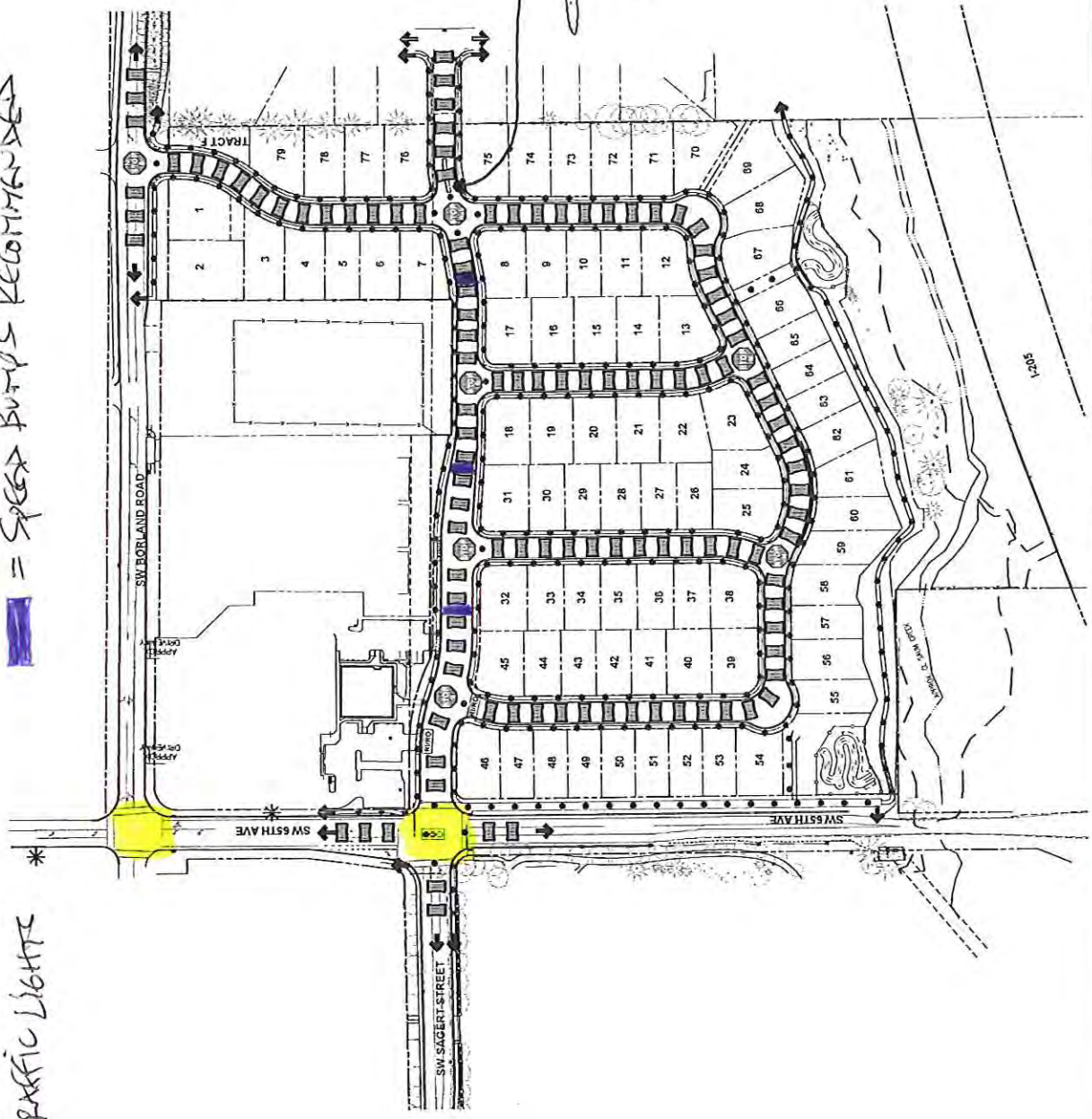
ENGINEERING &
BUILDING DEPARTMENT



- LEGEND**
- BOUNDARY LINE
 - EXISTING SIDEWALK
 - EXISTING CENTERLINE
 - EXISTING LOT LINE
 - LOT LINE
 - RIGHT-OF-WAY
 - ROAD CENTERLINE
 - AUTOMATIC CIRCULATION
 - PEDESTRIAN CIRCULATION
 - TRANSIT STOP
 - RIGHT-IN - RIGHT-OUT CONTROL
 - STOP CONTROL - SOUTH
 - STOP CONTROL - NORTH
 - STOP CONTROL - ALL WAY
 - CIRCULATION CONTROLLER TO EXISTING TRAFFIC SYSTEM
 - SIGNALIZED INTERSECTION

TRAFFIC LIGHTS

SPGA BURNS RECOMMEND



IS THIS A LANDSCAPE HIGHWAY?



City of Tualatin
Tony Doran,
Engineering Associate
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

10/01/2015

RE:
SB15-0002
Proposed Subdivision, Sagert Farms
20130 SW 65th Avenue TLID 2SE30B #300 & 600

Dear Mr. Doran

As you may recall, I am the Managing Agent of the Tualatin Professional Center property at 6464 SW Borland Rd, Tualatin, Oregon 97062.

The Sagert Farm Development, as presented, adversely affects all of the owners of Tualatin Professional Center in several ways. As proposed, the west side of the Center will have a right-in and right-out access off of the proposed eastbound extension of Sagert Road. The west side of the Center has only one other entrance, which is on Borland Road, which is also a right-in, right-out street to parking lot access.

The proposal removal of 14 parking spaces from the Center, alone, is detrimental to all of the property owners, as well as the patients of Tualatin Professional Center.

Additionally, as proposed, 88 of the 148 spaces that would remain at the Center would be on the west side of the complex. This is nearly two thirds of all the Center parking that would be limited by two right-in, right-out accesses only.

It will be nearly impossible for the owners at the Center to give access instructions to their patients for two thirds of the Center Parking. There is no practical way to explain to patients how they would have to enter the Sagert Farms subdivision driving eastward, then turn around and come into the west side of the Center on Sagert westbound. Many of the patients are elderly, and many of the patients are not regularly on the property.

Lennar homes, a for profit company, would be enriching itself at the detriment of Tualatin Professional Center. As it stands, I must object to the Sagert Farms Proposed Subdivision SB15-0002

James Marlow
Managing Agent,
Tualatin Professional Center
P.O. Box 10573
Portland, Oregon 97296



James Page Walker, D.D.S., P.C.
Specialist in Endodontics

9/30/2015

City of Tualatin
Attn: Tony Doran, Engineering Associate
18880 SW Martinazzi Ave
Tualatin, OR 97062

CITY OF TUALATIN
RECEIVED

OCT 01 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

Lennar is proposing a development that would cause significant economic damage to my practice and the value of my investment in the Tualatin Professional Center (TPC).

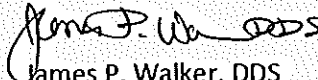
While they initially presented that they intended to be "good neighbors", their proposals and discussions have demonstrated alternative intentions. Although TPC has presented several very reasonable proposals for the proposed access to the development from 65th, none of them have been adopted. Consistently, their concerns for a few hundred thousand dollars of additional profit have always been more important than the millions of dollars invested in TPC. At our last meeting we were advised by their legal counsel that in essence "we will hurt you, it is just your choice about how much", hardly an honest approach to collaborative efforts. Additionally, in reviewing their Land Use Application, it is apparent they have withheld important information, demonstrating a lack of "good-faith" disclosure.

My main concerns are:

- 1) The restriction of access to the south-west and south-east parking areas of TPC during and after construction
- 2) The taking of TPC land without merit or compensation to the owners of TPC
- 3) The encumbrance of TPC land that will materially harm the professional practices located there
- 4) There is a lack of full disclosure. Therefore, there may be additional plan elements that are averse to me that I am not aware of.

I also would like to point out that the only stated basis of the driveway encumbrance is presented in the form of a contact between the city and the original TPC developer that clearly states that agreement expired nearly twenty-six and a half years ago on May 13th 1989. If the city or the Sagert family had intended to maintain this easement, they reasonably would have renewed that agreement or exercised that right by building the street extension. Tualatin and the Sagert family revoked this easement by not performing either action and in fact demonstrated their removal of this easement, by allowing TPC to openly and continuously use, improve and maintain the driveways and parking.

Sincerely


James P. Walker, DDS

September 27, 2015

CITY OF TUALATIN
RECEIVED
OCT 01 2015
ENGINEERING &
BUILDING DEPARTMENT

City Engineer
Attn: Tony Doran, Engineering Associate
City of Tualatin
18880 SW Martinazzi Ave
Tualatin, Oregon 97062-7092

Dear Mr. Doran

Thank you for the opportunity to comment on the notice of application of submittal regarding the development of Sagert Farms (SB15-0002).

My family and I live at 6085 SW Sequoia Drive, directly backing the proposed development on the east side. We have lived here for 8 years, and are very interested in the approach taken to develop this property. We have attended each of the meetings held with the public, by 3J Consulting and Lennar Homes. We appreciated their presentations, and taking under advisement our comments and the comments of others. I wish to make some of the comments I have shared with them here, as well as some other comments, in order to protect our interests and document the understanding we have regarding the development.

We understand that there will be no zoning change sought with respect to this development. We appreciate the developer's decision to build within the current zoning, and to avoid seeking to place more homes in the area than is allowed under current zoning.

The builder has represented that they will be mindful of the neighbors during construction, including keeping traffic and noise under control. We also understand that they will fence and landscape all of the properties.

We expressed that we would have appreciated some buffer between the new neighborhood and the existing neighborhood. We have a small back yard, and are concerned about how the new houses will fit in where the neighborhoods join. We understand that the developers are not proposing a greenspace or similar arrangement, but hope that they will make every reasonable effort to account for a smooth transition, and a layout of homes that does everything possible to ensure that our property is not unreasonably changed through the placement of the new homes.

I also want to comment on the trees that sit along the property line in our back yard. We believe they are mulberry trees, and they attract a great diversity of wildlife, and add scenic value and shade to the neighborhood. We understand that they have been identified to be protected. We expect that they will be, including maintenance of tree protection fencing during construction, and that no new construction or other activities would be allowed to damage them or their root systems, which would decrease the health of the trees, or cause us financial or other harm. We expect that we would be consulted if, for

any unexpected reason, the developer was required to take on any activities that could affect the trees, including trimming or digging near the roots.

We, and many others at the public meetings, expressed concern about the traffic flows through our neighborhood that may come about because of the new development. We are very concerned that traffic will cut through from Borland to Sagert across our existing neighborhood. If this happens, it could impose safety risks, increase noise, and change the feel of our neighborhood. We expect the city and developers to be mindful of this risk, which was expressed by numerous of our neighbors, and would ask that everything appropriate be done to monitor this situation and take any actions necessary to keep it under control. We have noticed and appreciate the installation of a four-way stop that is likely meant to address this situation to some extent.

Thank you for your consideration of these comments.

Sincerely,



Mark Thompson
6085 SW Sequoia Drive
Tualatin, Oregon 97062
503-691-1987

October 16, 2015

City of Tualatin
Tony Doran, EIT
Engineering Associate
18880 SW Martinazzi Avenue
Tualatin, OR 97062

**Sagert Farm Subdivision
SB15-0002
Tualatin, Oregon**

Dear Tony,

This letter has been prepared in order to respond to several public comments which have been received during the open comment period associated with the Sagert Farm Subdivision (SB15-0002). We appreciate the fact that the public is interested in this application and acknowledge that many of the comments received are generally positive and constructive in nature. As you know this project has been active for nearly 2 years and our team has made a genuine effort to reach out to our neighbors and listen to their comments during that time frame. As a result of this ongoing effort, several of our neighbor's suggestions have been included within the subdivision plans.

The following is a summary of the comments received in each of the letters submitted during the comment period followed by a response from the Applicant:

Mr. Bob Nelson Letter – September 24, 2015

Mr. Nelson raised concerns about tree numbers 10982, 10979, 10982, 10981, 10978, 10977, and 10980.

Applicant's Response Mr. Nelson raised some very good and detailed questions regarding tree protection along the project's boundary with Mr. Nelson's property. Due to the specificity of Mr. Nelson's questions, the project's arborist, Morgan Holen, has prepared a response which addresses each of Mr. Nelson's concerns in detail. This response has been attached hereto.

Mrs. Nancy Falconer – September 24, 2015

Ms. Falconer raised the following concerns:

1. The grading of lots on SW 61st Terrace with particular regard for erosion control, landscaping, and changes to the existing retaining wall.
2. Fencing – will a privacy fence be installed along the shared property line? If so, what material will be used?
3. Traffic – How will the new project affect traffic in Sequoia Ridge and what has been proposed to encourage the planned ingress/egress to and from the project?

Applicant's Response Regarding grading along the lots on SW 61st Terrace, we note that there are some grading challenges associated with the extension of Sagert near to SW 61st Terrace due to the presence of an existing berm located along the Sagert Road alignment. The project's team will work diligently to complete the required extension while minimizing impacts to adjoining private properties. If any temporary impacts or transitioning features are required, Lennar will work directly with the neighbors

through the construction plan review and site construction process to minimize impacts and to repair and replace any impacted landscape areas.

Regarding fencing, where existing fences exist along shared property lines, these will be evaluated as to whether they are of sufficient quality for retention. Where fences are found to be in need of replacement, Lennar will contact adjoining property owners and work out arrangements to replace fencing with new fencing materials.

Regarding the impacts on traffic within Sequoia Ridge, Lennar has prepared and submitted a detailed Traffic Impact Analysis with the land use application. This report is available within the City's submission materials and is present on the City's website. Lennar has gone to great lengths to make the potential for cut-through traffic into Sequoia Ridge unappealing to vehicular traffic. While a single connection to Sequoia Ridge is proposed at the west bound stub street within the Sequoia Ridge Neighborhood, this intersection has been provided with a preliminary design for a central median. The central median will have a traffic calming effect by narrowing down the travel lanes for vehicles moving in each direction. The first intersection to the west of the project's connection to Sequoia Heights will also be provided with a full four way stop. These traffic calming measures and the circuitous nature of Sagert, Sequoia Drive, and SW 60th Avenue should reduce the potential for cut-through traffic between Sagert Farms and Sequoia Ridge.

Dr. David R. TenHulsen, MD, DMD, PC – October 1, 2015

Dr. TenHulsen's letter addresses the restriction of access from Sagert Road for existing patients, ambulance, and fire service to the Tualatin Professional Center.

**Applicant's
Response**

The parking lot for the Tualatin Professional Center will be impacted by the extension of Sagert however, these impacts are necessary as the eastbound extension of Sagert from SW 65th Avenue has been contemplated since the Tualatin Professional Center was constructed. Lennar is proposing an extension which will occur only within the existing Sagert right-of-way. The alignment of Sagert is fixed by the virtue of existing improvements to the west of 65th Avenue as was discovered during the process of trying to push the Sagert alignment to the south as much as possible after the concerns of TPC were raised. The impacted portion of the TPC parking lot was constructed, not on the TPC's property, but within the public right-of-way. TPC did not construct this half street improvement at the time of its construction, rather, Lennar is shouldering the costs for the full width of the improvement. Lennar has also proposed to reconstruct the existing driveway and new landscaping along TPC's frontage, following the completion of the construction of the Sagert extension. We note that the parking configuration and access situation is less than ideal for access to the eastern and western lots however, the eastern parking lot will be provided with a left-turn from Sagert and both parking lots will continue to have access from Borland Road.

The proposed reconfigurations will take some time for patients to adjust to but we believe the changes are reasonable given TPC's situation.



Mr. Greg Knakal – September 28, 2015

Mr. Knakal inquired as to whether or not the two signals (one existing and one proposed) along Borland and 65th Avenue would be coordinated to provide synchronized movements. Mr. Knakal also inquired as to whether speed bumps would be installed along the extension of SW Sagert.

Applicant's Response The new signal at SW Sagert and SW 65th and the existing signal at SW Borland and SW 65th Avenue will be coordinated to work in tandem to move traffic as efficiently as possible through both intersections.

Lennar and the City have discussed the concept of placing speed cushions or speed bumps within the development along SW Sagert. Both the City and Lennar are in agreement that they are likely not necessary. Instead of speed bumps, Lennar will be installing a four way stop at the intersection of SW Sagert and SW 61st Avenue and a central median near the intersection of SW Sagert and SW 61st Terrace. These improvements should have the effect of calming traffic along SW Sagert.

Mr. James Marlow – October 1, 2015

Mr. Marlow felt that the Tualatin Professional Center was adversely affected by the proposed development. The center has a limited number of access points and the Borland Road entrance only provides right-in/right-out access. The proposal will remove a total of 14 parking spaces from the Center's parking lot. Nearly two thirds of the remaining spaces (88 of 148 remaining spaces) will only be accessed by right-in/right-out access points. Providing instructions to patients trying to access the site will be difficult to explain.

Applicant's Response The parking lot for the Tualatin Professional Center will be impacted by the extension of Sagert however, these impacts are necessary as the eastbound extension of Sagert from SW 65th Avenue has been contemplated since the Tualatin Professional Center was constructed. Lennar is proposing an extension which will occur only within the existing Sagert right-of-way. The alignment of Sagert is fixed because of the location of the existing improvements to the west of 65th Avenue. Lennar did discuss this potential solution with the City but intersection alignment is critical to ensuring safe movement for vehicles. The impacted portion of the TPC parking lot was constructed, not on the TPC's property, but within the public right-of-way. TPC did not construct this half street improvement at the time of its construction, rather, Lennar is shouldering the costs for the full width of the improvement. Lennar has also proposed to reconstruct the existing driveway and new landscaping along TPC's frontage, following the completion of the construction of the Sagert extension. We note that the parking configuration and access situation is less than ideal for access to the eastern and western lots however, the eastern parking lot will be provided with a left-turn from Sagert and both parking lots will continue to have access from Borland Road.

The proposed reconfigurations will take some time for patients to adjust to but we believe that the changes are reasonable given TPC's situation.

Mr. Dean Alterman on behalf of the Owners of the Tualatin Professional Center – October 1, 2015

Mr. Alterman does not oppose the proposed land use application but would request a change to the preliminary circulation plan to provide for better safety for the patients of the health care providers at the Center.

He states the circulation within the Center is limited from east to west – a significant grade change exists at the northern end of the property, preventing east/west circulation. Eastbound access to the



western parking lot would be eliminated as part of Lennar's proposed subdivision plan and because of the proposed improvements to SW Sagert.

The proposed change runs afoul of several provisions of the City's Transportation System Plan including the objectives of reducing trip length, facilitating efficient access and customers to and from commercial lands, ensuring that emergency vehicles are able to provide services throughout the City to support a safe community, and considering negative effects of alternatives on adjacent residential and business areas.

Lennar proposes to remove some improvements that are located on the Center property, such as the rock retaining wall that supports the Center's east parking lot, seven parking spaces, and a storm drain. Lennar also proposes to locate a temporary inlet protection around drains on the center property and a stabilized construction entrance.

The owners of the TPC can support a proposed reduction of their access if the design of Sagert Street is modified slightly to provide a private accessway just north of Sagert Street between the west and east parking lots. If Sagert Street is built a few feet farther south, then there will be enough room to place a two-way driveway between the east and western parking lots, using a combination of public and private property. The new accessway would enable movement between the two parking areas.

The new connector may require a variance from City standards but Lennar's proposal also requires a variance from City standards for minor collector streets, so the additional variance should not be an obstacle. TDC 75.140 permits commercial uses with 70 feet or more of frontage to have driveways onto minor Collector streets. Chapter 75 and the TSP imply that the City prefers to have landowners use combined accesses so that collector and higher classification streets have fewer driveways, not more, so the Center's proposal is consistent with the City's goals.

**Applicant's
Response**

The proposed improvements will remove one movement from the existing access from the Tualatin Professional Center's movement by preventing a left turn from SW Sagert into the center's western parking lot. Access via right turns will still be permitted and the property will still have access to the western parking lot from Borland. While we note that the owners of the TPC speculate that a northern connection point for the parking lot is not possible, without an engineering analysis, this conclusion is premature. We note that the owners of the TPC have not consulted with a professional engineer to analyze any on-site construction options to improve circulation following the loss of the unrestricted use of the Sagert right-of-way.

Lennar proposes to make improvements within the existing Sagert right-of-way to allow for the construction of the anticipated public street. This improvement will require impacts to the existing parking lot for the center beyond the edge of the existing right-of-way, as a significant portion of the center's southern parking lot is currently located within the right-of-way. Lennar has proposed the inlet protection and the stabilized construction entrance, and additional improvements to TPC's property in order to leave the reconstructed parking lot in a repaired state. These improvements are shown on the proposed preliminary construction plans. Lennar is committed to 1) repairing the impacts to the TPC site in a manner which will re-establish the parking areas to the extent they can be retained, 2) re-establish the site's access from Sagert in a manner which is acceptable to the City, and 3) protect the TPC's property during the construction process from erosion and heavy equipment impacts. The proposed temporary construction and erosion control activities would be considered to be best management practices for sites with existing infrastructure during construction activities.



Lennar has explored a number of options for the redesign of the access to the site's southern parking lots. The proposed design submitted by the owners of the TPC is similar to another design which was not supported by the City's staff, nor by Lennar's transportation consultants. Lennar and Lennar's engineer have suggested on several occasions that the owners of the TPC should engage a professional engineer to review options for safe functional access to and throughout the center's property and this recommendation continues to stand.

The proposed improvements to SW Sagert represent not a variance, but an allowed modification to the City's standard improvements for a Minor Collector. The proposed modifications have been proposed to respond to several site specific concerns related to safety, decreased parking/increased impacts, the speed of traffic moving along Sagert, and the re-classification of SW Sagert as a minor collector during a recent TSP update. The modifications benefit all three parties by reducing the impacts to both TPC and Lennar (adjusting the alignment as far south as possible, which is what is currently proposed), and also the City by beginning a narrowing of the roadway and creating a traffic calming effect. The proposed modifications have been evaluated by Lennar's traffic engineer and by the City Engineer. All of the proposed modifications are within the City Engineer's purview to enable and no formal variance application is necessary.

The City's Transportation System Plan (TSP) does permit access to a collector for sites with a minimum frontage of at least 70 feet. The TPC does have more than 70 feet of frontage and two access points will be provided, both to the east and western parking areas. The property will have access to the eastern parking area via a full access driveway. The western parking area will only have access via a right-in/right-out configuration due to safety concerns about the presence of a full access intersection. The previously requested full access point to the western parking lot would create an unsafe condition with the potential for conflicting turning movements and unsafe queuing onto 65th Avenue.

The proposed design of the center's revised access scenario has been well vetted by Lennar's traffic engineers and the City's Engineering staff. The City's TSP, while promoting combining of driveways, also places a very high regard upon safety and it is likely that the existing access points to the TPC property would not be approvable if the center were to re-apply with the same access points under today's codes and standards.

Lennar has stated at multiple points throughout this design process that they are committed to reducing the impact upon the TPC property where possible and that they are willing to repair the impacts to TPC's existing infrastructure to create a finished look to the revised parking area. Given the situation, Lennar is of the opinion that the loss of access for left turning vehicles to the western parking lot is the best possible outcome for the TPC's parking lot, given the location of the parking lot within the existing right-of-way.

Mr. Mark Thompson – September 27, 2015

Mr. Thompson appreciates the neighborhood outreach process and that this project will not involve a zone change. He would like to see a buffer along the existing homes to the east. Mr. Thompson is of the understanding that the "mulberry trees" along the shared property line are intended to be protected. He also wishes to ensure that tree fencing is maintained to prevent damage to these trees and would request consultation if these trees were required to be removed to accommodate construction. There is concern about the potential for cut-through traffic from Borland to Sagert through the existing Sequoia Heights neighborhood, however the four way stop proposed along Sagert is appreciated.



Applicant's Response Lennar has proposed to install tree fencing along the trees which have been identified for retention within the development. Lennar's arborist has recommended that site construction activities which occur near to trees or tree protection fencing be carried out only with on-site observation from the project's arborist. Lennar is prepared to involve the project's arborist if any trees which are identified for construction may require removal during construction activities.

Dr. James Walker, DDS, PC – September 30, 2015

Dr. Walker is concerned Lennar's proposal will damage his practice and investment in the Tualatin Professional Center. He states that the TPC has presented several reasonable proposals for access to TPC from SW 65th and legal counsel for Lennar presented that "we will hurt you, it is just your choice about how much". He believes it is apparent that information has been presented in the land use application which was withheld from TPC, representing a lack of good-faith.

His primary concerns are as follows:

1. Restriction of access to the southwest and southeast parking areas.
2. The taking of TPC land without merit or compensation to the owners of TPC.
3. There is a lack of full disclosure. Additional plan elements may be proposed which I am not aware of.
4. The driveway encumbrance was required by a contract between the TPC developer and the City. The contract expired on May 13th 1989. If the City or Sagert intended to maintain this easement, they should have renewed that agreement or exercised that right by building the street section. Tualatin and the Sagert Family revoked this easement by not performing either option and by allowing TPC to use, maintain, and improve the driveways and the parking area.

Applicant's Response Lennar has made a genuine effort to coordinate the effects of the required and proposed extension of SW Sagert within the existing right-of-way along TPC's frontage with the owners of the TPC. This right-of-way, and the improvements which existed therein, were in place when the center was constructed. No change in value to the existing condominiums has occurred, an item of on-going concern has simply been triggered by a proposed development to construct a site using the existing right-of-way and the owners of the center are now required to deal with an existing condition which until now, had been dormant.

Lennar met with the owners of the TPC on three separate occasions (May 16, 2014, on February 20, 2015, and on June 12, 2015), to discuss options for the improvements to SW Sagert and to discuss the potential impacts to the western parking area. Facing an uncertain result during the initial meetings, Lennar and their consultants have worked diligently to reduce impacts to the TPC property throughout this process showing much more than just a good faith effort, but a genuine neighborly effort to accommodate the TPC site to the best of their ability given the constraints

Regarding the concerns listed within Dr. Walker's letter, we have the following responses:

1. The proposed access to the center from Sagert Street provides adequate but not perfect access to both parking lots. The proposed design would allow TPC to have full access to the eastern parking lot from Sagert Street. Only the western access point would be affected through the installation of a right-in/right out configuration has been proposed due to safety concerns. The site will retain the existing access to the western parking lot from Borland Road.
2. No right-of-way will be required to facilitate the construction of the Sagert Street Extension. The land upon which construction activities are proposed, is already existing right-of-way and not TPC's property.



3. Lennar has made significant efforts to examine a variety of options for the TPC's property and has arranged for several meetings to communicate these options. Lennar has made extraordinary efforts to accommodate the desires of the TPC's ownership group.
4. As a result of the negotiations between the City and the original developer of the TPC, the right-of-way necessary to complete the extension of SW Sagert was dedicated to the City in 1995 (Document Number 95-006450). The City has no obligation to renew or reaffirm its status as the owner of the City's right-of-ways.

Marion and Jim Ortman – October 13, 2015

The Ortman's raised concerns about commuters using Borland Road and SW 65th to get to I-205, which has increased traffic flow onto SW Sagert. The letter notes that the Ortman's were not able to attend any of the public meetings held for the project and wondered if there were going to be intersection improvements at Sagert/Borland/65th Avenue. They also wondered if any studies had been completed regarding the installation of a round-a-bout. They would also like to know what the current plans are for traffic control at the 65th and Sagert intersection.

Applicant's Response

Lennar completed a series of public meetings and consultations to explain the proposed transportation improvements and the subdivision process. Lennar also completed a detailed transportation impact analysis which is available on the City's website for review. Several comments received from the neighbors who attended the meetings which specifically requested traffic calming measures were incorporated into the proposed development and transportation system. Among these were four way stops along Sagert through the development, and a central median to calm traffic, just before the connection to the existing portion of Sagert within Sequoia Ridge.

SW Sagert and SW 65th will receive a new full traffic signal as a result of the development. This traffic signal will be coordinated to work in tandem with the signal at SW 65th and Borland Road. The signals will be coordinated to allow traffic to move through both intersections as efficiently as possible. The Traffic Impact Analysis submitted with the land use application indicates that residents can expect a level of slight improvement of the function of both intersections as a result of the off-site improvements.

Please feel free to give me a call if you have any questions or need any additional clarification.

Sincerely,



Andrew Tull
Principal Planner
3J Consulting, Inc.

Attached: Arborist's Response Memorandum – September 29, 2015

Copy: Mr. Mike Loomis, Lennar
Mr. Mike Anders, Lennar
Mr. John Howorth, 3J Consulting, Inc.
Mrs. Kelly Hossani, Miller Nash Graham & Dunn, LLP
File



DATE: September 30, 2015
TO: Andrew Tull, 3J Consulting
FROM: Morgan Holen, Project Arborist
RE: Sagert Farms – Arborist Response to September 24, 2015 Letter from Bob Nelson

MHA15017

This memorandum is provided in response to the questions and concerns presented in the September 24, 2015 letter from Bob Nelson who lives at 6035 SW Sequoia Drive in Tualatin, directly adjacent to the Sagert Farms project site. Excerpts from Mr. Nelson’s letter are included below in bold type; responses from the project arborist follow each question or concern.

Why did you not give the recommendation to “Protect off-site tree” for tree # 10982? You gave tree #10979 (redwood with 10” DBH) 100’ to the north the recommendation of “Protect off-site tree”, but not tree #10982.

The difference has to do with how tree survey points appear on the tree survey drawing that was used to conduct the tree inventory fieldwork. The tree inventory data includes recommendations to “protect off-site tree” for trees with survey points located completely off-site or on property boundaries, while recommendations for trees with survey points located on-site were classified as either “retain” or “remove”. The survey point for tree 10982 is shown on-site, although the trunk of the tree is large enough to cross over onto Mr. Nelson’s property. The survey point for tree 10979 is shown on the property boundary, therefore this tree was classified as “protect off-site”. Regardless, both trees are recommended for preservation with protection during construction.

What is the recommended setback distance for construction activity (grading, earthmoving, foundations, nonporous surfaces) from a large redwood tree? I assume if is no closer than the dripline – but I would like your professional opinion.

and

The second tree I am concerned about is tree #10981 (Douglas Fir; 30” DBH; 24’ C-Rad; Good condition). What is the recommended construction setback for this Douglas Fir (tree # 10981)? Is it at the dripline?

We recommend construction encroachment no closer than one half the crown radius distance limited to one quadrant of the total root zone and arborist oversight of work that is necessary within the encroachment area to supervise construction and provide on-the-ground recommendations to minimize tree root impacts. The crown radius along the west side of tree 10982 measured 28-feet. Therefore, encroachment should be limited to no closer than 14-feet beneath the dripline; this is where tree protection fencing is illustrated on the tree protection plan. The crown radius along the west side of tree 10981 measured 24-feet. Therefore, encroachment should be limited to no closer than 12-feet beneath the dripline; tree protection fencing is illustrated at 14-feet on the tree protection plan.

The project arborist should supervise work that is necessary beneath the dripline within the allowable encroachment area to evaluate potential root impacts and provide recommendations as needed to avoid critical root impacts. Such oversight, recommendations, and implementation of the arborist’s recommendations should be documented in tree protection monitoring reports submitted to the developer.

The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report specify that construction that is necessary beneath protected tree driplines should be monitored by the project arborist and note that it is the developer's responsibility to coordinate with the project arborist as needed prior to working beneath the dripline of any protected tree. These recommendations should be translated as specifications onto the tree protection plan; this could be required by the City as a Condition of Approval.

Considering the species and general condition of both trees, the tree protection recommendations provided allow for limited encroachment within the dripline area, while providing sufficient protection during construction.

Will tree #10981 be exposed to additional windthrow when tree #10978, 10977, and #10980 are removed?

During the tree inventory fieldwork, trees were evaluated in terms of potential impacts from exposure by adjacent tree removal. Trees 10977 and 10978 are planned for removal for construction. Tree 10980 is an off-site Douglas-fir with a unique treatment classification: "re-evaluate at the time of adjacent tree removal". The May 10, 2015 Tree Assessment Report states that tree 10980 "is an 18-inch diameter Douglas-fir located in the City's open space tract east of the project site in the northeast area. This tree is intermediate in crown class and the proposed removal of two on-site Douglas-firs (#10977 and #10978) for construction on lot 78 is likely to expose this tree resulting in an increased risk of windthrow. Therefore, tree #10980 should be re-evaluated by a qualified arborist at the time of clearing in terms of hazard risk potential and removal may be recommended. The applicant should coordinate with the City to obtain authorization to remove this tree if it is determined that the tree presents a foreseeable threat of danger after being exposed by adjacent tree removal" (pages 3-4).

Tree 10981 was classified as "retain" and no significant negative impacts are anticipated from exposure by adjacent tree removal. The nearby trees planned for removal are not in direct competition with this tree, nor do they provide important shelter for this tree from predominant winds. Tree 10981 has relatively good structure, including good taper and height to diameter and live crown ratios, which are all indicators of stability. The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report specify that stumps of removed trees located within 30-feet of protected trees should be removed under the direction of the project arborist to help minimize underground impacts to potentially interconnected roots. Again, these recommendations should be translated as specifications onto the tree protection plan, which could be required by the City as a Condition of Approval. We also anticipate the opportunity to visually assess protected trees following tree removal activities and would document any concerns or recommendations as needed.

The submitted plans appear to indicate that the tree protection fencing is only 15' from the Redwood and 20' from the Douglas Fir. I do not want the trees in, or near, my property to be at risk of harm due to construction or the new development. I would like to find out what the best practice is to maintain the integrity of existing large trees. They are very large and in close proximity to my family's home (and soon 2 more homes). These trees could present a major threat of danger if their health is compromised. Also, the cost of removal would exponentially rise after construction is complete.

The tree protection plan specifies tree protection fencing to be installed at the 15-foot rear yard setback along the eastern property boundary. The tree protection measures recommended in our May 10, 2015 Tree Assessment Report will provide sufficient tree protection while allowing limited construction

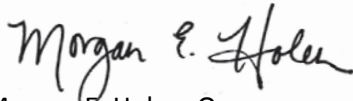
encroachment beneath protected tree driplines. However, it is the developer's responsibility to ensure that the tree protection plan is followed. The tree protection recommendations provided on pages 5 and 6 of our May 10, 2015 Tree Assessment Report note that "The project arborist should supervise proper execution of this plan during construction and will be available on-call. It is the developer's responsibility to coordinate with the project arborist as needed." Furthermore, "After the project has been completed, the project arborist should provide a final report that describes the measures needed to maintain and protect the remaining trees." Translating these recommendations onto the tree protection plan as specifications is again suggested.

We have worked with Lennar on numerous development projects to provide on-the-ground assistance and document tree protection plan implementation and look forward to providing consulting arborist assistance during the construction phase of the Sagert Farms project. Arborist site visits will be documented in monitoring reports that Lennar may provide to Mr. Nelson and other interested parties upon request. The condition of tree protection measures and implementation of arborist recommendations will be described in these reports. If, at any time, unforeseen or unnecessary construction impacts were to occur to any protected tree, it would be documented in these reports along with recommendations for remedial treatments. The trees planned for retention can be adequately protected during construction so long as the tree protection plan is implemented with the recommendations provided in the May 10, 2015 Tree Assessment Report.

We want to thank Mr. Nelson for reviewing the tree protection plan and submitting his written comments to us with the opportunity to respond.

Please contact us if you have questions or need any additional information.

Thank you,
Morgan Holen & Associates, LLC



Morgan E. Holen, Owner
ISA Certified Arborist, PN-6145A
ISA Tree Risk Assessment Qualified
Forest Biologist

FOLAWN
ALTERMAN &
RICHARDSON LLP

ATTORNEYS

CITY OF TUALATIN
RECEIVED

DEC 16 2015

COMMUNITY DEVELOPMENT
PLANNING DIVISION

December 16, 2015

Via Hand Delivery

City of Tualatin
Engineering Division
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Re: Sagert Farms proposed subdivision, 20130 SW 65th Avenue
Your file no. SB15-0002
Our client: Tualatin Professional Center Condominium Owners Association
Our file no. 4212.002

Dear City of Tualatin:

Enclosed is our Request for Review.

Very truly yours,

FOLAWN ALTERMAN & RICHARDSON LLP



Brittany Ruedlinger
Legal Assistant
brittany@FARlawfirm.com

Enclosure



City of Tualatin
www.tualatinoregon.gov

CITY OF TUALATIN RECEIVED
DEC 16 2015
COMMUNITY DEVELOPMENT PLANNING DIVISION

REQUEST FOR REVIEW

A Request for Review must be received by the Community Development Department - Planning Division or Engineering Department by 5:00 p.m. of the 14th calendar day after the Notice of the Decision.

Name of Party requesting review Tualatin Professional Center Condominium Owners Assoc.

Address c/o Dean N. Alterman, 805 SW Broadway Ste 470, Portland, OR 97205

Date 12/15/2015 Telephone 503-517-8200

Did you submit comments on the proposal during the notification period? Yes

You represent or you are:

- The applicant
City Councilor
Government agency
City-recognized neighborhood association
Architectural Review Board (ARB) member
City Manager
Other Owners' Association for neighboring property

I request a review of Case No. SB- 15 - 0002:

This form is used in part to determine the appropriate hearing body for review. Check which portion of the decision for which you are requesting review:

- AR/Arch. Features
AR/Public Facilities
Historic Landmark
Industrial Master Plan
Interpretations
Partitions
Reinstatement of Use
Sign Variance
Subdivisions
Transitional Use Permit
Variances

Project: City Engineer approval of preliminary plat of SB15-0002, Sagert Farm
(Give description of subject property or proposed name of project)

Explain clearly which portions of the decision you are asking to be reviewed (attach separate sheet if needed). This should specify how you are adversely affected by the decision and how the decision is allegedly not in conformance with applicable TDC requirements:
Please see the attached explanation.

Appeal of Staff Architectural Review decision to ARB: \$0. Appeal of Decision to Council: Please see current fee schedule.
Your signature

FOR OFFICE USE ONLY:
Received by Planning
Fee received
The review will be heard by the ARB City Council
Date received:
Receipt No.
Check #
Date of hearing:

December 16, 2015

City of Tualatin, Engineering Division
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092

Attachment to Request for Review

RE: Sagert Farms subdivision, 20130 SW 65th Avenue
City of Tualatin case no. SB15-0002
Our client: Tualatin Professional Center Condominium Owners Association
Our file no.: 4212.002

I. Background

On December 3, 2015, the City Engineer for the City of Tualatin approved the preliminary plat of SB15-0002, Sagert Farm. The Tualatin Professional Center Condominium Owners Association is the owners' association for the Tualatin Professional Center (the "Center"), an office property immediately north of the proposed subdivision.

II. Scope of the Tualatin Professional Center's Request for Review

The Center does not oppose the subdivision of the Sagert Farm itself, but only asks the city to make one change to the alignment of Sagert Street for the better safety of the Center and the patients of the health care providers at the Center. The Center requests review of the City Engineer's decision to modify Sagert Street so as to remove eastbound access to the Center's west parking lot. The decision of the City Engineer adversely affects the Center's right of access under TDC §75.140 and potentially endangers visitors to the Center.

Sagert Street east of 65th Avenue is a half-street that provides access to the two south driveways of the Center and the seven parking spaces in between. The Center has two parking lots that do not connect due to a change of grade (east and west). The preliminary plat changes Sagert Street so as to eliminate eastbound access to the Center's west parking lot. Under the preliminary plat, patients and visitors to the west side of the Center would have to drive east on Sagert Street, turn right on the proposed 64th Terrace, and loop back on 63rd Terrace to access their destination, unnecessarily routing business traffic through a proposed residential neighborhood. (See the enclosed map 1).

III. Applicable TDC Requirements

TDC §75.140 permits commercial uses with 70 feet or more of frontage to have driveways onto minor collector streets, such as Sagert Street. The Center has more than 70 feet of frontage onto Sagert Street. TDC §75.140, and Chapter 75 of the TDC as a whole, also reflect the City's goal to have combined (joint) driveway accesses where available.

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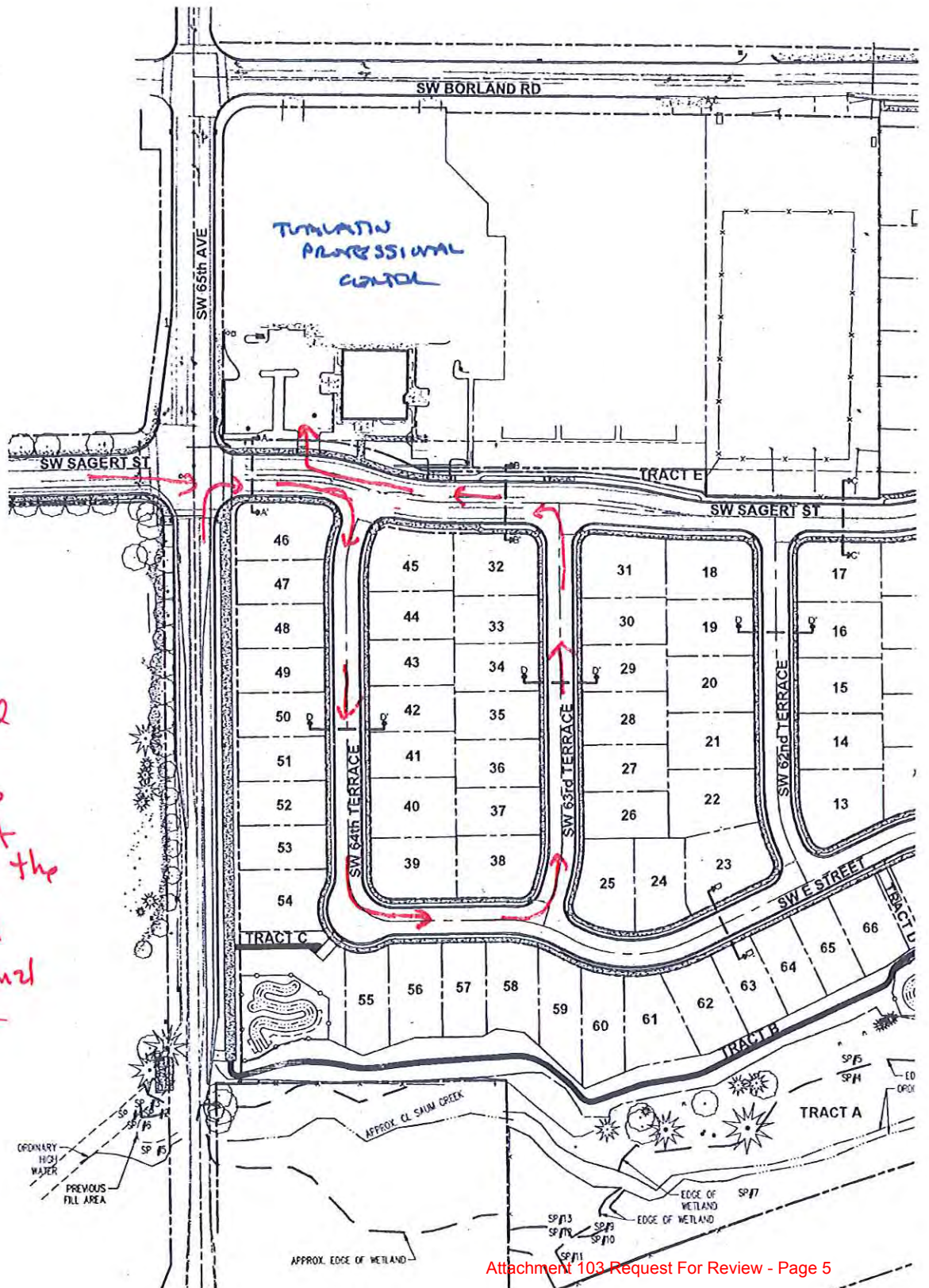
IV. The Center's Proposed Solution

The preliminary plat approved by the City Engineer limits access to the Center's western parking lot, forces business traffic into a residential neighborhood, and does not fulfill the City's goal of promoting joint driveway access. The Center proposes to shift the location of Sagert Street a few feet south to accommodate the construction of an access route between the Center's east and west parking lots. (See the enclosed map 2 with the proposed connector in blue). This proposal allows for the elimination of the western driveway, promoting the City's goal of reducing the number of driveway accesses. Additionally, the Center's proposal eliminates the need for business traffic to enter a residential neighborhood.

In contrast, the approved preliminary plat fails to achieve several objectives of Tualatin's adopted Transportation System Plan, including the objectives of reducing trip length, facilitating efficient access for employees and customers to and from commercial lands, ensuring that emergency vehicles are able to provide services throughout the city to support a safe community, and considering negative effects of alternatives on adjacent residential and business areas. The Center's proposal promotes all of these objectives.

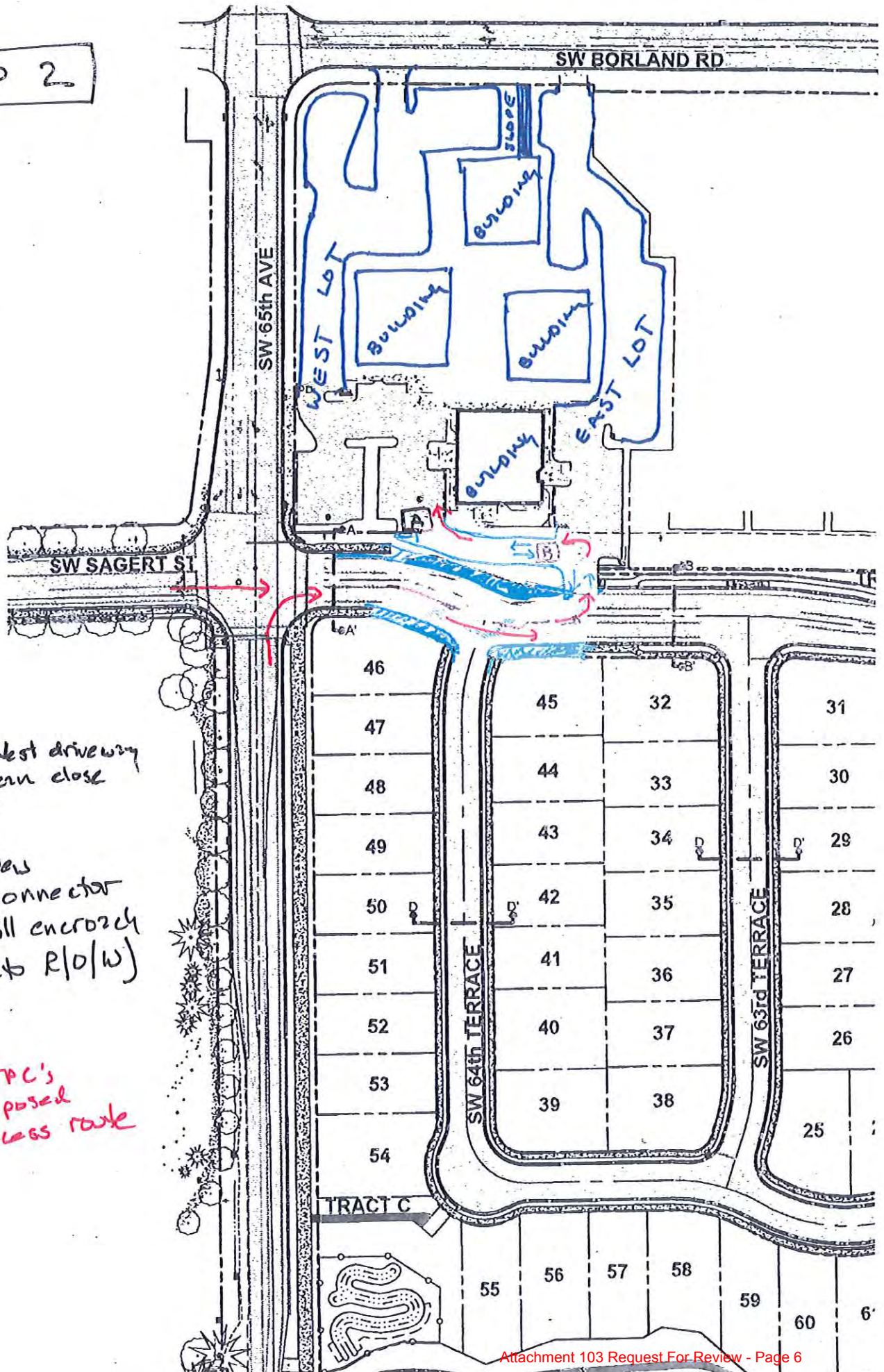
The Center asks the City to adopt the Center's proposed modification to the preliminary plat in order to protect the Center's rights under TDC §75.140 and the city's goals as reflected in Chapter 75 and the Transportation System Plan.

MAP 1



Lennar's proposed access route to the west part of the Tuzlakin Professional Center

MAP 2



A West driveway can close

B New connector (will encroach into R/O/W)

→ TPC's proposed access route



January 8, 2016

Project #: 17299

Jeff Fuchs
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: Response to the TPC Request for Review of the Sagert Street Access

Dear Mr. Fuchs,

This letter provides information in response to the Tualatin Professional Center's Request for Review regarding the future extension of Sagert Street and the corresponding access limitation proposed at their western site driveway.

Background

The City of Tualatin's adopted *Transportation System Plan* (TSP) identifies the need for future signalization of the SW Sagert Street/SW 65th Avenue intersection as well as the extension of SW Sagert Street from SW 65th Avenue east. Tualatin Development Code (TDC) Sections 11.630 and 74.420 effectively dictate the easterly extension of SW Sagert Street in conjunction with development of the proposed Sagert Farms site.

The *Sagert Farms Development Transportation Impact Analysis* (TIA) was prepared in June 2015 (along with a subsequent update in August 2015) and was guided in part by the City's TSP. The TIAs determined that the TSP-identified SW Sagert Street/SW 65th Avenue intersection signalization is needed in conjunction with site development to accommodate additional traffic from the Sagert Farms development and anticipated changes in circulation brought about by the required roadway extension.

The design team representing the Sagert Farms Development worked to develop alignment options for the easterly extension of SW Sagert Street that would accommodate the proposed Sagert Farm development while preserving access to the adjacent Tualatin Professional Center (TPC). The approved alignment for the roadway extension maintains one driveway serving TPC's western parking lot and one driveway serving TPC's eastern parking lot.

Given that the proposed driveway serving TPC's western parking lot would be located less than 100 feet from the newly reconstructed/signalized SW Sagert Street/SW 65th Avenue intersection, vehicular movements are recommended to be limited to right-turns only at the western driveway access via a raised median. The raised median will restrict left-turns and through movements at both the TPC western parking lot and the new SW 64th Terrace (located approximately half-way between the TPC

western parking lot driveway and the TPC eastern parking lot driveway). The turn movement restrictions are recommended based on operational and safety considerations within the influence area of the signalized SW Sagert Street/SW 65th Avenue intersection. Specifically, westbound queues on SW Sagert Street extension are projected to routinely extend to SW 64th Terrace. As a result, westbound queues will physically block access to the TPC western site driveway. The proposed turn movement restrictions and raised median treatment will better these vehicle queues while ensuring the operational integrity and safety of the SW Sagert Street/SW 65th Avenue intersection¹.

This design and recommended restriction of turning movements at the TPC west driveway are supported by various Tualatin Development Code sections as identified below:

- TDC 73.400 (15)(a) states that except for single family dwellings, the minimum distance between a private driveway and the intersection of collector or arterial streets shall be 150 feet.
- TDC 75.010 states that the purpose of TDC Chapter 75: Access Management is to “promote the development of safe, convenient and economic transportation systems and to preserve the safety and capacity of the street system by limiting conflicts resulting from uncontrolled driveway access, street intersections, and turning movements while providing for appropriate access for all properties”.
- TDC 75.060 (2) states that “The City Engineer may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means”.

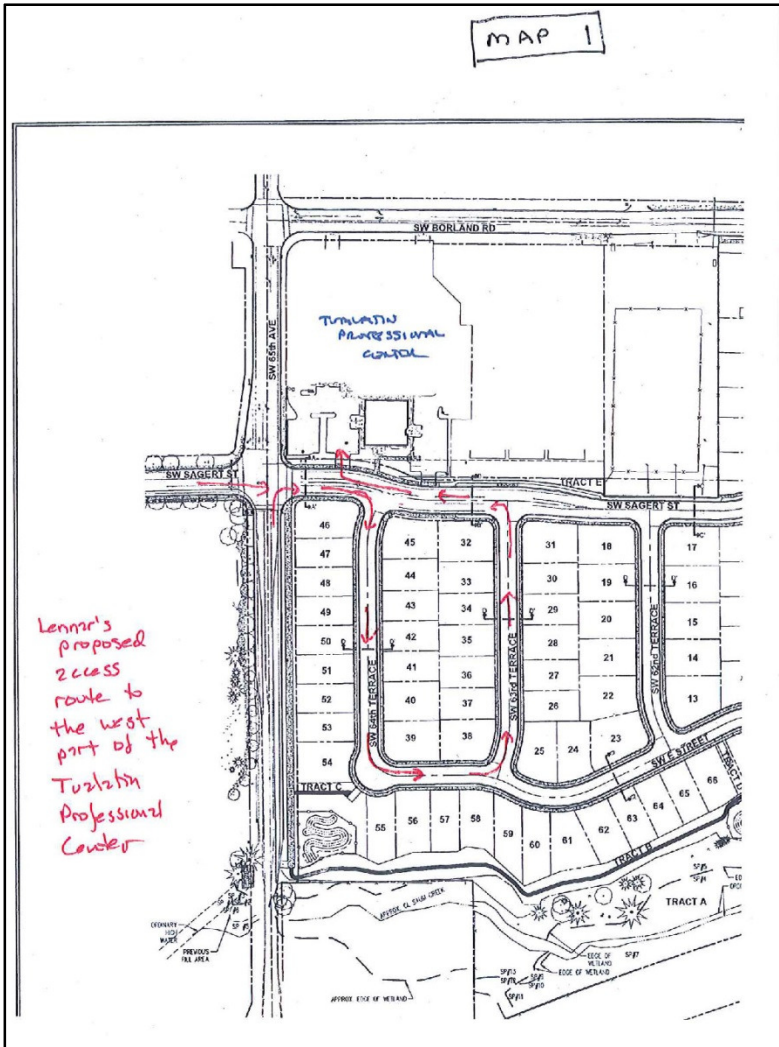
In recognition that the access recommendation would result in some re-routing of TPC site-generated traffic, the TIAs provided a detailed assessment of this and other circulation modifications and concluded that the adjacent intersections/driveways could adequately and safely accommodate the proposed modifications.

TPC Request of Review Comments

On December 16, 2015, TPC submitted a Request for Review to the City of Tualatin. As part of this request, TPC asserts that the proposed western parking lot access limitations will force all patients/visitors who park in the western parking lot to re-route and loop through the proposed Sagert Farms subdivision as graphically noted in Exhibit 1 below.

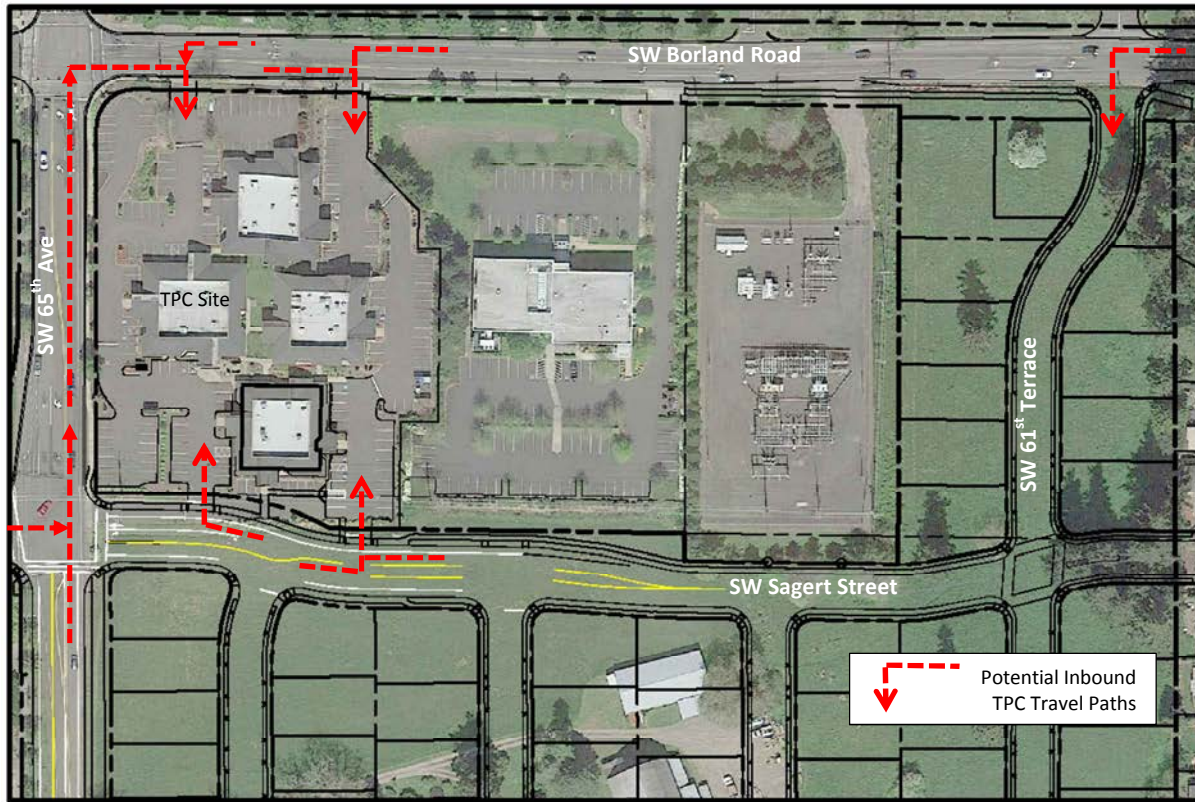
¹ Allowing eastbound left-turn movements into the TPC western site driveway could result in eastbound left-turn traffic stopping in the eastbound travel lane while waiting for a gap in westbound traffic in order to complete the left-turn. The eastbound left-turn traffic waiting for a gap could quickly result in vehicle spillback to SW 65th Avenue, further complicating intersection operations and safety.

Exhibit 1 - Traffic Rerouting Exhibit from the TPC Request for Review Letter



While the path illustrated in Exhibit 1 is a potential option, we believe TPC clients and especially TPC staff are more likely to follow alternative routing scenarios. The TPC western parking lot currently has, and will continue to have, a full movement driveway located off of SW Borland Road. For those familiar with the site (employees, returning clients/patients), it is anticipated that this fully accessible driveway will likely become the preferred site ingress driveway. Exhibit 2 illustrates this more likely alternative routing as well as all of the other inbound routing scenarios. Recognizing the SW Borland Road driveway is fully accessible for all visitors regardless of where they are coming from, we respectfully anticipate that businesses within TPC will direct their clients and staff to enter TPC via the SW Borland Road primary driveway when providing verbal or written directions.

Exhibit 2 – Inbound Travel Paths from South on SW 65th Avenue, East/West on SW Sagert Street, and East on SW Borland Road



In addition to this more likely routing scenario, the TPC site will have a second fully accessible driveway located off of the SW Sagert Street extension that will serve the eastern parking lot. Clients/patients can use this lot for parking, or during less busy times, use it to turn around in order to access the western parking lot.

Lastly, it should also be pointed out that the Sagert Farms Development will be enhancing street connectivity in the area that will benefit the TPC site. Specifically, the SW Sagert Street extension and the proposed SW 61st Terrace street connection to SW Borland Road will provide an alternate routing choice for employees/customers/patients traveling to the site via westbound SW Borland Road.

While we understand TPC's issues regarding the proposed access limitations at the west parking lot access, the network connectivity and signalization identified by the City's TSP and development code dictate that the access currently available to the TPC site will change to accommodate the planned public street network. If turn movement restrictions were not signed and enforced by the proposed raised median, westbound queues on SW Sagert Street can be expected to routinely block the western site driveway and result in a de-facto turn movement restriction. From a public safety and traffic signal operations perspective, we conclude that installation of the proposed median is appropriate and that existing and future TPC site staff and clients will have adequate access.

Please let us know if you have any questions.

Sincerely,
KITTELSON & ASSOCIATES, INC.



Matt Hughart, AICP
Associate Planner



Chris Brehmer, P.E.
Principal Engineer

Kelly S. Hossaini
kelly.hossaini@millernash.com
503.205.2332 direct line

January 15, 2016

BY ELECTRONIC MAIL

Mayor Lou Ogden
Tualatin City Council
City of Tualatin
18880 S.W. Martinazzi Avenue
Tualatin, Oregon 97062

Subject: Appeal of Sagert Farm Subdivision, SB15-0002

Dear Mayor Ogden and City Councilors:

We represent Lennar Northwest, Inc. ("Lennar"), in the above-referenced appeal. Lennar is requesting and staff has approved a 79-lot residential subdivision (the "Application") on a 20.90-acre property located at the east end of S.W. Sagert Street, across S.W. 65th Avenue. The Application has been appealed by a neighboring property owner, Tualatin Professional Center Condominium ("TPC"), because TPC objects to the effect on its property of the proposed Sagert Street extension.

It is necessary to extend Sagert Street through the proposed subdivision to provide access and circulation for the subdivision residents, as well as the larger area, to the surrounding transportation system. The approved extension configuration is labeled Exhibit 1 and included as Attachment 1. TPC objects to this extension, because it will require the removal of private improvements that TPC constructed to serve its development. The removal of these private improvements is required, however, because TPC constructed those improvements in the public right-of-way and they do not conform to any required street cross-section. The improvements comprise the southern portion of TPC's parking lot and include two driveways, seven parking spaces, and a drive aisle. Although Lennar has had several face-to-face meetings and other communications with TPC representatives, and Lennar modified the extension of Sagert Street and its own subdivision development as much as possible to mitigate the impact of the Sagert Street extension on the TPC property, TPC was not satisfied with the modifications that were determined to be feasible and insisted on a street cross-section that both the City's engineer and Lennar's traffic engineer found to be unsafe. As part of

Mayor Lou Ogden
Tualatin City Council
January 15, 2016
Page 2

TPC's December 16, 2015, "Request for Review," TPC has advanced a modified design for the Sagert Street extension.

History of TPC Encroachments Into Sagert Street

From documents that Lennar has been able to obtain regarding the history of the TPC development, it appears that the TPC development obtained architectural review approval in 1983 as ARB-83-06. Lennar has included in the record the full decision for ARB-83-06. For purposes of this hearing memo, however, the approved site plan is most important. (See Attachment 2.) On this approved site plan, one access point to the Sagert Street extension was approved. That access point is not within the public right-of-way, but instead respects that right-of-way. What was approved through ARB-83-06, then, is not what TPC built.

The City approved the plat for that development in 1984. (See Attachment 3.) The plat shows four buildings arranged on the site in their current configuration. Also on the plat in the southwest corner is the dedicated extension of S.W. Sagert Street, which references an agreement recorded as Document 84-166567 (the "Agreement"). (See Attachment 4.) The Agreement was entered into by the City and the developer of the TPC property, Consolidated Asset Group, in 1984 and sets forth the understanding between the City and developer with respect to the half-street improvements serving the TPC development. In particular, the Agreement required the developer to deposit money with the City to cover the cost of the development's S.W. 65th Avenue and S.W. Sagert Street half-street improvements. (Agreement at 1.) Instead of requiring the developer to actually construct the street improvements, then, the City accepted the dedication of the right-of-way, and agreed to accept money for that construction and construct the improvements itself.

Apparently, the City did not construct the S.W. Sagert Street half-street improvements within the dedicated right-of-way along the southern edge of the TPC development. In the meantime, however, the southern portion of the TPC development's parking lot was constructed within that right-of-way instead. This construction was contemplated in the Agreement, but Section 11 of the Agreement states: "The DEVELOPER agrees that the driveway improvements to S.W. Sagert Street are temporary in nature and agrees to maintain said driveway improvements at his expense." In other words, although the City apparently allowed the developer to build private parking lot improvements within the Sagert Street right-of-way, those improvements were never intended to be permanent and the City expected that those

Mayor Lou Ogden
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January 15, 2016
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improvements would be removed—at the TPC development's own risk—once Sagert Street was extended.

Lennar Negotiations With TPC

Lennar became aware of the private improvements in the Sagert Street right-of-way as it conducted its due diligence for the proposed subdivision. Understanding that the extension of Sagert Street and associated street improvements would require the removal of TPC's private encroachments into the right-of-way and would impact TPC's parking and access, Lennar met with representatives of TPC early in the development process. The first two contacts with TPC were through neighborhood meetings that Lennar held on December 5, 2013, and May 20, 2014. (See Attachment 5.) TPC representatives were present at both meetings. On May 23, 2014, Lennar held a meeting specifically with TPC representatives at the TPC development site and introduced the project to those in attendance in more detail. Another neighborhood meeting was held on February 18, 2015, and TPC representatives were again in attendance.

On February 20, 2015, Lennar met with TPC representatives at the City offices. The attendees discussed the subdivision project and the impacts on the TPC development. TPC's access concerns were discussed, with TPC requesting that the Sagert Street extension be pushed further south and that circulation be maintained at the south end of the TPC property. TPC also requested a short left-turn lane into the west parking lot from the Sagert Street extension, which was determined by Lennar's traffic engineer to be unsafe.

There were further communications between Lennar and TPC after the February 20, 2015, meeting that led to another meeting between TPC representatives and Lennar. Lennar's civil engineer brought several exhibits to demonstrate the feasible extent to which the impacts of the Sagert Street extension could be mitigated while not compromising the safety of the traveling public and the TPC development patrons. TPC expressed the same concerns about access and circulation and asked that Lennar explore one or more right-in-right-out access points on S.W. 65th Avenue, as well as a request to, again, consider the left-turn lane into the west parking lot from Sagert Street. Lennar prepared exhibits depicting those options and forwarded them to the City Engineer, who rejected them as unsafe and contrary to accepted engineering standards.

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Page 4

At this point, Lennar heard nothing further from TPC until TPC submitted comments during the open record period reiterating its request that Sagert Street be pushed further south and a two-way drive aisle be constructed at the southern end of the TPC parking lot, which would provide direct access between the west and east parking lots in that area. That option was deemed infeasible because Sagert Street had already been pushed as far south as safety would allow. Nothing else was heard from TPC until it filed its appeal of the Application approval.

TPC's Proposed Sagert Street Cross-Section

As part of its appeal submittal, TPC submitted a drawing that represents its preferred design of the Sagert Street extension south of the TPC property. This configuration is similar to one that it submitted during the open record period and would require Sagert Street to be pushed further south than is already proposed. As explained above, Sagert Street can only be pushed south so far before the centerline on the east side of S.W. 65th Avenue fails to line up with the centerline on the west side of S.W. 65th Avenue to such a degree that it becomes unsafe. Further, Sagert Street on the west side of S.W. 65th Avenue cannot be relocated further south to change the centerline to better accommodate TPC, because that would require that the roadway shift onto Atfalati Park. Removing parkland and replacing it with right-of-way would require a vote of the City residents. The proposed and approved location of the Sagert Street extension has already been pushed as far south as safety and practicality will permit. We would also note that Lennar has already modified the east leg of Sagert Street, as it runs along the TPC property, with narrower, curb-tight sidewalks. This has further lessened the impact of the road extension on the TPC property. Without modifying the City-required street section even further, the TPC preferred street section cannot be accommodated.

Part of the challenge in negotiating a resolution to the access issue with TPC has been that, to Lennar's knowledge, TPC has never employed a professional engineer to evaluate any of TPC's proposals. To date, Lennar has paid its transportation and civil engineers to do that work for TPC, but none of TPC's proposals has proved feasible. In one way or another, those proposals end up violating accepted roadway design standards and would be unsafe.

TPC contends that if the proposed Sagert Street configuration is built, the only way for anyone to access the west parking lot from the south will be to drive south through the new subdivision and circle back onto Sagert Street. This is incorrect. There

Mayor Lou Ogden
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Page 5

is actually no reason anyone would ever travel such a circuitous and out-of-direction path to reach the west parking lot. As demonstrated by Lennar's transportation engineer, there are numerous access options into and out of the TPC development with the approved street design, and none of those options involve the path specified by Mr. Alterman. (See Attachment 6.) As also noted by Lennar's traffic engineer, these access and circulation options are adequate for TPC's development.

TPC's Arguments on Appeal

In TPC's December 16, 2015, request for review, TPC's attorney, Dean Alterman, states that TPC does not oppose the subdivision application itself. Instead, through the request for review TPC "only asks the city to make one change to the alignment of Sagert Street for the better safety of the Center and the patients of the health care providers at the Center." (Request for Review at 1.) As explained above, the problem with TPC's requested change to the alignment of Sagert Street is that it does *not* better provide for the safety of TPC or the patients of its health care providers—or the traveling public, for that matter—over what the City has already approved. Instead, providing TPC with a two-way access between the east and west parking lots at the south end of its development would actually require a number of additional deviations from the City's road standards, which will be addressed further below.

The Request for Review goes on to describe its parking lot encroachments in the Sagert Street right-of-way as "a half-street that provides access to the two south driveways of the Center and the seven parking spaces in between." (Request for Review at 1.) It is not clear what Mr. Alterman means by "half-street," but if it is intended to convey the impression that the southern portion of TPC's parking lot somehow qualifies as a half-street improvement, it does not and, per the Agreement, was never intended to. As understood from the evidence in the record, TPC's private encroachments into the right-of-way were constructed at TPC's own risk and were never considered to be a half-street improvement. Mr. Alterman opines that the TPC development does not circulate well without using the right-of-way as part of the parking lot, because grade changes apparently make east-west connections through the development difficult. It is not clear that such connections would be impossible or even very burdensome, because TPC has never submitted any engineering analysis to that effect. Further, Lennar has already expended substantial time, and engineering and legal fees, to mitigate the TPC development's original design failure as much as possible. This has included shifting the Sagert Street extension as much as possible to the south, onto Lennar's property, removing the planter strips for curb-tight sidewalks, and exploring a number of

Mayor Lou Ogden
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January 15, 2016
Page 6

mitigation measures. At the end of the day, although the approved street design may not be the perfect solution for TPC, it functions adequately and provides safe access and circulation in light of the original encroachments.

As support for approval of its proposed road design, the Request for Review cites TDC § 75.140. Sagert Street, as it is extended east of S.W. 65th Street, is a minor collector. With respect to access to minor collectors, TDC § 75.140 states in pertinent part:

"(b) Minor Collectors. Residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available."

TPC correctly points out that its development as it abuts the Sagert Street right-of-way has more than 70 feet of frontage. The development currently has two driveways onto the right-of-way—neither of which conform to what was approved in ARB-83-06. It is not clear what the argument is. There is no dispute that TDC may take access to Sagert Street from the south end of its parking lot—and it currently does. But TDC § 75.140 does not grant unfettered access regardless of safety implications for the convenience of a single private development. Access is allowed, true, but that is not the end of the analysis—it's only the beginning.

Lennar would also note that to the extent that TPC contends that the approved Sagert Street extension is inconsistent with "several objectives of Tualatin's adopted Transportation System Plan," Tualatin's Transportation System Plan does not contain approval criteria that are applicable to the subdivision application. The subdivision application is a limited land use decision, and pursuant to ORS 197.195(1) comprehensive plan provisions are not directly applicable. Even so, TPC's argument is that the approved road design is inconsistent with those Transportation System Plan objectives because it believes that vehicles will have to travel south, through proposed S.W. 64th Terrace, to reach the southern entrance of the west parking lot. Lennar's transportation engineer has demonstrated that this is not so.

Alternative Sagert Street Road Section

After receipt of TPC's appeal, Lennar met with City staff to determine if there is an alternative Sagert Street cross-section that would further accommodate

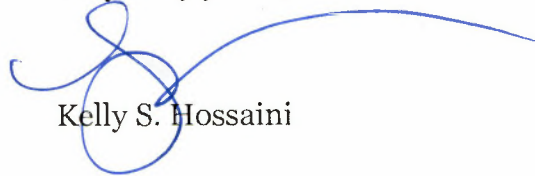
Mayor Lou Ogden
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Page 7

TPC's access desires at the south end of its parking lot. Lennar and staff came up with an alternative ("Exhibit 2"), which allows for a two-way drive aisle at the southern end of the TPC development, thereby internally linking the east and west parking lots. (See Attachment 7.) This cross-section would require not only the removal of the landscape strips between the sidewalk and the adjacent travel lanes, but the removal of the bike lane on the north side of the Sagert Street extension, and vacation of existing right-of-way. Lennar sent Exhibit 2 to TPC on January 12, 2016, but has yet to hear any response to this alternative.

Conclusion

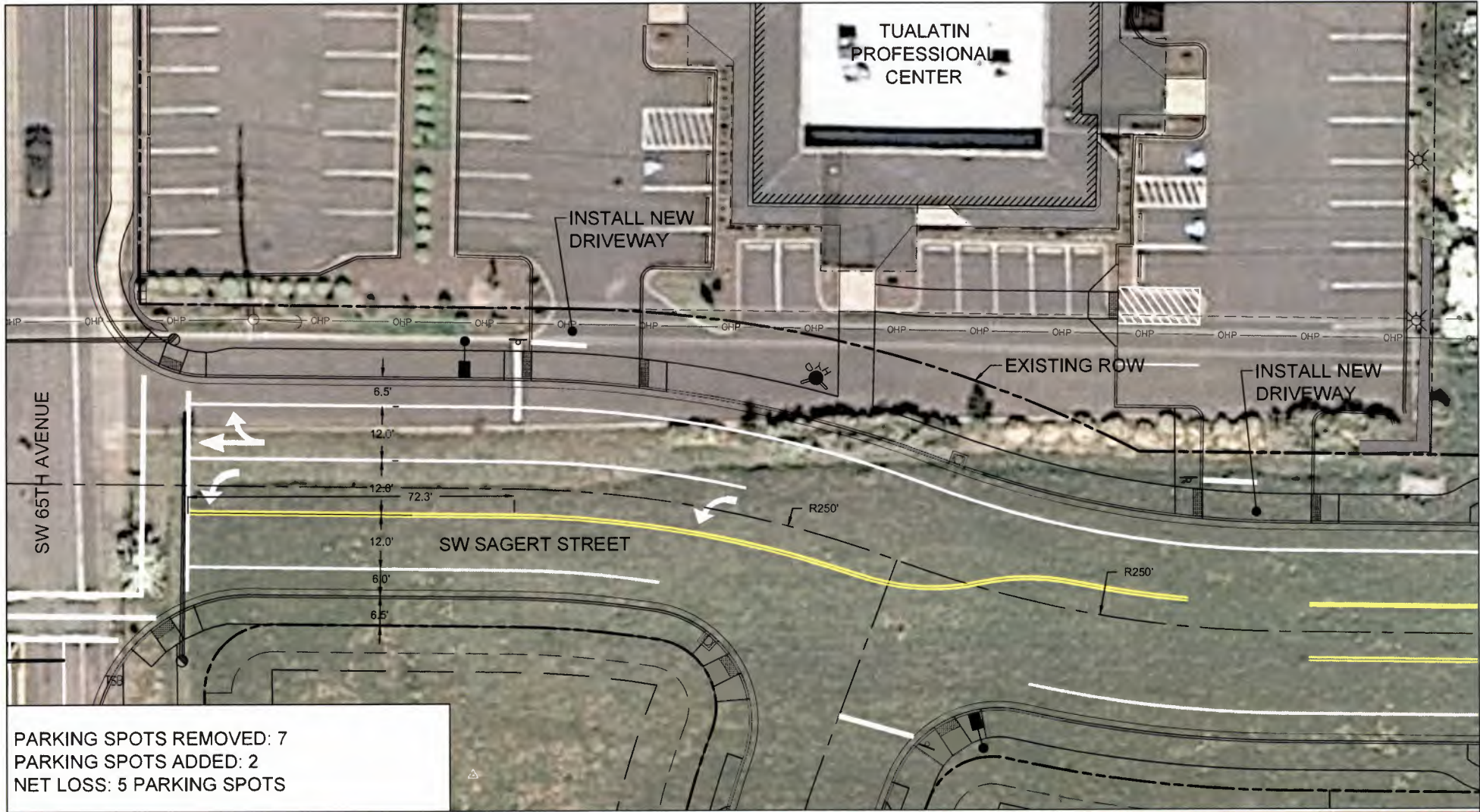
Much work has been done by Lennar and City staff in accommodating TPC and the fact that it built its parking lot into the public right-of-way at its own risk. Under the circumstances, the approved Sagert Street extension is the optimal design for safety and efficiency for all road users. To the extent that the City wishes to further accommodate TPC, the alternative road section at Exhibit 2 can be approved instead.

Very truly yours,



Kelly S. Hossaini

cc: Mr. Michael Loomis
Mr. Michael Anders



PARKING SPOTS REMOVED: 7
 PARKING SPOTS ADDED: 2
 NET LOSS: 5 PARKING SPOTS



SAGER SUBDIVISION TPC EXPANSION EXHIBIT

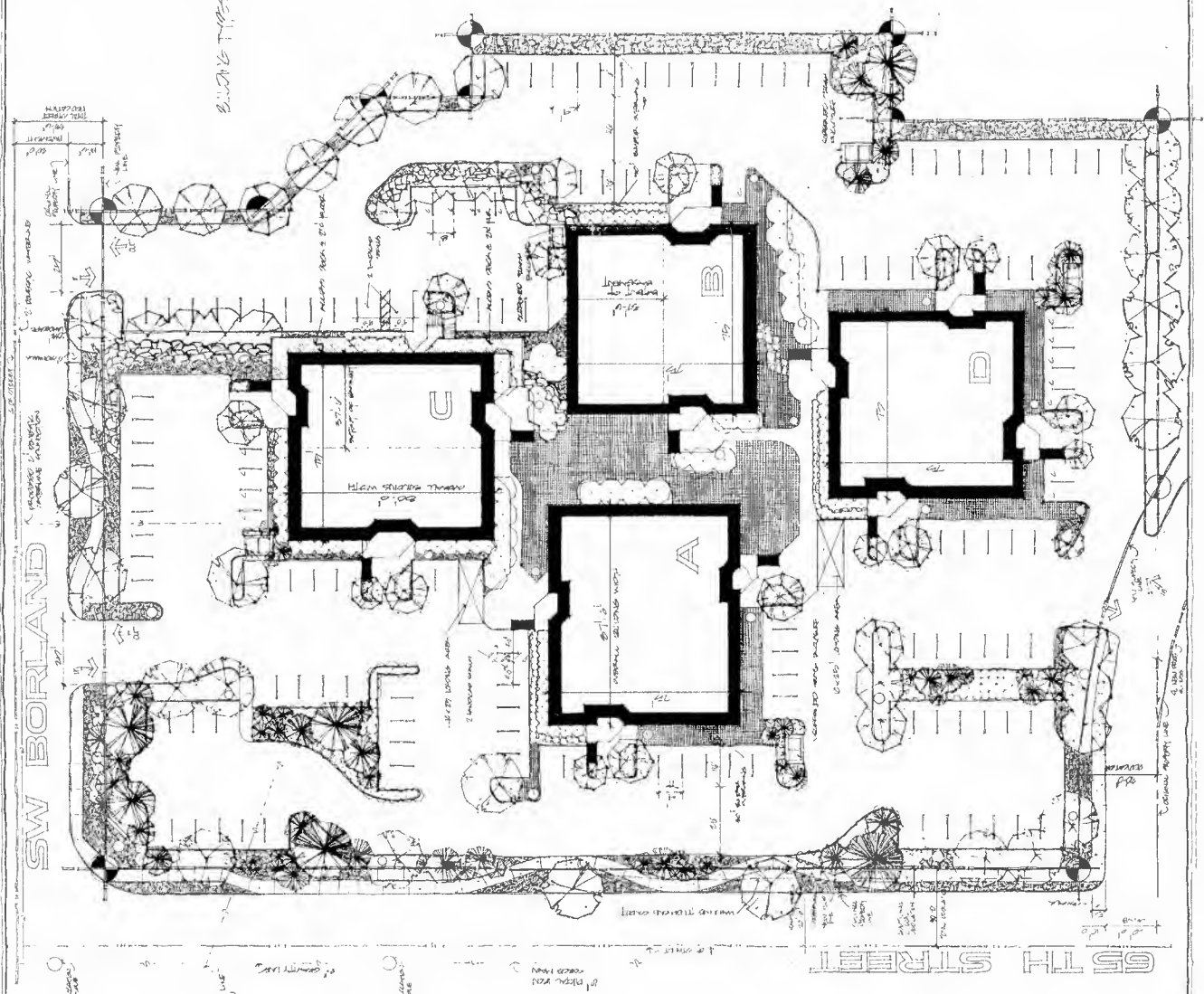


Exhibit Use
EXHIBIT 1
 Date: 12/21/15 By: CKW

PROJECT INFORMATION

- PLANNING**
- A. SANGRE AVENUE INTERSECTION - APPROX. 1990
 - B. 10th Street, (7th & 8th) - 1995
 - C. 11th Street, (7th & 8th) - 2000
 - D. 12th Street, (7th & 8th) - 2005
- DESIGN**
- 1. 10th Street, (7th & 8th) - 1995
 - 2. 11th Street, (7th & 8th) - 2000
 - 3. 12th Street, (7th & 8th) - 2005
- CONSTRUCTION**
- 1. 10th Street, (7th & 8th) - 1995
 - 2. 11th Street, (7th & 8th) - 2000
 - 3. 12th Street, (7th & 8th) - 2005

83-00
 APPROVED
 Architectural Review Board
 1. 10th Street, (7th & 8th)
 2. 11th Street, (7th & 8th)
 3. 12th Street, (7th & 8th)
 4. 13th Street, (7th & 8th)
 5. 14th Street, (7th & 8th)
 6. 15th Street, (7th & 8th)
 7. 16th Street, (7th & 8th)
 8. 17th Street, (7th & 8th)
 9. 18th Street, (7th & 8th)
 10. 19th Street, (7th & 8th)
 11. 20th Street, (7th & 8th)
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 13. 22nd Street, (7th & 8th)
 14. 23rd Street, (7th & 8th)
 15. 24th Street, (7th & 8th)
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 18. 27th Street, (7th & 8th)
 19. 28th Street, (7th & 8th)
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 22. 31st Street, (7th & 8th)
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 30. 39th Street, (7th & 8th)
 31. 40th Street, (7th & 8th)
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 81. 90th Street, (7th & 8th)
 82. 91st Street, (7th & 8th)
 83. 92nd Street, (7th & 8th)
 84. 93rd Street, (7th & 8th)
 85. 94th Street, (7th & 8th)
 86. 95th Street, (7th & 8th)
 87. 96th Street, (7th & 8th)
 88. 97th Street, (7th & 8th)
 89. 98th Street, (7th & 8th)
 90. 99th Street, (7th & 8th)
 91. 100th Street, (7th & 8th)

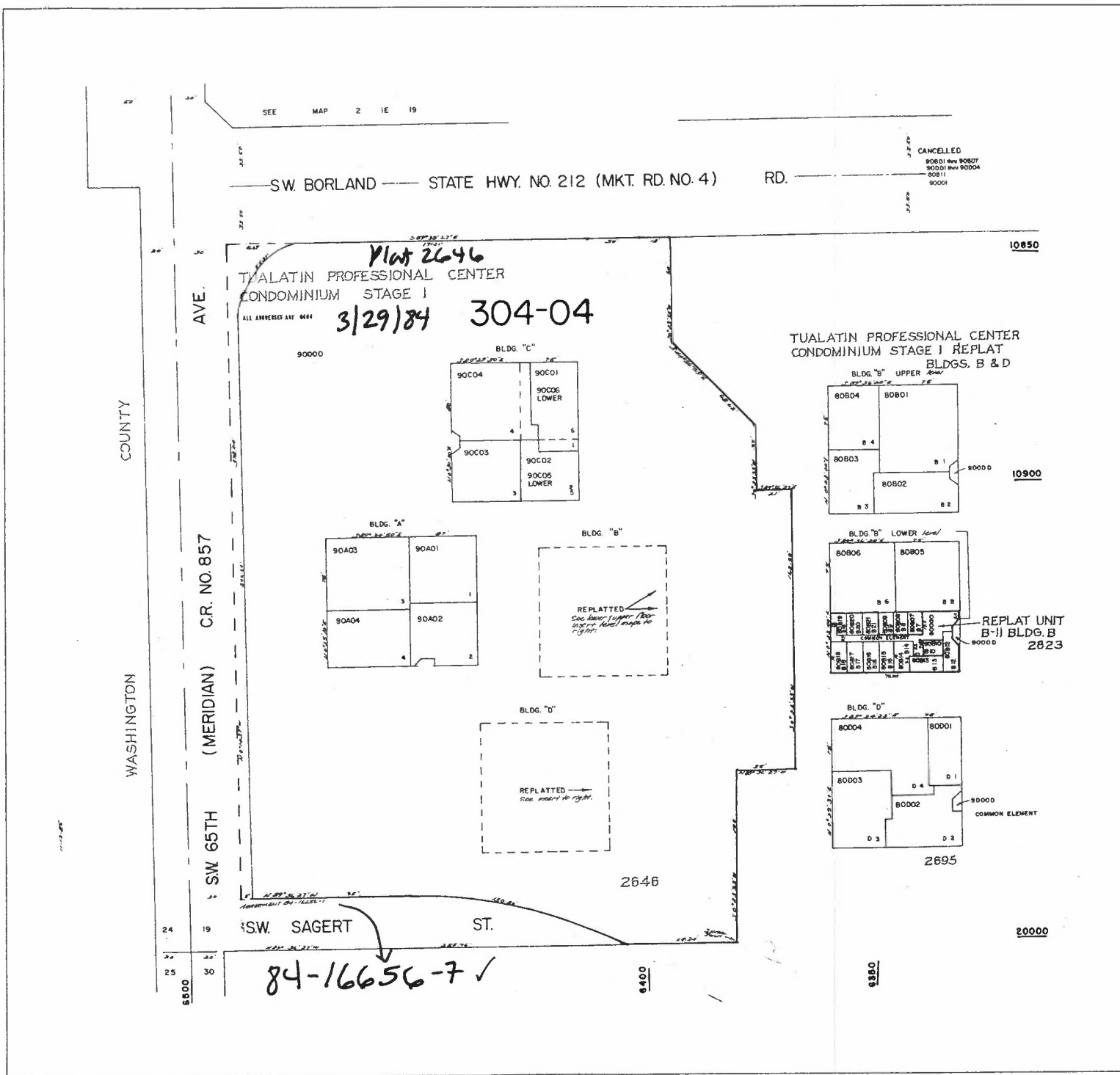


SITE PLAN
 No. 10-0

RECEIVED
 10 10 150 170

N.W. 1/4 SEC. 30 T. 2S. R. 1E. W.M.
Clackamas County
NOT TO SCALE

Cancelled Taxlots



THIS MAP IS FOR ASSESSMENT
PURPOSES ONLY



TUALATIN PROFESSIONAL CENTER CONDOMINIUM STAGE I

IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W. M.
CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON

JANUARY 1984 SCALE 1"=50' 2.694 ACRES

DAVID EVANS & ASSOCIATES, INC.
2626 S. W. CHIBBETT AVENUE
PORTLAND, OREGON 97201

1984

24 19 M 1/4 Cor.
Fd. Alum. Disc. in Mon. Box

S. W. 65TH AVE.
MERIDIAN ROAD

20 20'

N. D. 14.37' M.
2850.08 MEAS.

LEGEND

- ⊙ DENOTES SET 2" X 30" IRON PIPE AT INITIAL POINT
- DENOTES SET IRON RODS WITH PLS. BKG. YELLOW PLASTIC CAPS 3/8" DIA. X 90 INCHES
- DENOTES ROUND MONUMENT AS NOTED

**
COUNTY SURVEYOR NOTE:
Amended pursuant to Instrument No. 84-29481
dated 11-23-84 recorded with County Clerk.

APPROVALS

APPROVED THIS 12TH DAY OF MARCH 1984

R. R. [Signature]
MAYOR - CITY OF TUALATIN

ATTEST: THIS 13TH DAY OF MARCH 1984

Stephen D. Rhodes
CITY RECORDER - CITY OF TUALATIN

BY _____

APPROVED THIS 18TH DAY OF MARCH 1984

[Signature]
Ralph [Name]

COUNTY COMMISSIONERS

APPROVED THIS 24TH DAY OF August 1984

[Signature]
COUNTY ROADMASTER

BY _____
DEPUTY

PURSUANT TO ORS 91.512, I HEREBY CERTIFY THAT
ALL TAXES HAVE BEEN PAID ~~THRU~~ THRU 6-30-1984

APPROVED THIS 28TH DAY OF MARCH 1984

George E. Malin
COUNTY ASSESSOR

BY *Pat [Signature]*
DEPUTY

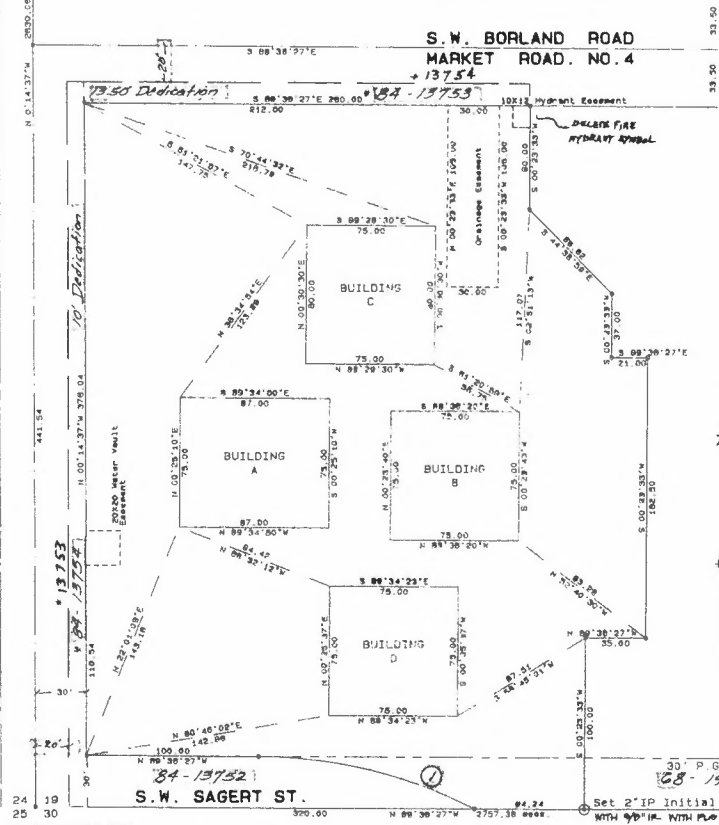
BY *Cynthia [Signature]*
DEPUTY

ATTEST *Juanita H. Cox* 3/29/84
COUNTY CLERK

BY _____
DEPUTY

Thomas A. Milne
COUNTY SURVEYOR

BY *Russell A. [Signature]* 11-23-84
DEPUTY DATE



RESIDENTIAL
PROFESSIONAL
LAND SURVEYOR
Ronald E. Lambert
OREGON
JULY 14, 1987
RONALD E. LAMBERT
806

①
CURVE DATA
R = 280.00
D = 28°45'52"
L = 130.80
CH = 129.61
N. 7°13'31" N.

BASIS OF BEARINGS
N 0°14'37" W OF THE WEST LINE OF SECTION 19

NOTES
PARKING IS NOT NUMBERED OR RESERVED.
ALL DISTANCES ARE IN FEET
UNLESS OTHERWISE NOTED.
ALL DIMENSIONS ARE 6 FEET EXCEPT WHERE SHOWN OTHERWISE.

DATUM BENCHMARK
BRASS NAP DIRECTION CORNER ELEV. 218.97
OR-BOON STATE HIGHWAY DEPT. CITY OF TUALATIN

I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT
COPY OF THE ORIGINAL PLAT OF "TUALATIN PROFESSIONAL
CENTER CONDOMINIUM - STAGE I"

Ronald E. Lambert
RONALD E. LAMBERT - RLS 806

Sec. Cor. Fd. Area Disc
Per PS 16, 529

< SIDE 1 OF 2

86/8

TUALATIN PROFESSIONAL CENTER CONDOMINIUM STAGE I

IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W. M.
CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON

DECLARATION AND DEDICATION

JANUARY 1984

2.694 ACRES

DAVID EVANS & ASSOCIATES, INC.
2626 S. W. CORBETT AVENUE
PORTLAND, OREGON 97201

KNOW ALL MEN BY THESE PRESENTS: THAT CONSOLIDATED ASSET GROUP, INC., A WASHINGTON CORPORATION, DOES HEREBY MAKE ESTABLISH AND DECLARE THE ANNEXED MAP OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I" AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, TO BE A TRUE MAP AND PLAT THEREOF AND DOES HEREBY COMMIT SAID LAND TO THE OPERATION OF THE OREGON CONDOMINIUM ACT IN ACCORDANCE WITH CHAPTER 94, OF THE OREGON REVISED STATUTES, AND DOES HEREBY DEDICATE THE WATER VAULT, DRAINAGE AND FIRE HYDRANT EQUIPMENTS SHOWN TO THE CITY OF TUALATIN.

Michael T. Reidy
MICHAEL T. REIDY - PRESIDENT

SEE SIDE 1 OF 4
FOR COUNTY SURVEYOR
NOTE OF AMENDMENT

ACKNOWLEDGEMENTS

STATE OF OREGON S.S.
COUNTY OF CLACKAMAS

BE IT REMEMBERED THAT ON THIS 31 DAY OF February, 1984, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, PERSONALLY APPEARED MICHAEL T. REIDY, TO ME PERSONALLY KNOWN, WHO BEING DULY SWORN, DID SAY THAT HE MICHAEL T. REIDY IS PRESIDENT OF "CONSOLIDATED ASSET GROUP, INC.", A WASHINGTON CORPORATION, AND OWNER OF THE PROPERTY DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, AND THAT THIS INSTRUMENT WAS SIGNED IN BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS AND THAT THE SIGNATURE AFFIXED TO SAID DECLARATION WAS OF HIS OWN FREE ACT AND DEED.

Richard P. Reiver
NOTARY PUBLIC IN AND FOR THE STATE OF OREGON
MY COMMISSION EXPIRES 2-3-1985

Richard P. Reiver
2-3-1985

SURVEYOR'S CERTIFICATE:

I, RONALD E. LAMBERT, A REGISTERED PROFESSIONAL LAND SURVEYOR, FIRST BEING DULY SWORN DEPOSE AND SAY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE LAND REPRESENTED ON THE ANNEXED MAP OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I" AND AT THE INITIAL POINT OF SAID SURVEY I SET A 2" BY 2" GALVANIZED IRON PIPE, 6" BELOW THE SURFACE OF THE GROUND, SAID POINT BEARS SOUTH 89°36'27" EAST 320.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 19, T.2 S., R.1 E., W.M. IN CLACKAMAS COUNTY, OREGON, SAID POINT BEING ON THE SOUTH LINE OF SECTION 19. THENCE FROM SAID INITIAL POINT I RAN NORTH 89°36'27" WEST ALONG THE SOUTH LINE OF SECTION 19, A DISTANCE OF 84.34 FEET TO A POINT OF CURVATURE, THENCE ALONG THE ARC OF A 290.00 FOOT RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 26°45'52", AN ARC DISTANCE OF 130.80 FEET, (THE CHORD BEARS NORTH 76°13'31" WEST 129.61 FEET, TO A POINT OF TANGENCY, THENCE NORTH 09°36'27" WEST A DISTANCE OF 100.00 FEET TO A POINT IN THE EAST LINE OF S.W. 65TH AVE. (MERIDIAN ROAD); THENCE NORTH 0°23'33" WEST PARALLEL WITH THE WEST LINE OF SECTION 19, A DISTANCE OF 378.04 FEET TO A POINT IN THE SOUTH LINE OF S.W. BORLAND ROAD, (MARKET ROAD NO. 31) THENCE SOUTH 89°36'27" EAST ALONG SAID SOUTH LINE 260.00 FEET TO A POINT; SOUTH 0°23'33" WEST, AT RIGHT ANGLES TO SAID SOUTH LINE A DISTANCE OF 60.00 FEET; THENCE SOUTH 44°36'59" EAST 68.62 FEET; THENCE SOUTH 0°23'33" WEST 37.00 FEET; THENCE SOUTH 89°36'27" EAST 21.00 FEET; THENCE SOUTH 0°23'33" WEST 162.50 FEET; THENCE NORTH 89°36'27" WEST 35.00 FEET; THENCE SOUTH 0°23'33" WEST A DISTANCE OF 100.00 FEET TO "THE POINT" OF BEGINNING.

SUBSCRIBED AND SWORN TO BEFORE ME THIS 31 DAY OF FEBRUARY, 1984

Richard P. Reiver
RICHARD P. REIVER
NOTARY PUBLIC - OREGON
My Commission Expires 2-3-1985

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Ronald E. Lambert
RONALD E. LAMBERT
RCL

I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT COPY OF THE ORIGINAL PLAT OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I"

Ronald E. Lambert
RONALD E. LAMBERT - RLS BOB

SIDE 2 OF 4

86/8

TUALATIN PROFESSIONAL CENTER CONDOMINIUM STAGE I

IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W. M.
CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON

JANUARY 1984 SCALE 1"=15' 2.694 ACRES

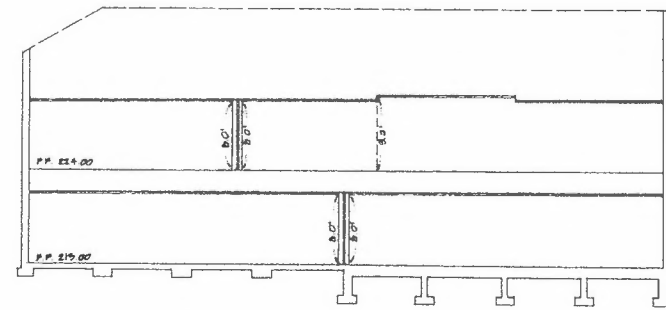
DAVID EVANS & ASSOCIATES, INC.
2926 S. W. CORBETT AVENUE
PORTLAND, OREGON 97201

I HEREBY CERTIFY THAT THE TYPICAL PERIMETER FLOOR PLAN FULLY AND ACCURATELY DEPICTS THE BOUNDARIES OF THE UNITS AND FLOORS OF THE BUILDINGS OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I" IN THE CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON. SAID BUILDINGS WERE COMPLETED ON OR BEFORE FEB. 1, 1984.

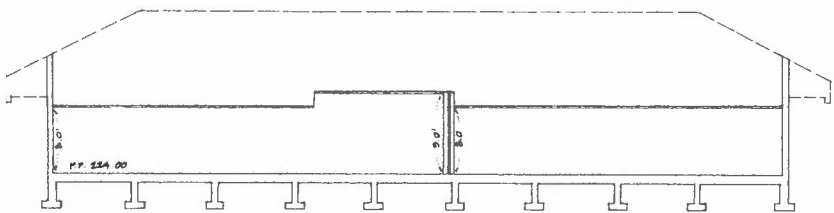
Ronald E. Lambert
RONALD E. LAMBERT - RLS 806

SEE SIDE 1 OF 4
FOR COUNTY SURVEYOR
NOTE OF AMENDMENT:

SECTION B-B



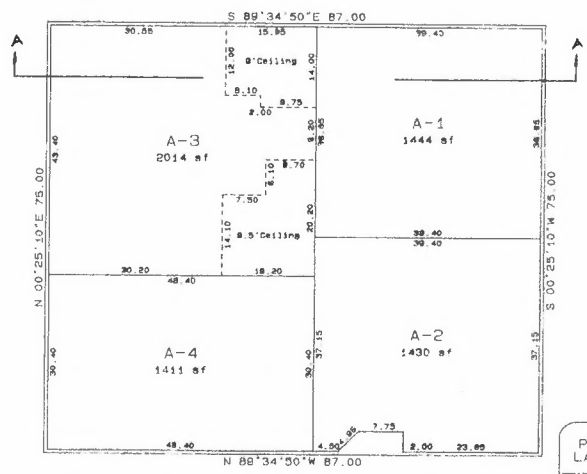
SECTION A-A



Note:
FF = Finished Floor
SF = Square Feet

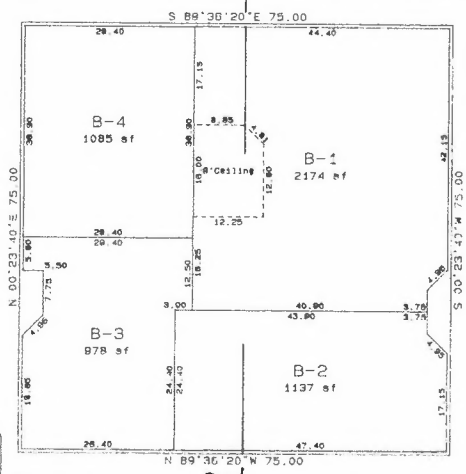
I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT COPY OF THE ORIGINAL PLAT OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I"

Ronald E. Lambert
RONALD E. LAMBERT - RLS 806

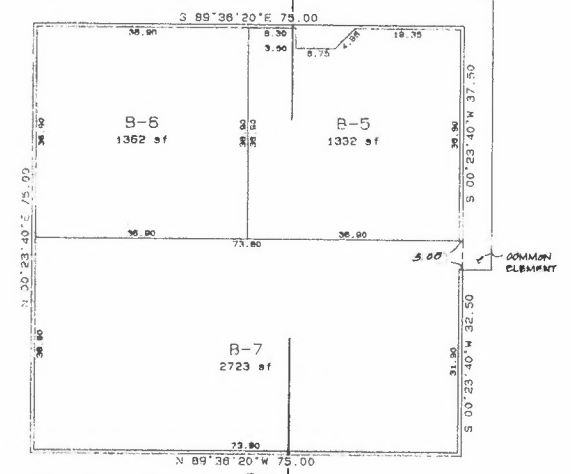


BUILDING A
F.F. 224.00 ALL UNITS

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Ronald E. Lambert
OREGON
JULY 14, 1967
RONALD E. LAMBERT
806



BUILDING B UPPER
F.F. 224.00 ALL UNITS



BUILDING B LOWER
F.F. 213.00 ALL UNITS

86/8

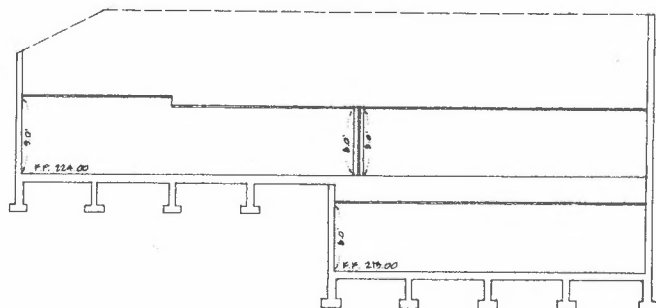
TUALATIN PROFESSIONAL CENTER CONDOMINIUM STAGE I

IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W. M.
CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON

JANUARY 1984 SCALE 1"=15' 2.694 ACRES

DAVID EVANS & ASSOCIATES, INC.
2626 S. W. CORBETT AVENUE
PORTLAND, OREGON 97201

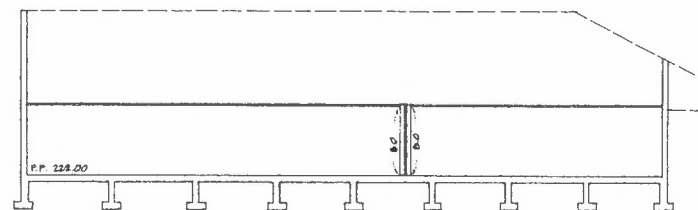
SECTION G-G



SEE SIDE 1 OF 4
FOR COUNTY SURVEYOR
NOTE OF AMENDMENT

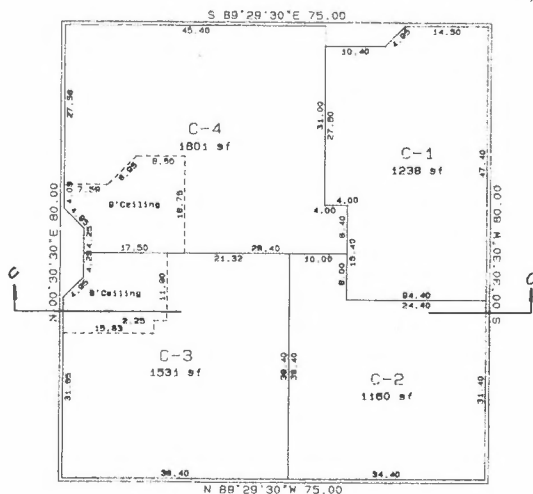
NOTE:
F.F. = Finished Floor
S.F. = Square Feet

SECTION D-D



I HEREBY CERTIFY THAT THE TYPICAL PERIMETER FLOOR PLAN FULLY
AND ACCURATELY DEPICTS THE BOUNDARIES OF THE UNITS AND FLOORS OF THE
BUILDINGS OF "TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I"
IN THE CITY OF TUALATIN, CLACKAMAS COUNTY, OREGON.
SAID BUILDINGS WERE COMPLETED ON OR BEFORE FEB. 1, 1984.

Ronald E. Lambert
RONALD E. LAMBERT - PLS 806



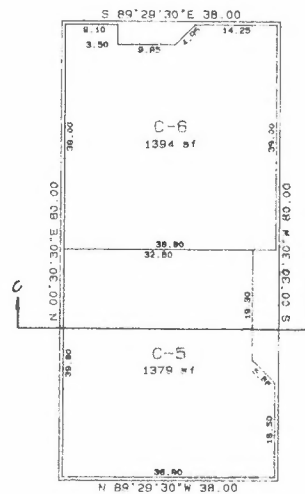
BUILDING C UPPER
F.F. 224.00 ALL UNITS



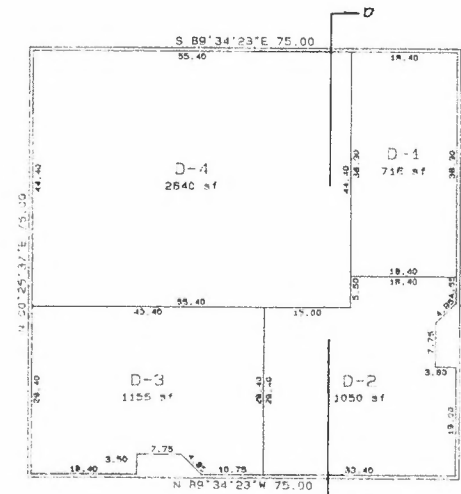
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Ronald E. Lambert
OREGON
JULY 14, 1987
RONALD E. LAMBERT
800

I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT
COPY OF THE ORIGINAL PLAT OF "TUALATIN PROFESSIONAL
CENTER CONDOMINIUM - STAGE I"

Ronald E. Lambert
RONALD E. LAMBERT - PLS 806



BUILDING C LOWER
F.F. 219.00 ALL UNITS



BUILDING D
F.F. 222.00 ALL UNITS

SIDE 4 OF 4

87/27

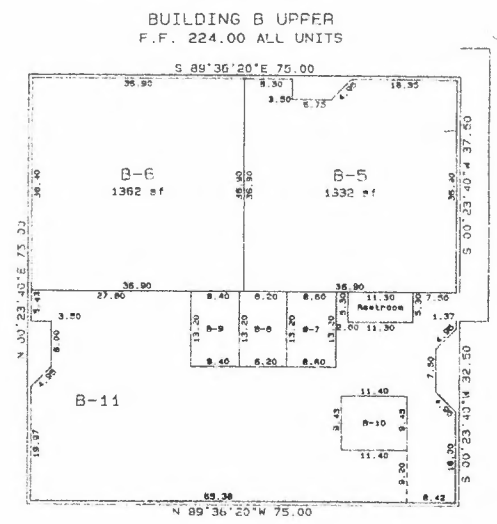
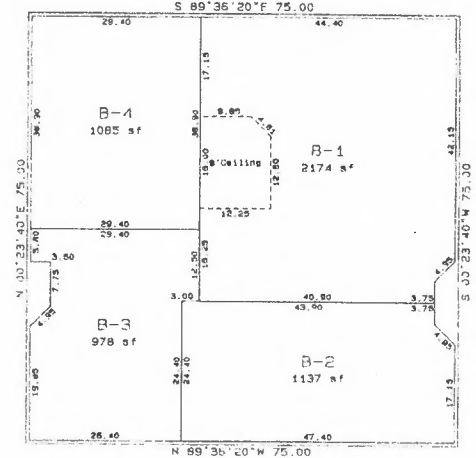
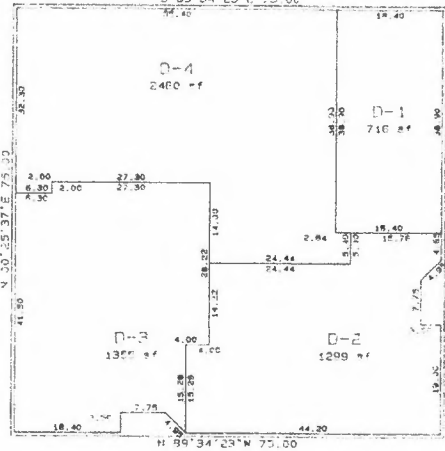
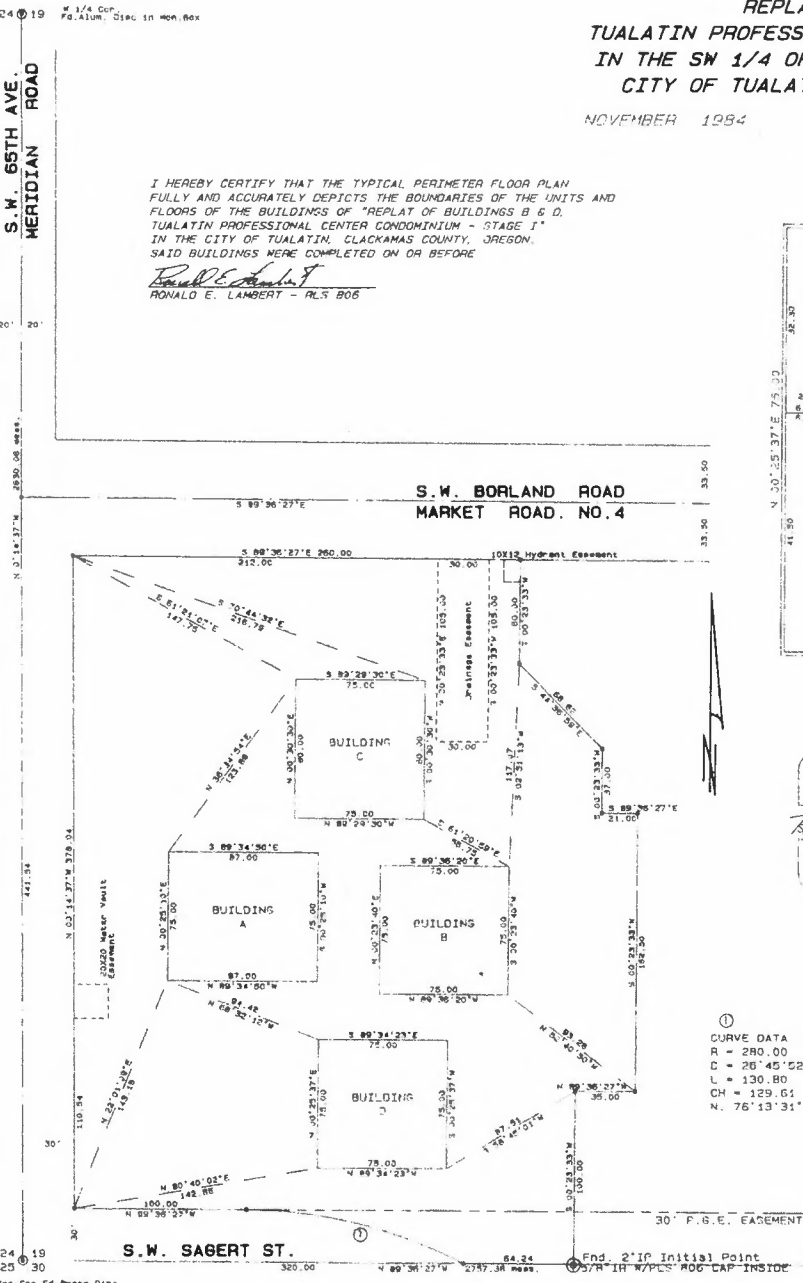
SIDE 1 OF 2.

1984

REPLAT OF BUILDINGS B AND D
 TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1
 IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W.M.
 CITY OF TUALATIN CLACKAMAS COUNTY OREGON

NOVEMBER 1984 SCALE 1"=50' 2.694 ACRES

DAVID EVANS & ASSOCIATES, INC.
 2828 S. W. CINDYETT AVENUE
 PORTLAND, OREGON 97202
 PHONE 1-503-223-6663
 S 89°34'23"W 75.00



REGISTERED
 PROFESSIONAL
 LAND SURVEYOR
Ronald E. Lambert
 OREGON
 363 14 1987
 RONALD E. LAMBERT
 SC6

LEGEND
 (1) DENOTES FOUND 2" X 36" IRON PIPE INITIAL POINT
 (2) DENOTES FOUND MONUMENT AS NOTED
 NO IRON RODS WERE SET

BASIS OF BEARINGS
 N 0°14'37" W WEST LINE OF SECTION 19

NOTES
 PARKING IS NOT NUMBERED OR RESERVED
 "LIMITED COMMON ELEMENTS" ARE RESTROOMS OR ENTRYWAYS
 ALL CEILING ARE 8 FEET IN THE REPLAT

DATUM BENCH MARK
 BRASS CAP SECTION CORNER FLEV. 219.97
 OREGON STATE HIGHWAY DEPT. AND CITY OF TUALATIN DATUM

① CURVE DATA
 R = 280.00
 Δ = 26°45'52"
 L = 130.80
 CH = 129.61
 N. 76°13'31" W.

I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT COPY OF THE ORIGINAL PLAT OF "REPLAT OF BUILDINGS B & C, TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1"

Ronald E. Lambert
 RONALD E. LAMBERT - RLS BOB

HLL 3-12-85

87/27

SIDE 2 OF 2.

REPLAT OF BUILDINGS B AND D
TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1
IN THE SW 1/4 OF SECTION 19, T.2 S., R.1 E., W.M.
CITY OF TUALATIN CLACKAMAS COUNTY OREGON

NOVEMBER 1984 SCALE 1"=50' 2.694 ACRES

DECLARATION

KNOW ALL MEN BY THESE PRESENTS: THAT CONSOLIDATED ASSET GROUP, INC. A WASHINGTON CORPORATION, DOES HEREBY MAKE ESTABLISH AND DECLARE THE ANNEXED MAP OF "REPLAT OF BUILDINGS B & D, TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1" AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, TO BE A TRUE MAP AND PLAT THEREOF AND DOES HEREBY COMMIT SAID LAND TO THE OPERATION OF THE OREGON CONDOMINIUM ACT IN ACCORDANCE WITH CHAPTER 94, OF THE OREGON REVISED STATUTES.

"CONSOLIDATED ASSET GROUP, INC.

Michael T. Reidy
MICHAEL T. REIDY - PRESIDENT

DAVID EVANS & ASSOCIATES, INC.
2626 S. W. CORRETT AVENUE
PORTLAND, OREGON 97201
PHONE 1-503-223-6663

APPROVALS

APPROVED THIS 10th DAY OF DECEMBER 1984
Tyler T. Ts
MAYOR - CITY OF TUALATIN

ATTEST: THIS 10th DAY OF DECEMBER 1984
Stephen A. Rhoads
CITY RECORDER - CITY OF TUALATIN

BY _____
APPROVED THIS 20th DAY OF Nov 1984
Richard P. Reiver
Dale H. Harkness

COUNTY COMMISSIONERS

APPROVED THIS 20th DAY OF December 1984
Annita Brown for Walter Kuehn
COUNTY ROADMASTER

BY _____ DEPUTY
APPROVED THIS 12 DAY OF MARCH 1985
THOMAS A. MILNE
COUNTY SURVEYOR

BY *G. Robert Taylor*
DEPUTY

PURSUANT TO ORS 31.022 I HEREBY CERTIFY THAT ALL TAXES HAVE BEEN PAID 2/28/85 6-30-86 1985
APPROVED THIS 15th DAY OF August 1985

COUNTY ASSESSOR George E. Malin
BY *Pat Bryant* *Cynthia Lawley*
DEPUTY

ATTEST: *Janet A. Orr* 8-25-85
COUNTY CLERK

BY _____ DEPUTY

I HEREBY CERTIFY THIS TRACING TO BE A TRUE AND EXACT COPY OF THE ORIGINAL PLAT OF "REPLAT OF BUILDINGS B & D, TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1"

Ronald E. Lambert
RONALD E. LAMBERT - RLS 006

ACKNOWLEDGEMENTS

STATE OF OREGON S.S.
COUNTY OF CLACKAMAS

BE IT REMEMBERED THAT ON THIS 15 DAY OF Nov 1984, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, PERSONALLY APPEARED MICHAEL T. REIDY, TO ME PERSONALLY KNOWN, WHO BEING DULY SWORN DID SAY THAT HE, MICHAEL T. REIDY IS PRESIDENT OF "CONSOLIDATED ASSET GROUP, INC" AND THAT SAID INSTRUMENT WAS SIGNED ON BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS, AND SAID MICHAEL T. REIDY DOES HEREBY ACKNOWLEDGE SAID INSTRUMENT TO BE A FREE ACT AND DEED, WITNESS MY HAND AND OFFICIAL SEAL THIS DAY AND YEAR LAST ABOVE WRITTEN.

Richard P. Reiver
RICHARD P. REIVER
NOTARY PUBLIC - OREGON
EXPIRES 2-3-85

SURVEYOR'S CERTIFICATE:

I, RONALD F. LAMBERT, A REGISTERED PROFESSIONAL LAND SURVEYOR, FIRST BEING DULY SWORN DEPOSE AND SAY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE LANDS REPRESENTED ON THE ANNEXED MAP OF "REPLAT OF BUILDINGS B & D, TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE 1" AND AT THE INITIAL POINT OF SAID SURVEY I USED THE INITIAL POINT SET FOR TUALATIN PROFESSIONAL CENTER CONDOMINIUM - STAGE I SAID POINT BEARS SOUTH 89°36'27" EAST 320.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 19, T.2 S., R.1 E., W.M. IN CLACKAMAS COUNTY, OREGON, SAID POINT BEING ON THE SOUTH LINE OF SAID SECTION 19; THENCE FROM SAID INITIAL POINT I RAN NORTH 89°36'27" WEST ALONG THE SOUTH LINE OF SECTION 19 A DISTANCE OF 64.24 FEET TO A POINT OF CURVATURE; THENCE ALONG THE ARC OF A 200.00 FOOT RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 26°43'52" AN ARC DISTANCE OF 130.80 FEET, (THE CHORD BEARS NORTH 76°13'31" WEST 129.61 FEET) TO A POINT OF TANGENCY; THENCE NORTH 89°36'27" WEST A DISTANCE OF 100.00 FEET TO A POINT IN THE EAST LINE OF S.W. 65TH AVE. (MERIDIAN ROAD); THENCE NORTH 0°14'37" WEST, PARALLEL WITH THE WEST LINE OF SECTION 19, A DISTANCE OF 379.04 FEET TO A POINT IN THE SOUTH LINE OF S.W. BORLAND ROAD, (MARKET ROAD NO. 4); THENCE SOUTH 89°36'27" EAST ALONG SAID SOUTH LINE 260.00 FEET TO A POINT; THENCE SOUTH 0°23'33" WEST, AT RIGHT ANGLES TO SAID SOUTH LINE A DISTANCE OF 50.00 FEET; THENCE SOUTH 44°36'59" EAST 68.62 FEET THENCE SOUTH 0°23'33" WEST 37.00 FEET; THENCE SOUTH 89°36'27" EAST 21.00 FEET; THENCE SOUTH 0°23'33" WEST 162.50 FEET; THENCE NORTH 89°36'27" WEST 35.00 FEET; THENCE SOUTH 0°23'33" WEST A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

SUBSCRIBED AND SWORN TO BEFORE ME THIS 15 DAY OF Nov 1984

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Ronald E. Lambert
JULY 14, 1967
RONALD E. LAMBERT
R00

Richard P. Reiver
RICHARD P. REIVER
NOTARY PUBLIC - OREGON
EXPIRES 2-3-85

AGREEMENT

THIS AGREEMENT, made and entered into this 14th day of May, 1984, by and between CITY OF TUALATIN, a municipal corporation in Washington County, Oregon, hereinafter referred to as "CITY," and CONSOLIDATED ASSET GROUP, INC., hereinafter referred to as "DEVELOPER."

WITNESSETH:

WHEREAS, the DEVELOPER received approval for a development from the CITY; and

WHEREAS, Land Partition (LP-83-01), approved by the City Council of Tualatin on March 28, 1983, contains certain conditions relative to half-street improvements in S.W. 65th Avenue and S.W. Sagert Street, and

IN CONSIDERATION of the mutual promises, covenants and undertakings, IT IS AGREED:

Section 1: The DEVELOPER agrees to deposit with the CITY the sum of \$15,613.95. This amount is equal to the cost of construction that would have been incurred by the DEVELOPER had the improvements to S.W. 65th Avenue and S.W. Sagert Street been constructed at the time the project was developed. The improvements required to be constructed in S.W. 65th Avenue and S.W. Sagert Street are adjacent to the Tualatin Professional Center are as follows:

Widening of the pavement to provide a 20-foot half-street improvement along S.W. Sagert Street and 22-foot half-street improvement along S.W. 65th Avenue from the centerline of the road, installation of curbs

84 16657

and gutters and sidewalks, street trees and street lights along S.W. 65th Avenue and S.W. Sagert Street, reconstruction of portions of S.W. 65th Avenue deemed to be of inadequate structural section to handle the projected traffic loads on S.W. 65th Avenue, and to make adjustments in the horizontal and vertical alignment as necessary to construct S.W. 65th Avenue in a safe manner.

Section 2: The funds deposited with the CITY shall be retained by the CITY and all interest earned on this money shall be used for the construction of the improvements described in this agreement.

Section 3: CITY agrees to use the funds deposited by DEVELOPER and all interest accrued on said funds in the following manner:

1. CITY may construct a half-street improvement required of DEVELOPER using the funds deposited and interest accrued thereon.
2. CITY may combine the funds deposited and interest accrued thereon from DEVELOPER with other funds available to the CITY for construction of a City sponsored project.
3. CITY may combine the funds deposited and interest accrued thereon with funds derived from a local improvement district for the improvement of S.W. 65th Avenue and S.W. Sagert Street.

Section 4: If the CITY constructs a half-street improvement as discussed above in Section #1 above, the CITY will keep a detailed cost accounting of the project, the excess funds upon completion of the project, and these funds

2

PAGE TWO

will be returned to the DEVELOPER. If the total construction costs exceed the amount deposited by the DEVELOPER, the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

Section 5: If the CITY combines funds with other funds for City projects as in 2(2) above, CITY will determine an appropriate assesemnt method for properties that would be included in a local improvement district had one been formed. If the amount that would be assessed to DEVELOPER is less than the amount deposited by DEVELOPER and interest accrued on said deposit and the CITY will refund the difference back to DEVELOPER. If the total cost exceeds the amount deposited by the DEVELOPER the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

The CITY and DEVELOPER agree that the maximum obligation of the DEVELOPER under Sections 4 and 5 is 10% more than the amount deposited plus interest earned under Section 2 of this agreement.

Section 6: If the City forms a Local Improvement District to construct the improvements covered by this agreement and if assessment against this property is less than the total of the funds deposited by DEVELOPER, and interest accrued thereon, the CITY will refund to DEVELOPER the difference. If the assessment determined by the CITY is greater than the funds deposited and interest accrued thereon by DEVELOPER, DEVELOPER will pay the additional amount over the amount deposited and interest accrued thereon. This additional amount will be eligible for Bancroft Bond financing. If the CITY forms a Local Improvement District to construct the improvements covered by this agreement, the DEVELOPER may elect to Bancroft the entire assessment and receive a refund of the amount deposited in Section 1 of this agreement with the interest accrued in Section 2.

3

PAGE THREE

1122
Section 7: The DEVELOPER agrees that by execution of this agreement, he will not remonstrate against the formation of a local improvement district to construct improvements to S.W. 65th Avenue and S.W. Sagert Street.

Section 8: This agreement shall be in effect for a period of five (5) years from its enactment. If at the end of five (5) years the CITY has not used funds deposited and interest accrued by DEVELOPER for the improvement of S.W. 65th Avenue and S.W. Sagert Street, then the funds and interest shall be returned to DEVELOPER.

Section 9: It is intended by the parties that all promises to be performed by DEVELOPER shall be covenants, conditions and restrictions running with the title to the property and shall be binding upon DEVELOPERS, their successors in interest and assigns.

Section 10: Promptly after its execution by the parties, this agreement shall be recorded in the records of Washington County to provide public notice of the conditions, covenants and restrictions against the title to the property imposed by this agreement.

Section 11: The DEVELOPER agrees that the driveway improvements to S.W. Sagert Street are temporary in nature and agrees to maintain said driveway improvements at his expense.

Section 12: Land Partition (LP-83-01) contains certain conditions relative to half-street improvements along S.W. Borland Road.

4
PAGE FOUR

1. Said improvements have been completed to the satisfaction of the CITY.
2. DEVELOPER is required to submit to the CITY a maintenance bond in the amount of 15% of the cost of said half-street improvements as guarantee against any defects in materials and workmanship for a period of (1) year from the date of this agreement. DEVELOPER agrees to deposit the sum of \$3750.00 in substitution for said maintenance bond.
3. CITY agrees to use said deposit to correct any defects in materials and workmanship for a period of (1) year from the date of this agreement.
4. CITY agrees to refund the balance of the deposit plus any interest accrued on the initial deposit to the DEVELOPER at the end of the (1) year period.

IN WITNESS WHEREOF, the parties have executed this agreement to be effective on the date first above mentioned.

CITY OF TUALATIN, OREGON

BY [Signature]
Mayor

ATTEST:

BY Stephen A. Rhodes
City Recorder

DEVELOPERS:

[Signature]

5

PAGE FIVE

SUBSCRIBED AND SWORN to before me this 29th day of March, 1989. H-2C

Mary A. Wood
Notary Public for Washington
My commission expires: 6-1-91

Notary Public for Washington State
I hereby certify that the foregoing is a true and correct copy of the original as shown to me by the person presenting it for certification.

99-11 PM 166

Notary Public for Washington State
I hereby certify that the foregoing is a true and correct copy of the original as shown to me by the person presenting it for certification.
Mary A. Wood
Notary Public for Washington State
Commission Expires: 6-1-91
CEP# 54 16657



6

PAGE SIX

550
5-50

H-2C

RESOLUTION NO. 1408-84

A RESOLUTION AUTHORIZING THE MAYOR AND CITY RECORDER
TO EXECUTE AN AGREEMENT WITH CONSOLIDATED ASSET GROUP

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON,
that:

Section 1: That the agreement (attached hereto) between the Consolidated
Asset Group and the City of Tualatin is for the purpose of half-street
improvements in S.W. 65th Avenue and S.W. Sagert Street adjacent to the
Tualatin Professional Center Development.

Section 2: That the Mayor and City Recorder are authorized to execute
the attached agreement and record said agreement on the Clackamas County
Book of Records.

INTRODUCED AND ADOPTED this 9th day of April, 1984.

CITY OF TUALATIN, OREGON

BY [Signature]
Mayor

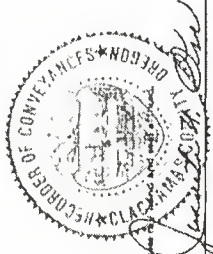
ATTEST:

BY [Signature]
City Recorder



STATE OF OREGON)
County of Clackamas)
I, Juanita N. Orr, County Clerk, do hereby certify
for the County of Clackamas, do hereby certify
that the instrument of writing was received for
recording in the records of said County at

1984 MAY 17 PM 1:56



JUANITA N. ORR
County Clerk
Recording Certificate
CCP-14 84 16656

Resolution No. 1408-84

84 16656

MEMORANDUM

To: Kelly Hossaini
Attorney

From: John Howorth
Principal Engineer

Date: December 29, 2015

Project Name: Sagert Farm Subdivision
Project No: 13159
RE: TPC Timetable

The following is our account and understanding of the TPC property as it was developed through the years and the meetings and communications we had with TPC owners as we moved through the process of subdividing the Sagert property in Tualatin.

Tualatin Professional Center – History as we understand

- 1983-03-09 Architectural Review Board (ARB-83-06) Deferral from March 2, 1983 for Modifications.
1. Total required parking spaces is 163, which is the number provided. Four need to be designated ADA.
 2. Total landscaping equals 33,265-sf, or approximately 27% of the site.
 3. Developer is required to dedicate 13.5-ft along the north edge for SW Borland Road.
 4. Developer is required to dedicate 10-ft along the west edge for SW 65th Avenue.
 5. Developer is required to dedicate 30-ft along the south edge for SW Sagert Street with a 250-ft centerline radii.
 6. Developer will be required to do a half-street improvement including sidewalks along both SW Borland and SW Sagert. Improvements within SW 65th will be deferred until a later date, but the developer will be required to deposit the cost of those improvements with the City.
- 1984-05-14 Recorded Agreement (84-16657)
This agreement was for the deposit of \$15,613.95 to the City for cost of construction that would have been incurred by the developer had the improvements to SW 65th Avenue and SW Sagert Street been constructed. Interesting sections to review further.
Section 8: This agreement shall be in effect for a period of five years from enactment. If at the end of the five (5) years the CITY has not used the funds deposited and interest accrued by DEVELOPER for the improvement of SW 65th Avenue and SW Sagert Street, then the funds and interest shall be returned to DEVELOPER.
- 1984-05-29 Resolution 1416-84
Dedication of right-of-way for Sagert, including (within in the Findings No. 11) the extension of Sagert east to provide additional access to Lot 1 and also to provide access for future residential development planned for land south of the site.
- 1995-02-03 Warranty Deed dedicating the right-of-way along SW 65th Avenue.
- 1995-10-25 As-Built Plans of SW 65th Avenue showing the 35-ft half right-of-way and improvements along SW 65th Avenue.

Meetings and Communication with TPC

- 2013-12-05 Neighborhood Meeting – TPC condominium owners were in attendance.
- 2014-05-20 Neighborhood Meeting – TPC condominium owners were in attendance.
- 2014-05-23 Meeting with TPC On-Site
1. This was the first meeting with TPC. The only item shared was the subdivision layout. Discussions of the issues were the main topic. This was basically the first formal meeting we had and introduced the project to them along with the concerns about the site.
- 2015-02-18 Neighborhood Meeting – TPC condominium owners were in attendance.
- 2015-02-20 Meeting with TPC at City offices.
1. Discussed the project and what impacts it has on TPC site.
 2. Discussed the ROW dedication and the improvements constructed within the ROW by TPC.
 3. Discussed concerns about access to the east and west lots.
 4. TPC want to push Sagert further south.
 5. TPC desires circulation on south end of site.
 6. Discussed fact that future development would likely close the north access(es) on Borland.
 7. Discussed opportunities to work with Mei building property to the east.
 8. TPC believes a short left turn lane could work. City and Lennar to review.
 - a. *Further review found the intersection as designed is acceptable and a short left turn lane would not be safe.*
- 2015-06-12 Meeting with TPC at Library.
1. Discussed several exhibits showing what could be the improvements along the southern site boundary vs. what Lennar and the City were willing to do (shoving the roadway south) to accommodate as much as possible.
 2. TPC had same concerns, nothing new was proposed that had any engineering review.
 3. TPC requested Lennar look at a RI/RO on SW 65th.
 - a. *Lennar had 3J submit two options for this to the City...both of which were not approved.*
 4. TPC requested Lennar look at a dedicated left turn lane into the west side of the site.
 - a. *Lennar had 3J submit this option to the City...this was deemed unsafe queuing.*

- - - END OF DOCUMENT - - -



MEETING AGENDA

Date: February 20, 2015
Project: Sagert Property – 13159
Subject: City of Tualatin – Lennar – Tualatin Professional Center

1. Introductions
2. Overview of Subdivision Plans
3. Sagert Road Extension and Alignment
4. Existing Conditions – Improvements within the Right of Way
5. Design Alternatives for Access to Sagert
6. Design Alternatives for Parking
7. Considerations along Borland
8. Applicant's Responsibilities
 - a. What will the City require for the Application to be deemed complete?
9. City's Responsibilities
10. TPC's Responsibilities



Meeting Minutes – TPC Meeting

Meeting Date: February 20, 2015
 Project: Sagert Farms Subdivision
 3J No.: 13159
 Location: Tualatin Professional Center

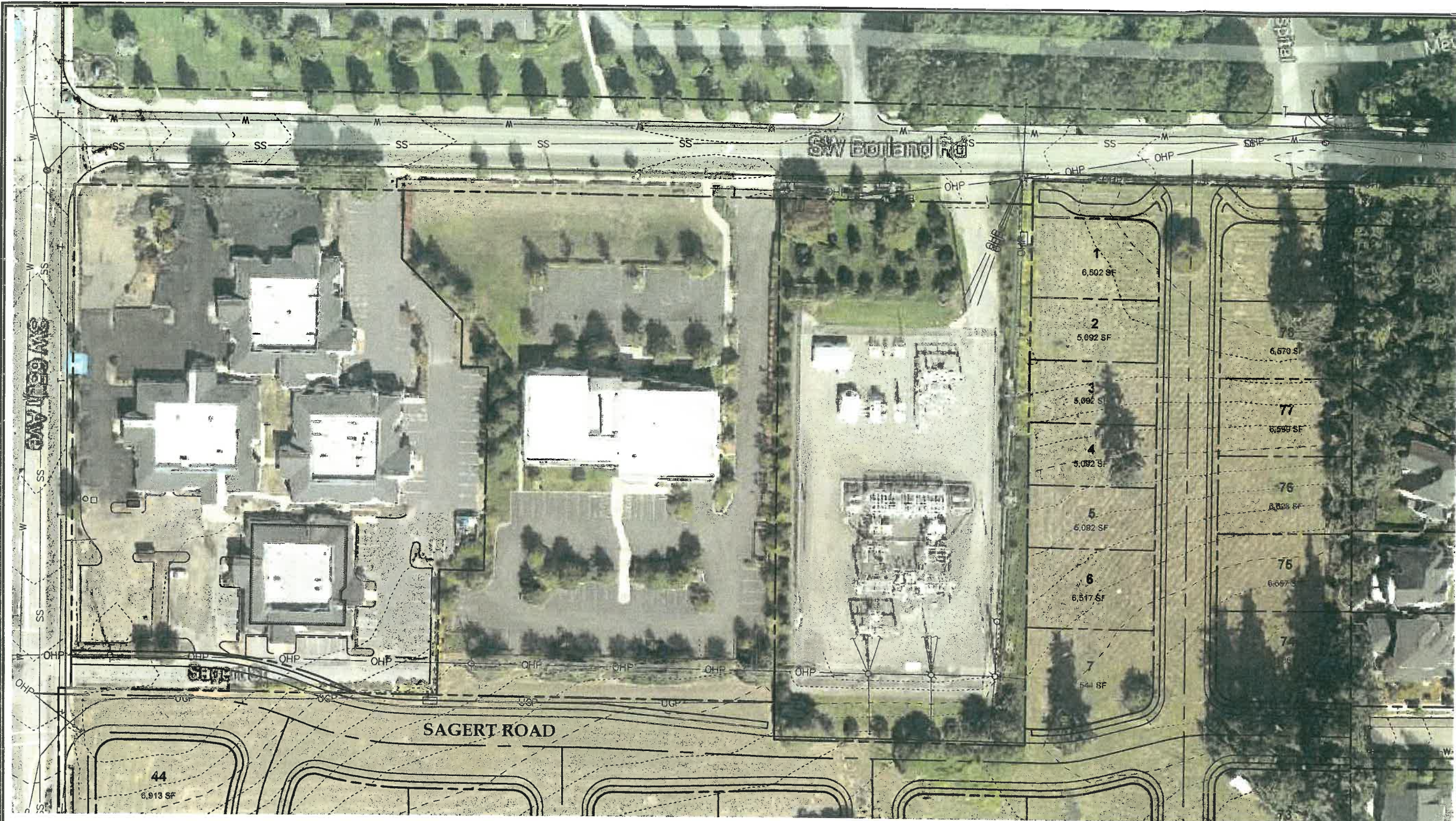
Attendee	Company	Phone
James Marlow	TPC	503-544-9776
Dean Delavan	TPC	503-860-2091
Cindy Walker	TPC	
Jim Walker	TPC	
Anjali Rosenbloom	TPC	503-784-9724
Cheryl Owens	TPC	503-680-1206
David TenHulzen	TPC	503-692-5654
Gary Owings	TPC	
Mike Loomis	Lennar	360-258-7900
Mike Anders	Lennar	360-258-7900
John Howorth	3J	503-946-9365 x201
Dave Rouse	City of Tualatin – City Engineer	503-691-3026
Tony Doran	City of Tualatin – Engineering Associate	503-691-3035
Clare Fuchs	City of Tualatin – Senior Planner	503-691-3027

The following is a record of the meeting between the Sagert Development Team and the Tualatin Professional Center owners on February 20, 2015.

Topic	Comment
Sagert Street Extension Alignment	<ul style="list-style-type: none"> • Overview of the alignment of the Sagert Street extension was discussed. • Existing right-of-way dedicated by the TPC development in 1983 was 30-ft with a 250-ft centerline radius required by the City. • Improvements are within the existing dedicated right-of-way.
Design Alternatives for Access to Sagert	<ul style="list-style-type: none"> • Owners concerned about access to the east and west lots if Sagert removes the circulation capability on site. • Owners would like to push the road onto Lennar's side to avoid disruption to their site. • Owners would like to maintain a left turn movement into the western lot. • Owners would like to maintain full access into the eastern lot.
Design Alternatives for maintaining parking count and circulation	<ul style="list-style-type: none"> • Any design that minimizes the loss of parking is desirable. • Parking close to the individual medical offices is a desire as well since patients are typically under sedation after treatments. • Circulation around the south side of the buildings is desirable to maintain.
Future Considerations along	<ul style="list-style-type: none"> • It was pointed out that any future site improvement may trigger the north access driveways to be closed off due the proximity to the

Borland	intersection and the classification of Borland Road. <ul style="list-style-type: none">• Design team pointed out opportunities that may be beneficial to explore now that the neighbor to the east is under a condition to close off their access to Borland as well.• Option onsite may include removing the 10-ft wall along the north end of the site. Further investigation may show that the cost of this revision to the site may not impact the existing building foundation and be less expensive than anticipated.• The Mei Medical Building owner may be interested in discussing a cross access and cross parking agreement.
Items for Follow-up	<ul style="list-style-type: none">• City and Lennar to review options for maintaining more access for the westerly parking lot within City codes and standards. This may require a closer review of the traffic analysis prepared by Lennar's design team.• Lennar to work with City on final alignment of Sagert.

- - - END OF DOCUMENT - - -



PLANNING DOCUMENTS	01/02/2015
REVISION SUMMARY	BY DATE

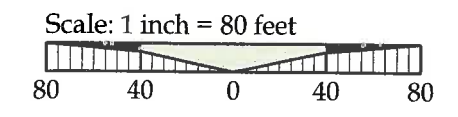
SAGERT ALIGNMENT PLAN
SAGERT FARMS
 SUBDIVISION
 TUALATIN, OREGON
 LENNAR NORTHWEST, INC



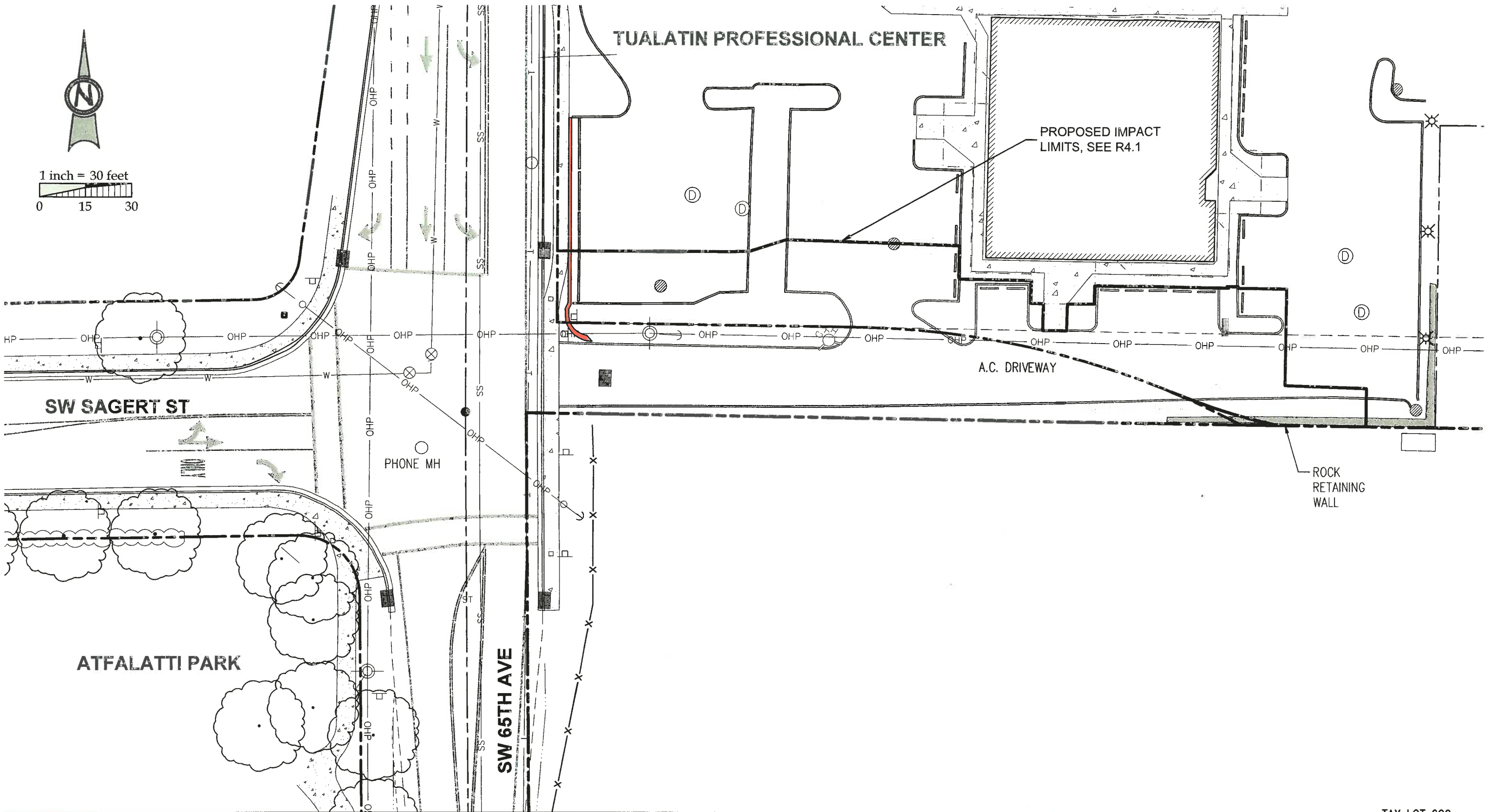
3J CONSULTING, INC
 CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING
 6075 SW GREFFITH DRIVE, SUITE 150, BEAVERTON, OR 97005
 PHONE: (503) 946-2385 FAX: (503) 955-4293

3J JOB ID #	13159
LAND USE #	
TAX LOT #	251E308 300 & 600
DESIGNED BY	MDS
CHECKED BY	AKT
SHEET TITLE	SAGERT PLAN
SHEET NUMBER	

P1.1



June 12, 2015, TPC/Lennar Meeting Materials



3J CONSULTING, INC



CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING

SAGERT ST & 65TH AVE
SAGERT FARM SUBDIVISION

TAX LOT 600

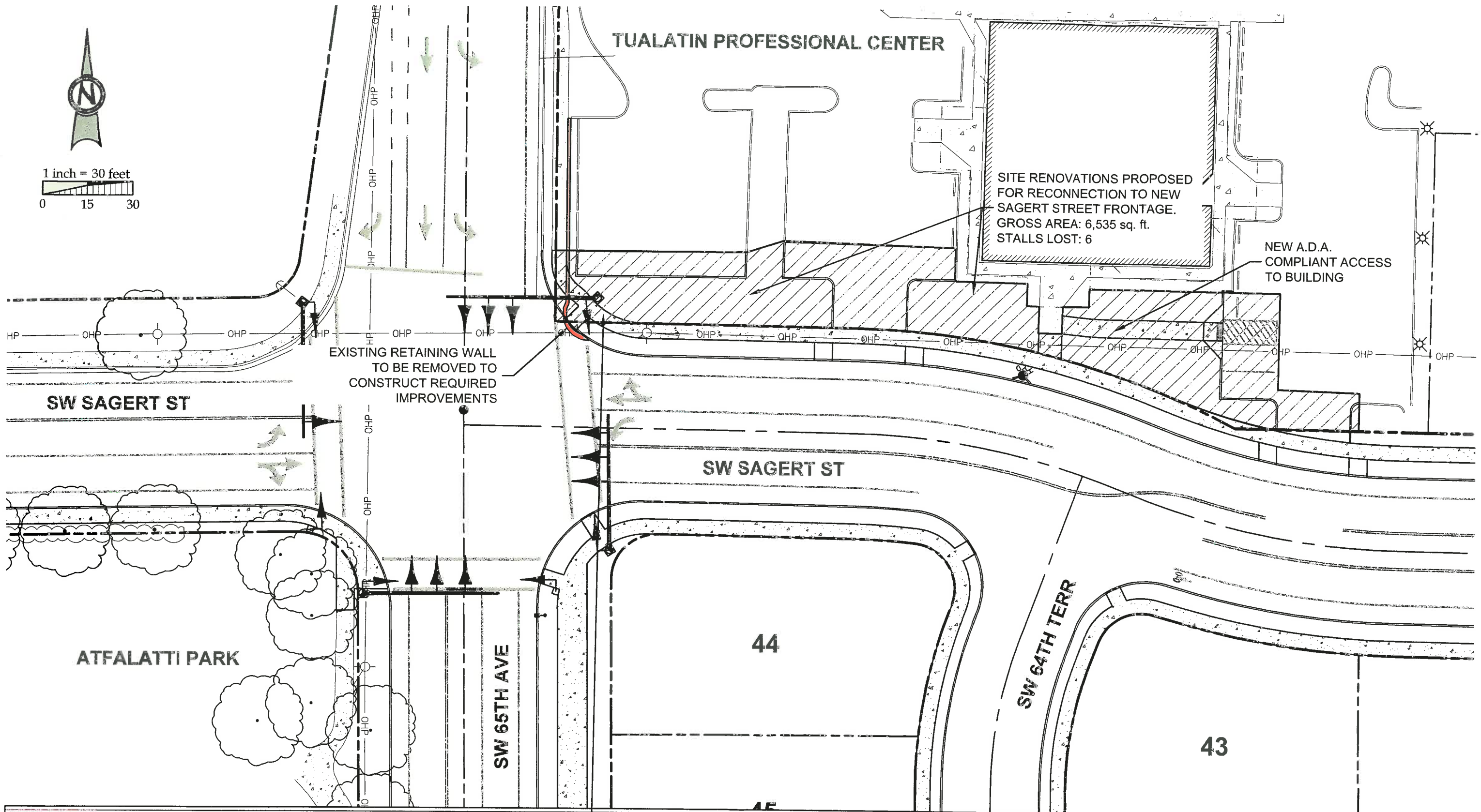
INFORMATION ONLY

FIGURE R1.0

Date: 5/28/15 **Attachment 5** By: JTE



1 inch = 30 feet
0 15 30



3J CONSULTING, INC



SAGERT ST & 65TH AVE SAGERT FARM SUBDIVISION

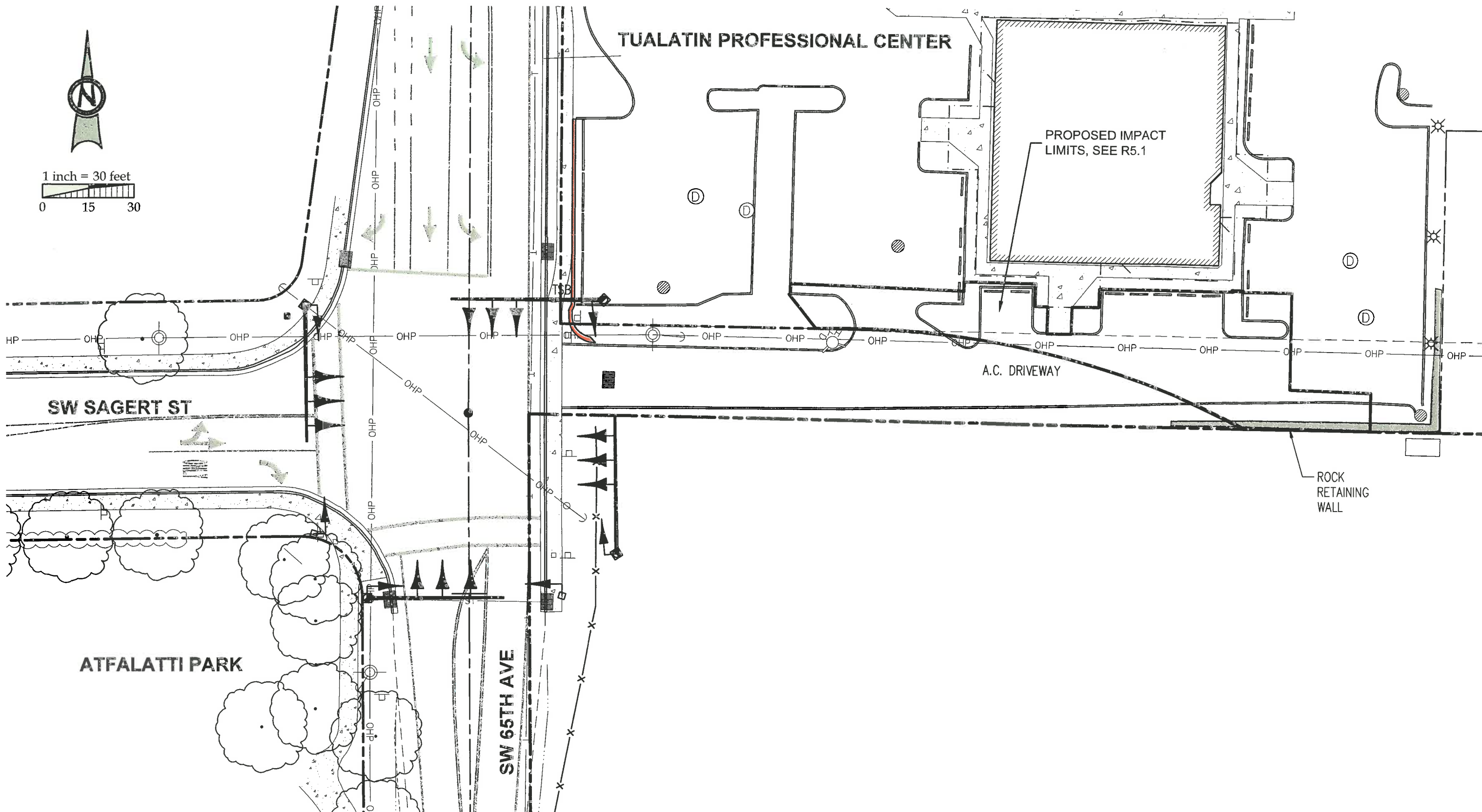
INFORMATION ONLY

FIGURE R1.1

Date: 5/28/15 Attachment 5 By: JTE
Page 9 of 18



1 inch = 30 feet
0 15 30



3J CONSULTING, INC



SAGERT ST & 65TH AVE SAGERT FARM SUBDIVISION

INFORMATION ONLY

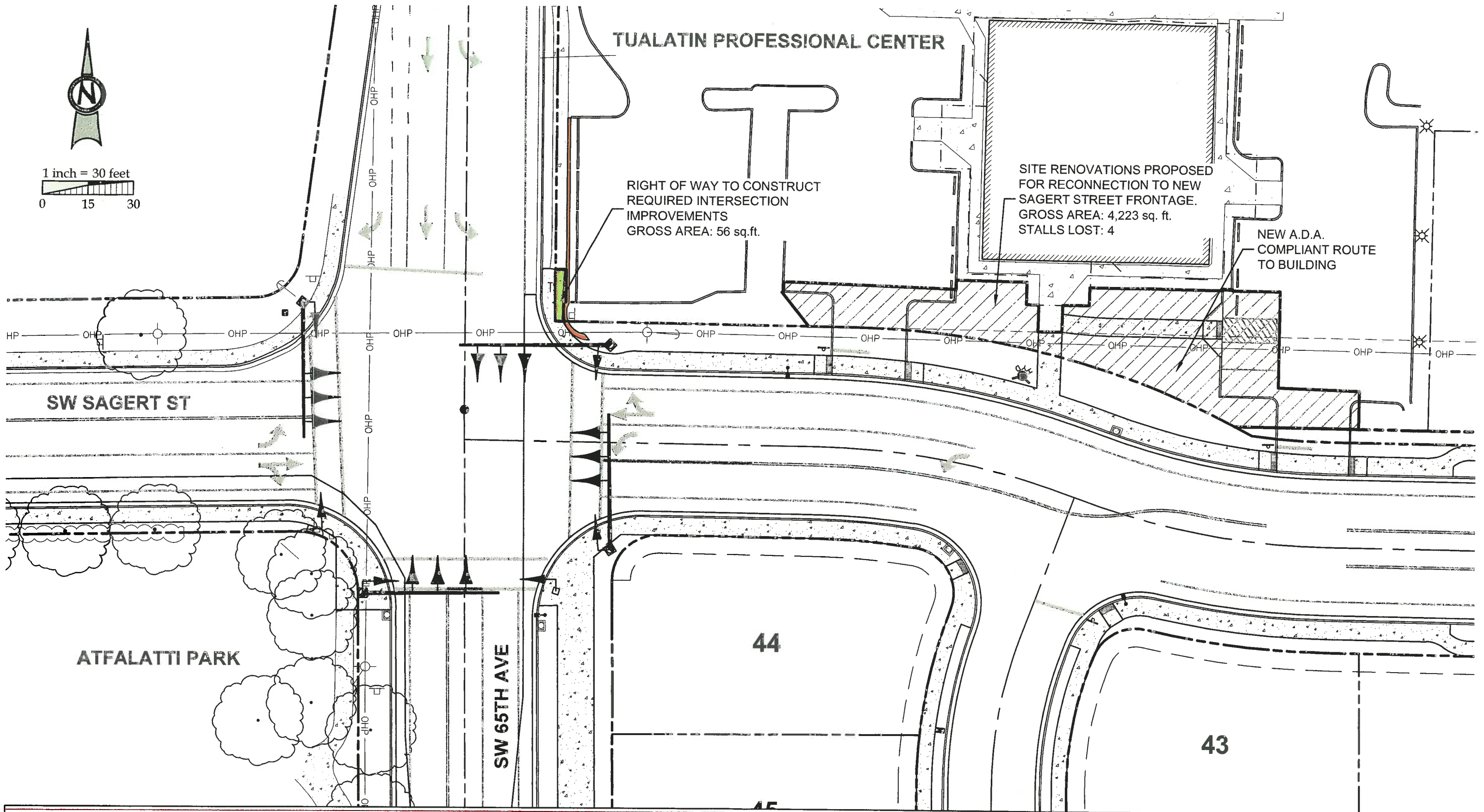
FIGURE R2.0

Date: 5/28/15 Attachment 5 By: JTE

TAX LOT 600



1 inch = 30 feet



3J CONSULTING, INC

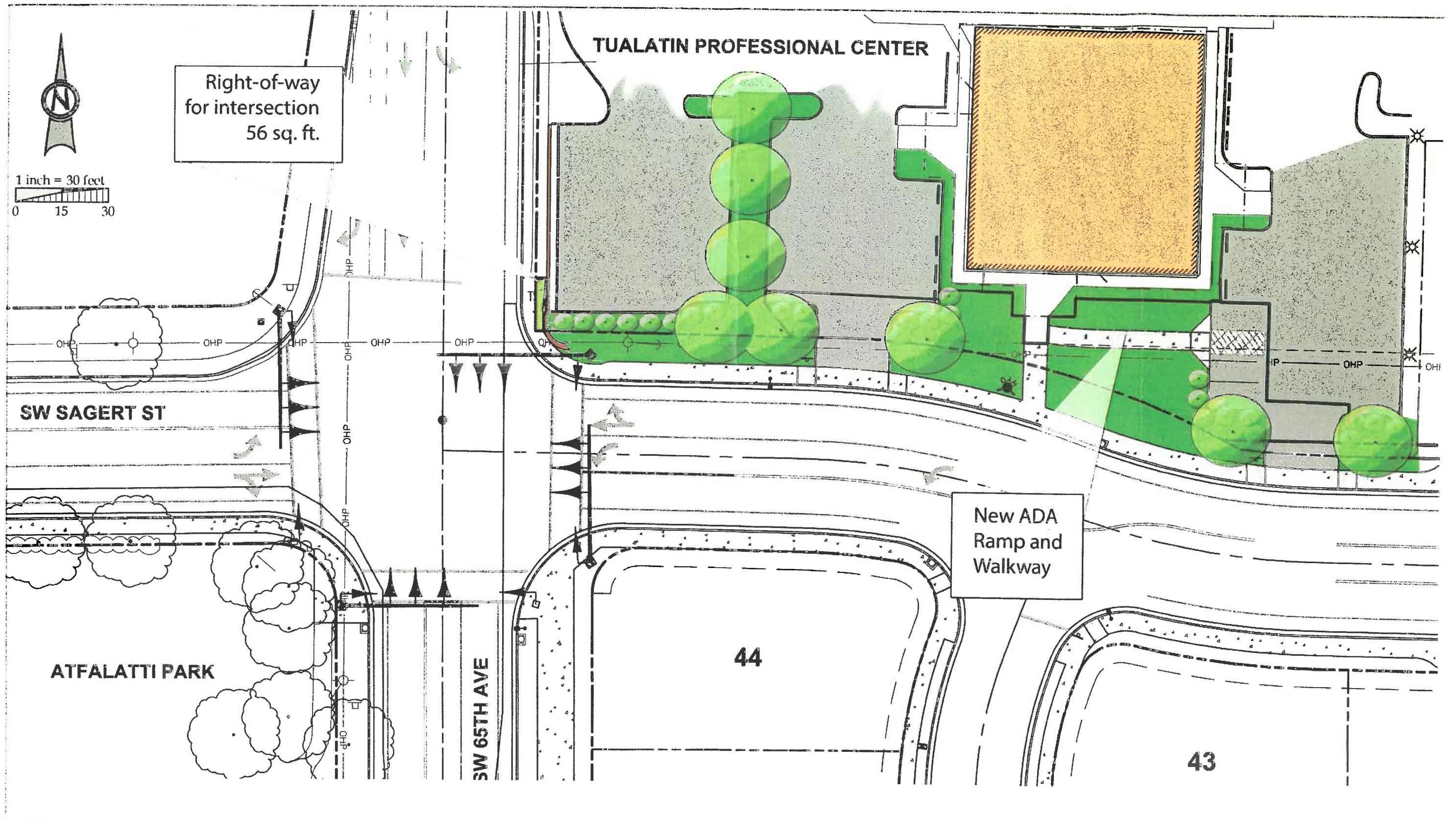


SAGERT ST & 65TH AVE SAGERT FARM SUBDIVISION

INFORMATION ONLY

FIGURE R2.1

Date: 5/28/15 Attachment 5 By: JTE



SAGERT FARM SUBDIVISION - SAGERT AND 65TH ALIGNMENT PLAN

June 2015



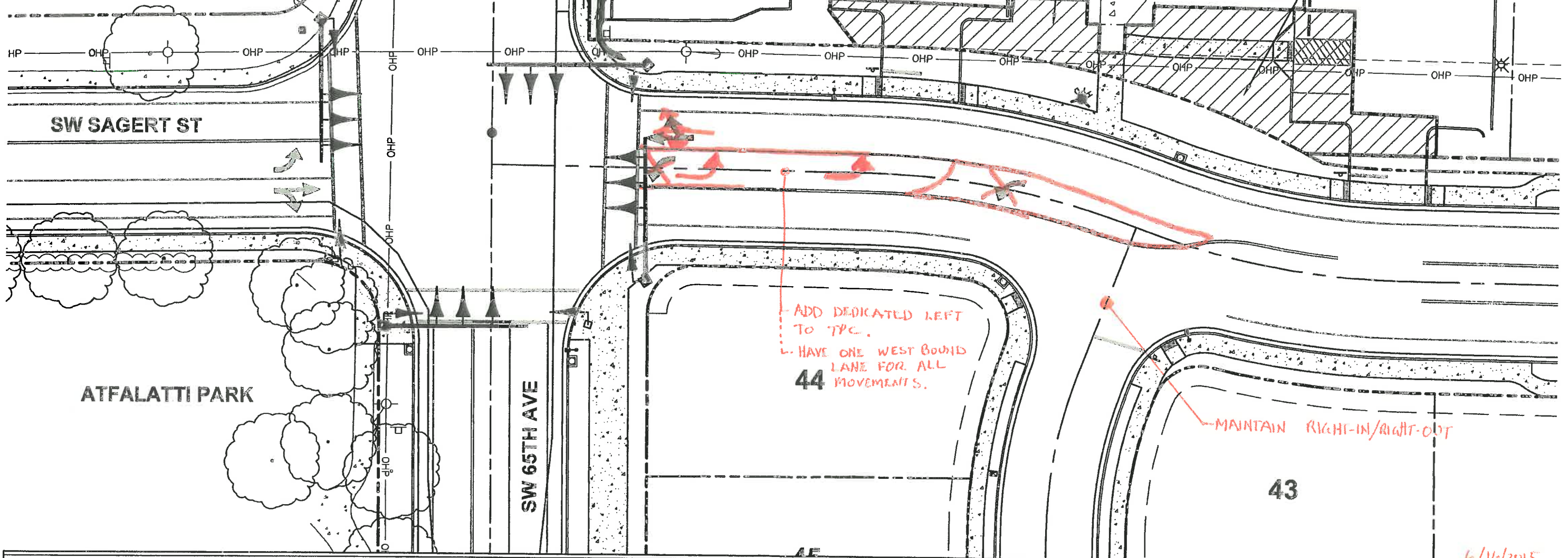
1 inch = 30 feet
0 15 30

TUALATIN PROFESSIONAL CENTER

RIGHT OF WAY TO CONSTRUCT
REQUIRED INTERSECTION
IMPROVEMENTS
GROSS AREA: 56 sq.ft.

SITE RENOVATIONS PROPOSED
FOR RECONNECTION TO NEW
SAGERT STREET FRONTAGE.
GROSS AREA: 4,223 sq. ft.
STALLS LOST: 4

NEW A.D.A.
COMPLIANT ROUTE
TO BUILDING



ADD DEDICATED LEFT
TO TPC.
HAVE ONE WEST BOUND
LANE FOR ALL
MOVEMENTS.
44

MAINTAIN RIGHT-IN/RIGHT-OUT

43

6/16/2015

3J CONSULTING, INC



CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING

SAGERT ST & 65TH AVE
SAGERT FARM SUBDIVISION

INFORMATION ONLY

FIGURE R2.1

Date: 5/28/15 Attachment 5 By: JTE
Page 13 of 18



RIGHT-IN/RIGHT-OUT

RIGHT-IN/RIGHT-OUT

TWO OPTIONS THAT MAY WORK FOR RI/RO ACCESS. THIS IDEA WOULD ALLOW VEHICLES FROM THE SOUTH TO ACCESS THE WEST LOT EASIER.

Sagert St

© 2014 Google

Hossaini, Kelly

From: Jeff Fuchs <jfuchs@ci.tualatin.or.us>
Sent: Tuesday, July 07, 2015 3:29 PM
To: John Howorth
Cc: Tony Doran; Clare Fuchs; Kelly Hossaini (kelly.hossaini@millernash.com); Mike Loomis (Mike.Loomis@Lennar.com); Michael Anders (Mike.Anders@lennar.com); Andrew Tull; Jesse Emerson; Josh Pronozuk
Subject: RE: Sagert Farm Subdivision - TPC Meeting Request
Attachments: 13159-TPC Dedicated LT Lane from Sagert.pdf; 13159-TPC RI-RO Options from 65th.pdf

John,

We reviewed the attached proposals for access to TPC. Here is our response.

1. The access proposed onto 65th presents multiple challenges. We would not typically approve such an access on a major arterial. 65th is a major arterial. We believe the proposed driveway approaches would most likely present safety issues. A traffic study would be needed to prove that the access are safe. It should also be noted that the east side of 65th is in Clackamas County's jurisdiction. All access improvements would require their approval. It would also be unusual for the City to approve these proposed access as part of your subdivision application. If TPC wanted to reconfigure their parking lot and access as shown, they could submit an application for an AR. However, for the reasons stated above it would probably not be approved.
2. The eastbound left turn pocket fails to meet any standard traffic solutions. The configuration shown would most likely cause queuing into the intersection, which does not meet our intersection design standards nor could I find anything in MUTCD that would allow this configuration.

At this point, access provided to TPC will need to continue to be from Sagert Street and from the existing driveway approaches on Borland. You will need to continue to work with TPC to identify access solutions that work from Sagert.

Let me know if you have questions or comments.

Thanks,

Jeff Fuchs, PE
City Engineer
City of Tualatin | Community Development
18880 SW Martinazzi Avenue
Tualatin, Oregon 97062-7092
o) 503.691.3034 | c) 541-788-6621
jfuchs@ci.tualatin.or.us | www.tualatinoregon.gov

From: John Howorth [<mailto:john.howorth@3j-consulting.com>]
Sent: Tuesday, June 16, 2015 11:33 AM
To: Jeff Fuchs
Cc: Tony Doran; Clare Fuchs; Kelly Hossaini (kelly.hossaini@millernash.com); Mike Loomis (Mike.Loomis@Lennar.com); Michael Anders (Mike.Anders@lennar.com); Andrew Tull; Jesse Emerson; Josh Pronozuk
Subject: Sagert Farm Subdivision - TPC Meeting Request
Importance: High

Jeff,

We held a meeting with the Tualatin Professional Center (TPC) condominium owners and their attorney last Friday afternoon. During that meeting we presented the full standard intersection design showing the potential impacts with that. We then followed up with an exhibit showing Sagert Street pushed south with some minor variations to the code. They understand the situation, but as you can imagine are still very unhappy with the results regardless of the options as they will lose circulation around the buildings.

To that end, we discussed several other options to maintain better access to their west parking lot. Attached are two quick exhibits showing the options suggested by TPC.

1. Dedicated Left Turn into the West Lot on Sagert. The first idea is an immediate left turn lane that could be used to queue on the roadway and not block any traffic on 65th, etc.
2. Right-in/Right-out on 65th. The second idea was to do a RI/RO on 65th. I explained that the onsite geometry of the parking lot may not allow this, and after reviewing the attached aerial, I have further concerns that this option would not be a safe alternative.

Our attorney has requested that we obtain a letter from you in response to these alternatives to present to TPC and include within our final application to the City. If an option is feasible we would also want to further explore the details and incorporate them into the plans.

Thanks for your time in reviewing these options.

John Howorth, PE

Principal Engineer

3J Consulting, Inc.

5075 SW Griffith Drive, Suite 150

Beaverton, OR 97005

O: (503) 946-9365 x201 C: (503) 577-8176

john.howorth@3j-consulting.com

Civil Engineering – Water Resources – Land Use Planning

www.3j-consulting.com | [Follow us on LinkedIn](#) | [Like us on Facebook](#)



1 inch = 30 feet
0 15 30

TUALATIN PROFESSIONAL CENTER

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NEW A.D.A.
COMPLIANT ROUTE
TO BUILDING

SW SAGERT ST

ATFALATTI PARK

SW 65TH AVE

ADD DEDICATED LEFT
TO TPC.
HAVE ONE WEST BOUND
LANE FOR ALL
MOVEMENTS.
44

MAINTAIN RIGHT-IN/RIGHT-OUT

43

6/16/2015

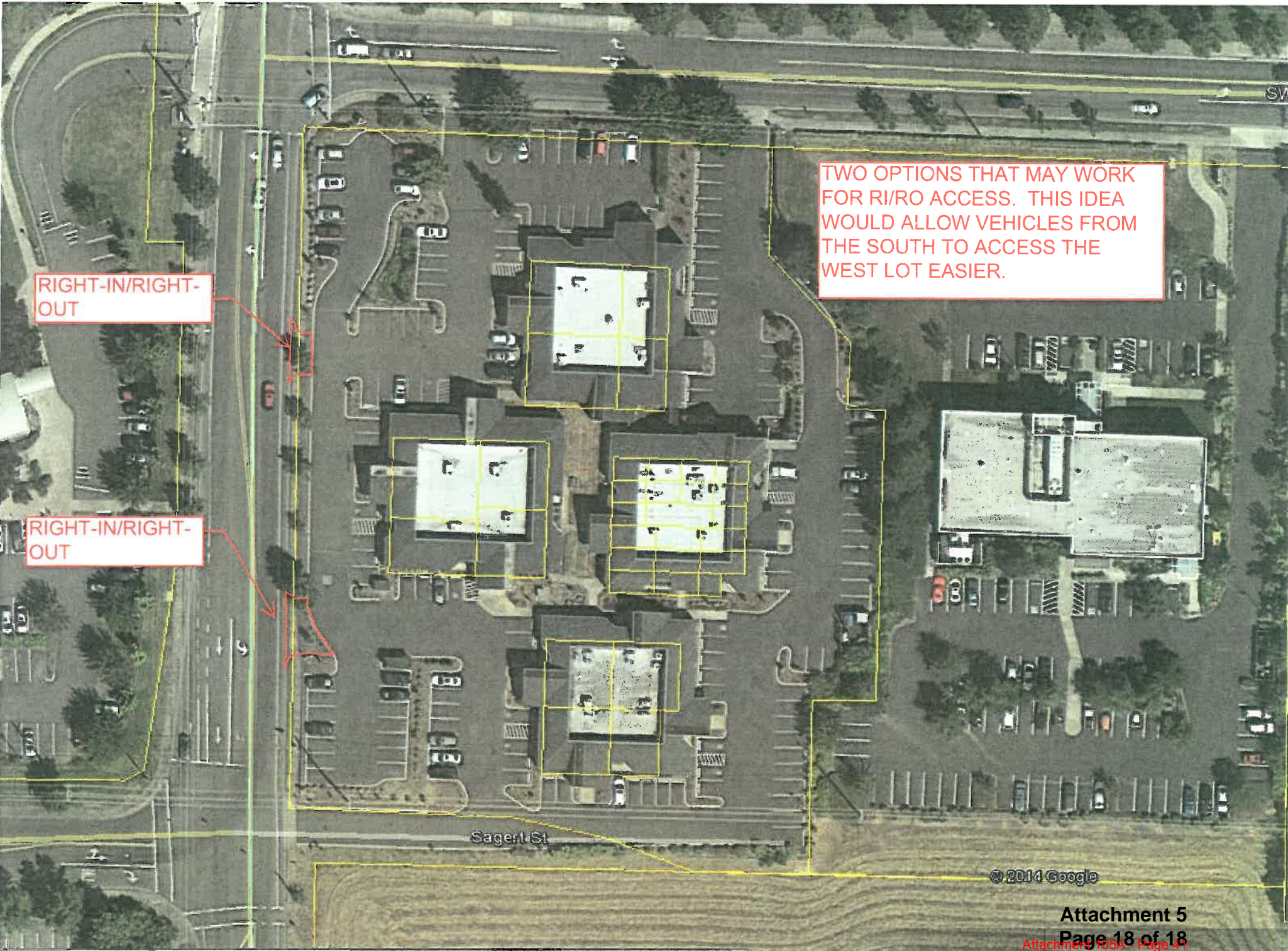
3J CONSULTING, INC



SAGERT ST & 65TH AVE SAGERT FARM SUBDIVISION

INFORMATION ONLY

FIGURE R2.1



RIGHT-IN/RIGHT-OUT

RIGHT-IN/RIGHT-OUT

TWO OPTIONS THAT MAY WORK FOR RI/RO ACCESS. THIS IDEA WOULD ALLOW VEHICLES FROM THE SOUTH TO ACCESS THE WEST LOT EASIER.

Sargent St

© 2014 Google



January 8, 2016

Project #: 17299

Jeff Fuchs
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: Response to the TPC Request for Review of the Sagert Street Access

Dear Mr. Fuchs,

This letter provides information in response to the Tualatin Professional Center's Request for Review regarding the future extension of Sagert Street and the corresponding access limitation proposed at their western site driveway.

Background

The City of Tualatin's adopted *Transportation System Plan* (TSP) identifies the need for future signalization of the SW Sagert Street/SW 65th Avenue intersection as well as the extension of SW Sagert Street from SW 65th Avenue east. Tualatin Development Code (TDC) Sections 11.630 and 74.420 effectively dictate the easterly extension of SW Sagert Street in conjunction with development of the proposed Sagert Farms site.

The *Sagert Farms Development Transportation Impact Analysis* (TIA) was prepared in June 2015 (along with a subsequent update in August 2015) and was guided in part by the City's TSP. The TIAs determined that the TSP-identified SW Sagert Street/SW 65th Avenue intersection signalization is needed in conjunction with site development to accommodate additional traffic from the Sagert Farms development and anticipated changes in circulation brought about by the required roadway extension.

The design team representing the Sagert Farms Development worked to develop alignment options for the easterly extension of SW Sagert Street that would accommodate the proposed Sagert Farm development while preserving access to the adjacent Tualatin Professional Center (TPC). The approved alignment for the roadway extension maintains one driveway serving TPC's western parking lot and one driveway serving TPC's eastern parking lot.

Given that the proposed driveway serving TPC's western parking lot would be located less than 100 feet from the newly reconstructed/signalized SW Sagert Street/SW 65th Avenue intersection, vehicular movements are recommended to be limited to right-turns only at the western driveway access via a raised median. The raised median will restrict left-turns and through movements at both the TPC western parking lot and the new SW 64th Terrace (located approximately half-way between the TPC

western parking lot driveway and the TPC eastern parking lot driveway). The turn movement restrictions are recommended based on operational and safety considerations within the influence area of the signalized SW Sagert Street/SW 65th Avenue intersection. Specifically, westbound queues on SW Sagert Street extension are projected to routinely extend to SW 64th Terrace. As a result, westbound queues will physically block access to the TPC western site driveway. The proposed turn movement restrictions and raised median treatment will better these vehicle queues while ensuring the operational integrity and safety of the SW Sagert Street/SW 65th Avenue intersection¹.

This design and recommended restriction of turning movements at the TPC west driveway are supported by various Tualatin Development Code sections as identified below:

- TDC 73.400 (15)(a) states that except for single family dwellings, the minimum distance between a private driveway and the intersection of collector or arterial streets shall be 150 feet.
- TDC 75.010 states that the purpose of TDC Chapter 75: Access Management is to “promote the development of safe, convenient and economic transportation systems and to preserve the safety and capacity of the street system by limiting conflicts resulting from uncontrolled driveway access, street intersections, and turning movements while providing for appropriate access for all properties”.
- TDC 75.060 (2) states that “The City Engineer may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means”.

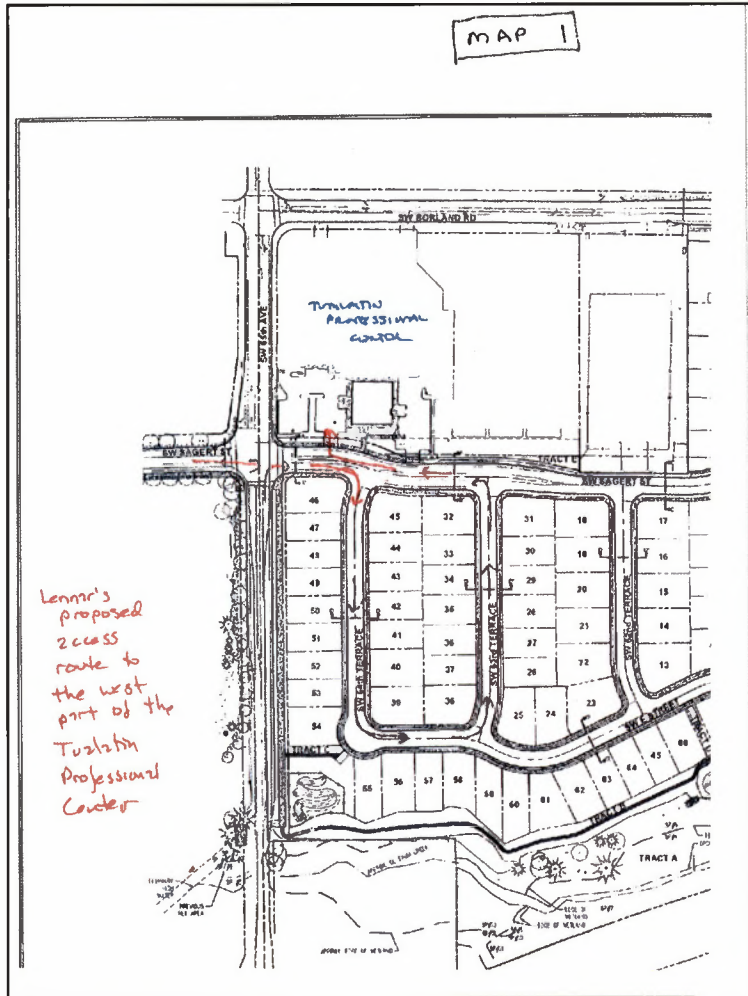
In recognition that the access recommendation would result in some re-routing of TPC site-generated traffic, the TIAs provided a detailed assessment of this and other circulation modifications and concluded that the adjacent intersections/driveways could adequately and safely accommodate the proposed modifications.

TPC Request of Review Comments

On December 16, 2015, TPC submitted a Request for Review to the City of Tualatin. As part of this request, TPC asserts that the proposed western parking lot access limitations will force all patients/visitors who park in the western parking lot to re-route and loop through the proposed Sagert Farms subdivision as graphically noted in Exhibit 1 below.

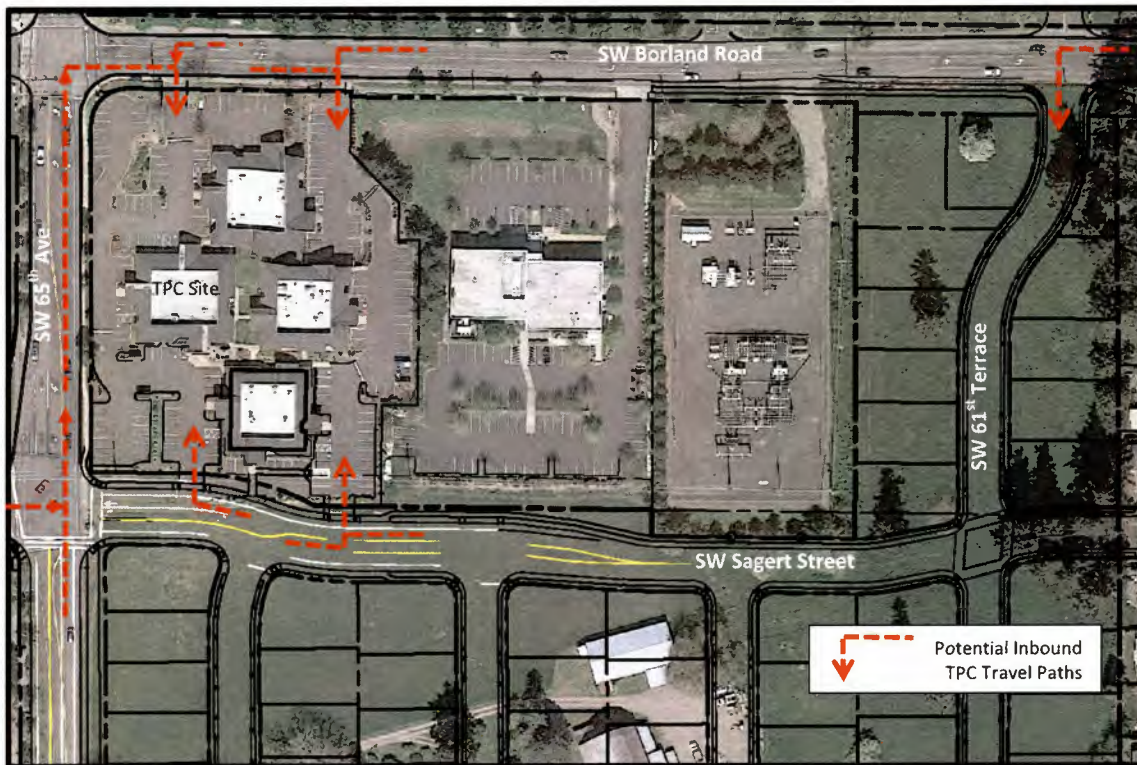
¹ Allowing eastbound left-turn movements into the TPC western site driveway could result in eastbound left-turn traffic stopping in the eastbound travel lane while waiting for a gap in westbound traffic in order to complete the left-turn. The eastbound left-turn traffic waiting for a gap could quickly result in vehicle spillback to SW 65th Avenue, further complicating intersection operations and safety.

Exhibit 1 - Traffic Rerouting Exhibit from the TPC Request for Review Letter



While the path illustrated in Exhibit 1 is a potential option, we believe TPC clients and especially TPC staff are more likely to follow alternative routing scenarios. The TPC western parking lot currently has, and will continue to have, a full movement driveway located off of SW Borland Road. For those familiar with the site (employees, returning clients/patients), it is anticipated that this fully accessible driveway will likely become the preferred site ingress driveway. Exhibit 2 illustrates this more likely alternative routing as well as all of the other inbound routing scenarios. Recognizing the SW Borland Road driveway is fully accessible for all visitors regardless of where they are coming from, we respectfully anticipate that businesses within TPC will direct their clients and staff to enter TPC via the SW Borland Road primary driveway when providing verbal or written directions.

Exhibit 2 – Inbound Travel Paths from South on SW 65th Avenue, East/West on SW Sagert Street, and East on SW Borland Road



In addition to this more likely routing scenario, the TPC site will have a second fully accessible driveway located off of the SW Sagert Street extension that will serve the eastern parking lot. Clients/patients can use this lot for parking, or during less busy times, use it to turn around in order to access the western parking lot.

Lastly, it should also be pointed out that the Sagert Farms Development will be enhancing street connectivity in the area that will benefit the TPC site. Specifically, the SW Sagert Street extension and the proposed SW 61st Terrace street connection to SW Borland Road will provide an alternate routing choice for employees/customers/patients traveling to the site via westbound SW Borland Road.

While we understand TPC's issues regarding the proposed access limitations at the west parking lot access, the network connectivity and signalization identified by the City's TSP and development code dictate that the access currently available to the TPC site will change to accommodate the planned public street network. If turn movement restrictions were not signed and enforced by the proposed raised median, westbound queues on SW Sagert Street can be expected to routinely block the western site driveway and result in a de-facto turn movement restriction. From a public safety and traffic signal operations perspective, we conclude that installation of the proposed median is appropriate and that existing and future TPC site staff and clients will have adequate access.

Please let us know if you have any questions.

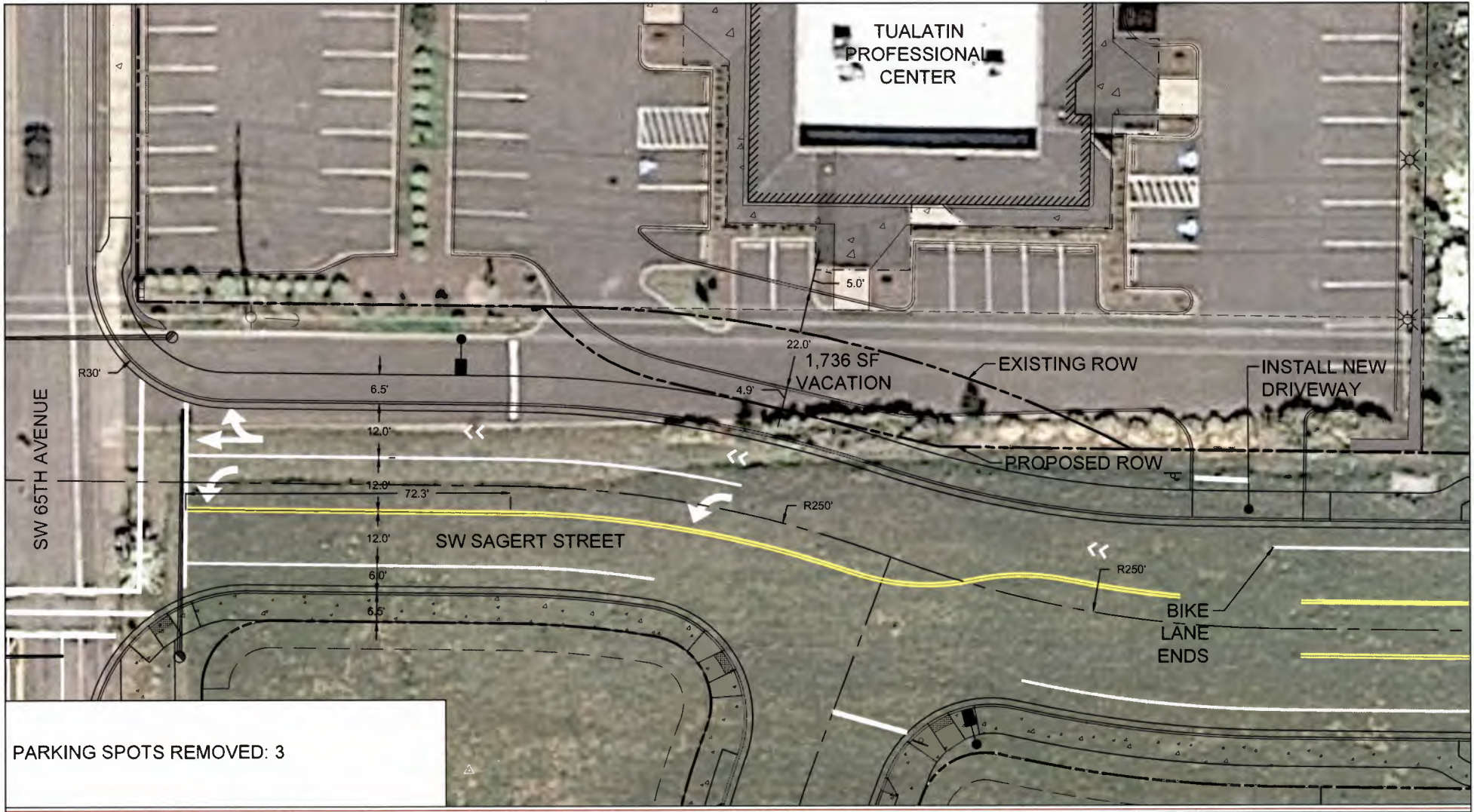
Sincerely,
KITTELSON & ASSOCIATES, INC.



Matt Hughart, AICP
Associate Planner



Chris Brehmer, P.E.
Principal Engineer



3J CONSULTING, INC



CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING

SAGERT SUBDIVISION TPC EXPANSION EXHIBIT

SCALE: 1" = 20'




Exhibit Use

EXHIBIT 2

Date: 1/6/16 By: CKW

AGREEMENT

THIS AGREEMENT, made and entered into this 14th day of May, 1984, by and between CITY OF TUALATIN, a municipal corporation in Washington County, Oregon, hereinafter referred to as "CITY," and CONSOLIDATED ASSET GROUP, INC., hereinafter referred to as "DEVELOPER,"

WITNESSETH:

WHEREAS, the DEVELOPER received approval for a development from the CITY; and

WHEREAS, Land Partition (LP-83-01), approved by the City Council of Tualatin on March 28, 1983, contains certain conditions relative to half-street improvements in S.W. 65th Avenue and S.W. Sagert Street, and

IN CONSIDERATION of the mutual promises, covenants and undertakings, IT IS AGREED:

Section 1: The DEVELOPER agrees to deposit with the CITY the sum of \$15,613.95. This amount is equal to the cost of construction that would have been incurred by the DEVELOPER had the improvements to S.W. 65th Avenue and S.W. Sagert Street been constructed at the time the project was developed. The improvements required to be constructed in S.W. 65th Avenue and S.W. Sagert Street are adjacent to the Tualatin Professional Center are as follows:

Widening of the pavement to provide a 20-foot half-street improvement along S.W. Sagert Street and 22-foot half-street improvement along S.W. 65th Avenue from the centerline of the road, installation of curbs

84 16657

and gutters and sidewalks, street trees and street lights along S.W. 65th Avenue and S.W. Sagert Street, reconstruction of portions of S.W. 65th Avenue deemed to be of inadequate structural section to handle the projected traffic loads on S.W. 65th Avenue, and to make adjustments in the horizontal and vertical alignment as necessary to construct S.W. 65th Avenue in a safe manner.

Section 2: The funds deposited with the CITY shall be retained by the CITY and all interest earned on this money shall be used for the construction of the improvements described in this agreement.

Section 3: CITY agrees to use the funds deposited by DEVELOPER and all interest accrued on said funds in the following manner:

1. CITY may construct a half-street improvement required of DEVELOPER using the funds deposited and interest accrued thereon.
2. CITY may combine the funds deposited and interest accrued thereon from DEVELOPER with other funds available to the CITY for construction of a City sponsored project.
3. CITY may combine the funds deposited and interest accrued thereon with funds derived from a local improvement district for the improvement of S.W. 65th Avenue and S.W. Sagert Street.

Section 4: If the CITY constructs a half-street improvement as discussed above in Section #1 above, the CITY will keep a detailed cost accounting of the project, the excess funds upon completion of the project, and these funds

2

will be returned to the DEVELOPER. If the total construction costs exceed the amount deposited by the DEVELOPER, the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

Section 5: If the CITY combines funds with other funds for City projects as in 2(2) above, CITY will determine an appropriate assessment method for properties that would be included in a local improvement district had one been formed. If the amount that would be assessed to DEVELOPER is less than the amount deposited by DEVELOPER and interest accrued on said deposit and the CITY will refund the difference back to DEVELOPER. If the total cost exceeds the amount deposited by the DEVELOPER the CITY will bill the DEVELOPER and the DEVELOPER agrees to pay the CITY within 60 days of receipt of the bill.

The CITY and DEVELOPER agree that the maximum obligation of the DEVELOPER under Sections 4 and 5 is 10% more than the amount deposited plus interest earned under Section 2 of this agreement.

Section 6: If the City forms a Local Improvement District to construct the improvements covered by this agreement and if assessment against this property is less than the total of the funds deposited by DEVELOPER, and interest accrued thereon, the CITY will refund to DEVELOPER the difference. If the assessment determined by the CITY is greater than the funds deposited and interest accrued thereon by DEVELOPER, DEVELOPER will pay the additional amount over the amount deposited and interest accrued thereon. This additional amount will be eligible for Bancroft Bond financing. If the CITY forms a Local Improvement District to construct the improvements covered by this agreement, the DEVELOPER may elect to Bancroft the entire assessment and receive a refund of the amount deposited in Section 1 of this agreement with the interest accrued in Section 2.

3

H.2 C
Section 7: The DEVELOPER agrees that by execution of this agreement, he will not remonstrate against the formation of a local improvement district to construct improvements to S.W. 65th Avenue and S.W. Sagert Street.

Section 8: This agreement shall be in effect for a period of five (5) years from its enactment. If at the end of five (5) years the CITY has not used funds deposited and interest accrued by DEVELOPER for the improvement of S.W. 65th Avenue and S.W. Sagert Street, then the funds and interest shall be returned to DEVELOPER.

Section 9: It is intended by the parties that all promises to be performed by DEVELOPER shall be covenants, conditions and restrictions running with the title to the property and shall be binding upon DEVELOPERS, their successors in interest and assigns.

Section 10: Promptly after its execution by the parties, this agreement shall be recorded in the records of Washington County to provide public notice of the conditions, covenants and restrictions against the title to the property imposed by this agreement.

Section 11: The DEVELOPER agrees that the driveway improvements to S.W. Sagert Street are temporary in nature and agrees to maintain said driveway improvements at his expense.

Section 12: Land Partition (LP-83-01) contains certain conditions relative to half-street improvements along S.W. Borland Road.

4

1. Said improvements have been completed to the satisfaction of the CITY.
2. DEVELOPER is required to submit to the CITY a maintenance bond in the amount of 15% of the cost of said half-street improvements as guarantee against any defects in materials and workmanship for a period of (1) year from the date of this agreement, DEVELOPER agrees to deposit the sum of \$3750.00 in substitution for said maintenance bond.
3. CITY agrees to use said deposit to correct any defects in materials and workmanship for a period of (1) year from the date of this agreement.
4. CITY agrees to refund the balance of the deposit plus any interest accrued on the initial deposit to the DEVELOPER at the end of the (1) year period.

IN WITNESS WHEREOF, the parties have executed this agreement to be effective on the date first above mentioned.

CITY OF TUALATIN, OREGON

BY

[Signature]
Mayor

ATTEST:

BY

Stephen A. Rhodes
City Recorder

DEVELOPERS:

[Signature]

5

PAGE FIVE

SUBSCRIBED AND SWORN to before me this 29th day of March, 1983. H-2C

Mary A. Wood
Notary Public for Washington

My commission expires: 6-1-86

STATE OF WASHINGTON
County of Clark
I, _____, Notary Public for the State of Washington,
do hereby certify that the foregoing instrument was duly executed by
the person or persons named therein, and that the instrument is a true and
correct copy of the original as the same appears from the records of said County at
this date.

1983 MAY 17 PM 1:56

Witness my hand and seal, affixed
Juanita M. Olin
JUANITA M. OLIN
County Clerk
Recorder Certificate
CCP 64 S-4 16657



6

PAGE SIX

550
5-56

H-20

RESOLUTION NO. 1408-84

A RESOLUTION AUTHORIZING THE MAYOR AND CITY RECORDER
TO EXECUTE AN AGREEMENT WITH CONSOLIDATED ASSET GROUP

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON,
that:

Section 1: That the agreement (attached hereto) between the Consolidated
Asset Group and the City of Tualatin is for the purpose of half-street
improvements in S.W. 65th Avenue and S.W. Sagert Street adjacent to the
Tualatin Professional Center Development.

Section 2: That the Mayor and City Recorder are authorized to execute
the attached agreement and record said agreement on the Clackamas County
Book of Records.

INTRODUCED AND ADOPTED this 9th day of April, 1984.

CITY OF TUALATIN, OREGON

BY [Signature]
Mayor

ATTEST:

BY [Signature]
City Recorder



STATE OF OREGON)
County of Clackamas)
I, Juanita N. Orr, County Clerk, Es-Office
Recorder of Conveyances of the State of Oregon,
for the County of Clackamas, do hereby certify
that the instrument of writing was received for
recording in the records of said County at

1984 MAY 17 PM 1:56



Resolution No. 1408-84

84 16656

RESOLUTION NO. 1416-84A RESOLUTION APPROVING LAND PARTITIONING
APPLICATION OF DAVID EVANS & ASSOCIATES

WHEREAS, a public hearing was held before the City Council of the City of Tualatin, Oregon, on March 28, 1983, upon the application of David Evans & Associates for a land partitioning on real property hereinafter described, and

WHEREAS, notice of said public hearing was given as required in accordance with the applicable ordinances of the City, in the Tualatin Times, a newspaper of general circulation within the City, on March 17, 1983, and March 24, 1983, which notice by publication is evidenced by that certain Affidavit of Publication, marked Exhibit "A," attached hereto and by this reference incorporated herein, and by mailing a copy of notice to affected property owners, which notice by mailing is evidenced by that certain Affidavit of Mailing, marked Exhibit "B," attached hereto and by this reference incorporated herein, and

WHEREAS, the Council heard and considered the testimony and evidence presented on behalf of the applicant, the City Staff and those appearing at said public hearings, and

WHEREAS, based upon the evidence presented to and considered by the Council, the Council made and entered the Findings of Fact set forth in Exhibit "C," attached hereto and by this reference incorporated herein, and

WHEREAS, based upon the foregoing Findings of Fact, the Council considers that it is in the best interests of the owner and applicant of the subject property, the residents and inhabitants of the City and the adjacent and affected property owners that the requested land partitioning be approved subject to the conditions set forth below.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, THAT:

Section 1: The partitioning of the following-described tract of land into Lots 1 and 2 as depicted and described on Exhibit "D," attached hereto and by this reference incorporated herein, be and the same hereby is approved subject to the conditions contained in Section 2 below:

A tract of land described on the records of the Clackamas County Department of Assessment and Taxation as Tax Account No. 21E-30B-500.

Section 2: The approval of partitioning granted in Section 1

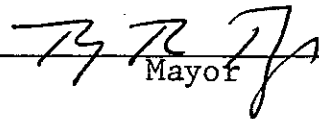
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above is subject to the following conditions:

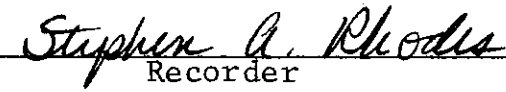
1. That prior to the adoption of the resolution approving the partition, the owner shall dedicate additional right-of-way to the public to provide the following widths at the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan.
 - a. In S. W. Borland Road to provide a total of 33 1/2 feet from the centerline of said road abutting Lots 1 and 2 of the site; and
 - b. In S. W. 65th Avenue to provide a total of 30 feet from the centerline of said street abutting Lot 1 of the site; and
 - c. In the future easterly extension of S. W. Sagert Street to provide a total of 30 feet from the centerline of said street abutting Lot 1.
2. That prior to adoption of the resolution approving the partition, the owner shall enter into an agreement with the City of Tualatin under the provisions of which the owner shall provide the following street improvements in the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan:
 - a. A half-street improvement including a sidewalk or bicycle path in S. W. Borland Road abutting Lot 1 to be constructed during development of Lot 1.
 - b. A half-street improvement, including sidewalk in S. W. 65th Avenue abutting Lot 1, to be constructed following telephone cable relocation.
 - c. A half-street improvement, including sidewalk, in that portion of the eastward extension of S. W. Sagert Street described in 1-c above, to be constructed during development of Lot 1.
3. A half-street improvement including a sidewalk or bicycle path in S. W. Borland Road abutting Lot 2 to be constructed prior to issuance of a building permit.
4. In the event documents are not recorded within one year after adoption of the resolution, with the Clackamas County Recorder to create lots authorized by the resolution, then this partition shall be automatically terminated and shall be of no further legal effect.

INTRODUCED AND ADOPTED this 29th day of May, 1984.

CITY OF TUALATIN, OREGON

By 
Mayor

ATTEST:

By 
Recorder

F4C

EXHIBIT "C"

FINDINGS:

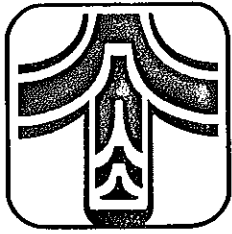
LP-83-01--DAVID EVANS & ASSOCIATES
(S.E. CORNER, S.W. 65TH AVENUE & BORLAND ROAD)
March 24, 1983

1. The subject property is located at the southeast corner of S.W. 65th Avenue and Borland Road, contains a total of 5.5 acres, and is listed on the records of the Clackamas County Assessor's Office as Tax Lot 500, Tax Map 21E 30B.
2. The applicant proposed to partition the site into two parcels, namely Lots 1 and 2 as shown on the sketch map in Exhibit B. Lot 1 contains 2.82 acres, and Lot 2 contains 2.41 acres.
3. The Tualatin Community Plan designates the site as an Office Commercial (CO) Planning District. The CO designation also applies to land across 65th Avenue from the site. Land to the north, east and south is in a Low Density Residential (RL) Planning District.
4. Water service is available to the site from 12-inch mains located both in 65th Avenue and Borland Road.
5. Sewer service is available to the site from an 8-inch main in S.W. 65th Avenue.
6. Storm drainage for the site will ultimately be accommodated by a storm drain constructed when S.W. 65th Avenue is improved.
7. Lots 1 and 2 both conform to the CO Planning District Standards with respect to lot size, lot width, and the required amount of street frontage.
8. Medical office development on the site as proposed by the applicant could result in the generation of up to 3,250 two-way vehicle trips per average weekday on S.W. 65th Avenue and S.W. Borland Road, based on trip generation data contained in Table 7 of the document entitled "Report on the Transportation Element, Tualatin Urban Renewal Plan, Tualatin, Oregon." This report is contained in Technical Appendix D of the Urban Renewal Plan which Plan and Appendix were adopted by the City Council on October 10, 1977 by Ordinance No. 406-77. To accommodate this additional traffic, half-street improvements, including sidewalks should be provided along S.W. 65th Avenue and Borland Road abutting the site. The design standards for S.W. 65th Avenue and Borland Road abutting the site are contained in the Transportation Element of the Tualatin Public Facilities Plan, which Public Facilities Plan is part of the Tualatin Community Plan. The design standards are based on a Year 2000 forecast of 9,000 and 2,000 two-way vehicle trips per average weekday for S.W. Borland Road and S.W. 65th Avenue, respectively.

F-4C

At present, S.W. 65th Avenue and Borland Road adjacent to the site are improved to a width of approximately 26 feet with gravel shoulders and roadside ditches for storm drainage. S.W. 65th Avenue and Borland Road are not currently improved to City standards, and are not adequate in its present condition to safely accommodate additional vehicle traffic.

9. The existing right-of-way width for S.W. 65th Avenue abutting the site is 40 feet. Dedication of 10 feet of additional right-of-way is necessary to provide a total of 30 feet of right-of-way from the center line of S.W. 65th Avenue abutting the site in order to accommodate the increased traffic described in Finding 8 above. This will allow the proposed development to comply with the Transportation Element of the Tualatin Public Facilities Plan, which Plan calls for a 60-foot right-of-way for S.W. 65th Avenue.
10. The existing right-of-way width for S.W. Borland Road abutting the site is 53½ feet. Dedication of 13½ feet of additional right-of-way is necessary to provide a total of 33½ feet of right-of-way from the center line of S.W. Borland Road abutting the site in order to accommodate the increased traffic described in finding 8 above. This will allow the proposed development to comply with the Transportation Element of the Tualatin Public Facilities Plan, which Plan calls for a 67-foot right-of-way for S.W. Borland Road.
11. Presently, S.W. Sagert Street ends at its intersection with S.W. 65th Avenue, opposite the southwesterly corner of the site. S.W. Sagert Street should be extended east along a portion of the south line of Lot 1 to provide additional access to Lot 1 and also to provide access for future residential development planned for land south of the site. In order to adequately provide for the portion of the Sagert Street extension adjacent to Lot 1, 30 feet of additional right-of-way should be dedicated to the public along the south edge of Lot 1 as shown on the sketch map in Exhibit B. Also, a half-street improvement, including sidewalks, should be provided in this portion of said Sagert Street extension.



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000

March 30, 1983

Michael Reidy
Plaza Builders, Inc.
500 N. Morain, Suite 2104
Kennewick, Washington 99336

Dear Mr. Reidy:

RE: Council Action on Land Partition (Tax Lot 500, Tax Map 21E 30B)

At its March 28, 1983 meeting, the Tualatin City Council approved the land partition requested by you for the above-described property. Enclosed is a copy of the staff report considered by the Council at the meeting. The Council approved your request subject to the following conditions:

1. That prior to the adoption of the resolution approving the partition, the owner shall dedicate additional right-of-way to the public to provide the following widths at the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan.
 - a. In S.W. Borland Road to provide a total of 33½ feet from the center line of said road abutting Lots 1 and 2 of the site; and
 - b. In S.W. 65th Avenue to provide a total of 30 feet from the center line of said street abutting Lot 1 of the site; and
 - c. In the future easterly extension of S.W. Sagert Street to provide a total of 30 feet from the center line of said street abutting Lot 1.
2. That prior to adoption of the resolution approving the partition, the owner shall enter into an agreement with the City of Tualatin under the provisions of which the owner shall provide the following street improvements in the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan:
 - a. A half-street improvement including a sidewalk or bicycle path in S.W. Borland Road abutting Lots 1 to be constructed during development of Lot 1. A half-street shall be constructed abutting Lot 2 before development occurs on Lot 2.
 - b. A half-street improvement, including sidewalk in S.W. 65th Avenue abutting Lot 1, to be constructed following telephone cable relocation.

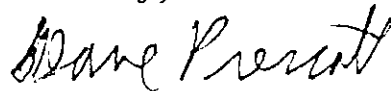
Letter
Michael Reidy
March 30, 1983
Page Two

- c. A half-street improvement, including a sidewalk, in that portion of the eastward extension of S.W. Sagert Street described in 1-c above, to be constructed during development of Lot 1.
3. In the event documents are not recorded within one year after adoption of the resolution, with the Clackamas County Recorder to create lots authorized by the resolution, then this partition shall be automatically terminated and shall be of no further legal effect.

As soon as the deeds of dedication and the improvement agreements are executed by all parties, the Council will adopt a resolution formalizing its March 28 action. We will send you a copy of that resolution after it is adopted.

If you have any questions regarding this matter, please call me at 692-2000, extension #48.

Sincerely,



Dave Prescott
City Planner

DP/11s

cc: David Evans & Associates

FILE: LP-83-01

Enclosure

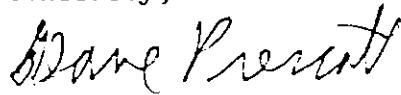
Letter
Michael Reidy
March 30, 1983
Page Two

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3. In the event documents are not recorded within one year after adoption of the resolution, with the Clackamas County Recorder to create lots authorized by the resolution, then this partition shall be automatically terminated and shall be of no further legal effect.

As soon as the deeds of dedication and the improvement agreements are executed by all parties, the Council will adopt a resolution formalizing its March 28 action. We will send you a copy of that resolution after it is adopted.

If you have any questions regarding this matter, please call me at 692-2000, extension #48.

Sincerely,



Dave Prescott
City Planner

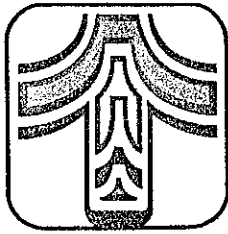
DP/11s

cc: David Evans & Associates

FILE: **LP-83-01**

Enclosure

E-4



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000

March 24, 1983

City Council
City of Tualatin

Members of the Council:

LAND PARTITION - CASE NO. LP-83-01
TAX LOT 500, TAX MAP 2SE 30B
(S.E. CORNER, S.W. 65TH AVENUE & BORLAND ROAD)

David Evans & Associates, Inc. has submitted a partitioning request for the above-described property. Plaza Builders, Inc. are the owners of the property. Attached are the following exhibits:

- Exhibit A: Findings
- Exhibit B: Applicant's Sketch Map (Scale 1 inch - 100 feet)
- Exhibit C: Vicinity Map (Scale 1 inch = 600 feet)
- Exhibit D: Application

DESCRIPTION OF PROPOSAL

The site is Tax Lot 500 on Tax Map 21E 30B, and lies at the southeast corner of S.W. 65th Avenue and Borland Road. The applicant proposes to partition the site into two parcels as shown on the sketch map (Exhibit B). Lot 1 contains 2.82 acres, and Lot 2 contains 2.41 acres. Both lots are in an Office Commercial (CO) Planning District pursuant to the Tualatin Community Plan. As required by Planning District Standards Sec. 2509, all proposed lots abut public streets.

The owners plan to construct a medical office condominium complex on the site. The first phase will be located on Lot 1 and received Architectural Review Board approval on March 16, 1983.

Public water and sewer service are available to the site from existing lines. The north side of Borland Road, across from the site, is fully improved. Provision of a half-street improvement abutting the site will complete this portion of the street. Dedication of additional right-of-way and provision of a half-street improvement in S.W. 65th Avenue are also needed to comply with the Transportation Element of the Tualatin Public Facilities Plan.

In addition to improvements in 65th and Borland, it will be necessary to dedicate right-of-way for and construct one-half of an easterly extension of S.W. Sagert Street along the south edge of the site. Eventually, this street will be the main access for residential development on property south of the site.

FINDINGS - (See Exhibit A)

E-4

RECOMMENDATION

Based on the above discussion and on the findings in Exhibit A, staff recommends that the Council direct the preparation of, and adopt, a resolution approving the proposed land partition subject to the following conditions:

1. That prior to the adoption of the resolution approving the partition, the owner shall dedicate additional right-of-way to the public to provide the following widths at the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan.
 - a. In S.W. Borland Road to provide a total of 33½ feet from the center line of said road abutting Lots 1 and 2 of the site; and
 - b. In S.W. 65th Avenue to provide a total of 30 feet from the center line of said street abutting Lot 1 of the site; and
 - c. In the future easterly extension of S.W. Sagert Street to provide a total of 30 feet from the center line of said street abutting Lot 1.

2. That prior to adoption of the resolution approving the partition, the owner shall enter into an agreement with the City of Tualatin under the provisions of which the owner shall provide the following street improvements in the following locations in conformance with the Transportation Element of the Tualatin Public Facilities Plan:
 - a. A half-street improvement including a sidewalk or bicycle path in S.W. Borland Road abutting Lots 1 ~~and 2~~ to be constructed during development of Lot 1. *a half-street shall be constructed abutting Lot 2 before development occurs on Lot 2.*
 - b. A half-street improvement, including sidewalk in S.W. 65th Avenue abutting Lot 1, to be constructed following telephone cable relocation.
 - c. A half-street improvement, including a sidewalk, in that portion of the eastward extension of S.W. Sagert Street described in 1-c above, to be constructed during development of Lot 1.

3. In the event documents are not recorded within one year after adoption of the resolution, with the Clackamas County Recorder to create lots authorized by the resolution, then this partition shall be automatically terminated and shall be of no further legal effect.

City Council
LP-83-01
Page Three

5-4

The design of the above improvements shall be to applicable City standards with plans subject to review and approval by Washington County and the City Engineer. The form of the aforementioned agreement shall be subject to review and approval by the City Attorney.

Sincerely,



Dave Prescott
City Planner

DP/11s

cc: David Evans & Associates
Michael Reidy

FILE: LP-83-01

E-4

FINDINGS

LP-83-01--DAVID EVANS & ASSOCIATES
(S.E. CORNER, S.W. 65TH AVENUE & BORLAND ROAD)
March 24, 1983

1. The subject property is located at the southeast corner of S.W. 65th Avenue and Borland Road, contains a total of 5.5 acres, and is listed on the records of the Clackamas County Assessor's Office as Tax Lot 500, Tax Map 21E 30B.
2. The applicant proposed to partition the site into two parcels, namely Lots 1 and 2 as shown on the sketch map in Exhibit B. Lot 1 contains 2.82 acres, and Lot 2 contains 2.41 acres.
3. The Tualatin Community Plan designates the site as an Office Commercial (CO) Planning District. The CO designation also applies to land across 65th Avenue from the site. Land to the north, east and south is in a Low Density Residential (RL) Planning District.
4. Water service is available to the site from 12-inch mains located both in 65th Avenue and Borland Road.
5. Sewer service is available to the site from an 8-inch main in S.W. 65th Avenue.
6. Storm drainage for the site will ultimately be accommodated by a storm drain constructed when S.W. 65th Avenue is improved.
7. Lots 1 and 2 both conform to the CO Planning District Standards with respect to lot size, lot width, and the required amount of street frontage.
8. Medical office development on the site as proposed by the applicant could result in the generation of up to 3,250 two-way vehicle trips per average weekday on S.W. 65th Avenue and S.W. Borland Road, based on trip generation data contained in Table 7 of the document entitled "Report on the Transportation Element, Tualatin Urban Renewal Plan, Tualatin, Oregon." This report is contained in Technical Appendix D of the Urban Renewal Plan which Plan and Appendix were adopted by the City Council on October 10, 1977 by Ordinance No. 406-77. To accommodate this additional traffic, half-street improvements, including sidewalks should be provided along S.W. 65th Avenue and Borland Road abutting the site. The design standards for S.W. 65th Avenue and Borland Road abutting the site are contained in the Transportation Element of the Tualatin Public Facilities Plan, which Public Facilities Plan is part of the Tualatin Community Plan. The design standards are based on a Year 2000 forecast of 9,000 and 2,000 two-way vehicle trips per average weekday for S.W. Borland Road and S.W. 65th Avenue, respectively.

E-4

At present, S.W. 65th Avenue and Borland Road adjacent to the site are improved to a width of approximately 26 feet with gravel shoulders and roadside ditches for storm drainage. S.W. 65th Avenue and Borland Road are not currently improved to City standards, and are not adequate in its present condition to safely accommodate additional vehicle traffic.

9. The existing right-of-way width for S.W. 65th Avenue abutting the site is 40 feet. Dedication of 10 feet of additional right-of-way is necessary to provide a total of 30 feet of right-of-way from the center line of S.W. 65th Avenue abutting the site in order to accommodate the increased traffic described in Finding 8 above. This will allow the proposed development to comply with the Transportation Element of the Tualatin Public Facilities Plan, which Plan calls for a 60-foot right-of-way for S.W. 65th Avenue.
10. The existing right-of-way width for S.W. Borland Road abutting the site is 53½ feet. Dedication of 13½ feet of additional right-of-way is necessary to provide a total of 33½ feet of right-of-way from the center line of S.W. Borland Road abutting the site in order to accommodate the increased traffic described in finding 8 above. This will allow the proposed development to comply with the Transportation Element of the Tualatin Public Facilities Plan, which Plan calls for a 67-foot right-of-way for S.W. Borland Road.
11. Presently, S.W. Sagert Street ends at its intersection with S.W. 65th Avenue, opposite the southwesterly corner of the site. S.W. Sagert Street should be extended east along a portion of the south line of Lot 1 to provide additional access to Lot 1 and also to provide access for future residential development planned for land south of the site. In order to adequately provide for the portion of the Sagert Street extension adjacent to Lot 1, 30 feet of additional right-of-way should be dedicated to the public along the south edge of Lot 1 as shown on the sketch map in Exhibit B. Also, a half-street improvement, including sidewalks, should be provided in this portion of said Sagert Street extension.

24 1/4 Cor. Fd. Alum. Disc. in Mon. Box

MERIDIAN ROAD

MINOR PARTITION

TAX LOT 500, NW1/4, SECTION 19, T.2 S., R.1 E., W.M.
CITY OF TUALATIN, WASHINGTON COUNTY, OREGON

SCALE 1"=50'

FEBRUARY 1983



Handwritten note:
65th
New Street
1/2 street
65th
New Street

43.54
10.00
Fd. 5/8" IR w/K W Cox Cap

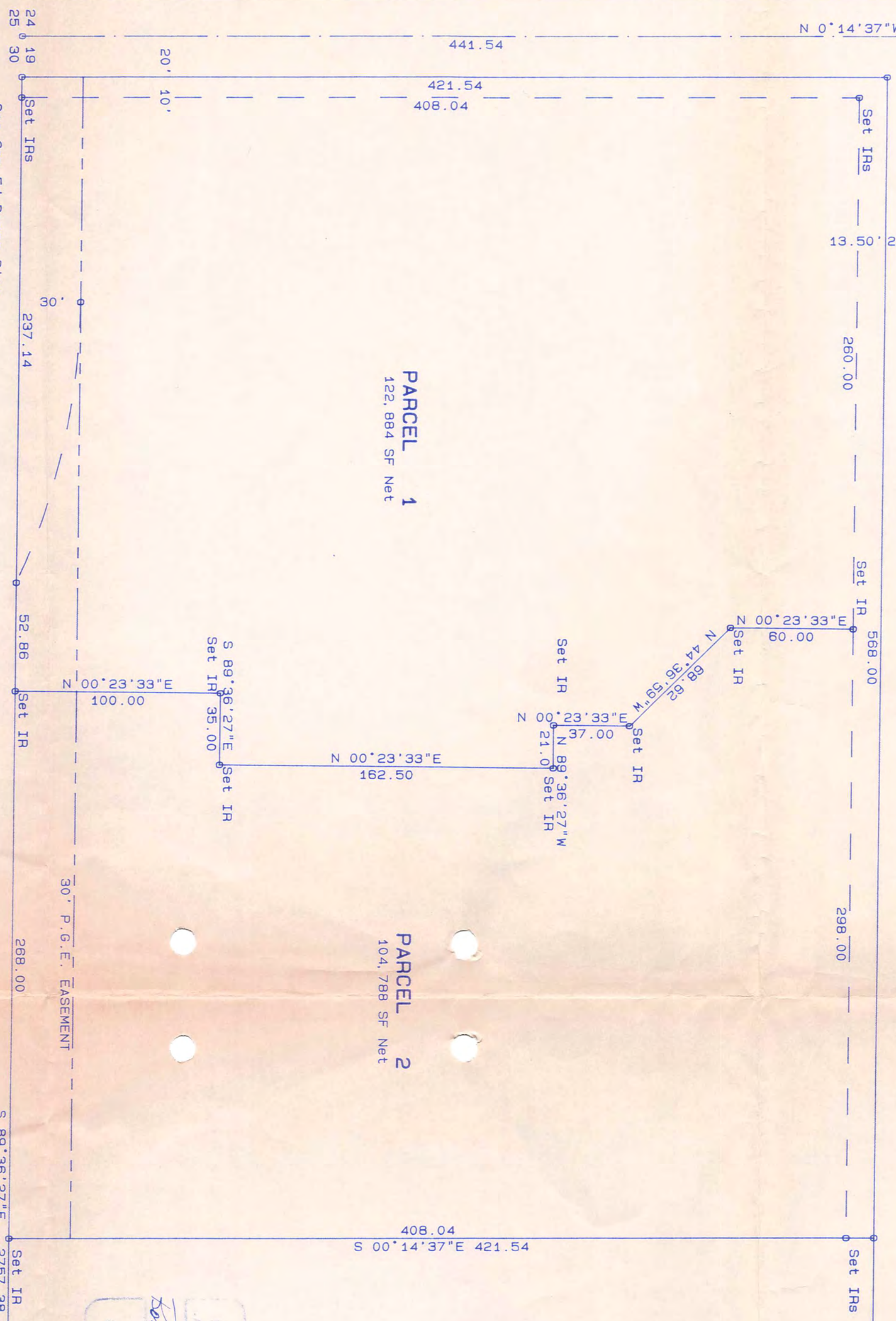
1230.41 meas.

Fd. 5/8" IR w/K W Cox Cap

N 0° 14' 37" W 2630.06 meas.
S 89° 36' 27" E 568.00
BORLAND ROAD MARKET ROAD NO. 4
Fd. 11/2" IP, S 3.89

PARCEL 1
122,884 SF Net

PARCEL 2
104,788 SF Net



FOR
PLAZA BUILDERS, INC.
500 N. MORAIN SUITE 2104
KENNEWICK, WASHINGTON 99336
1-509-735-8402

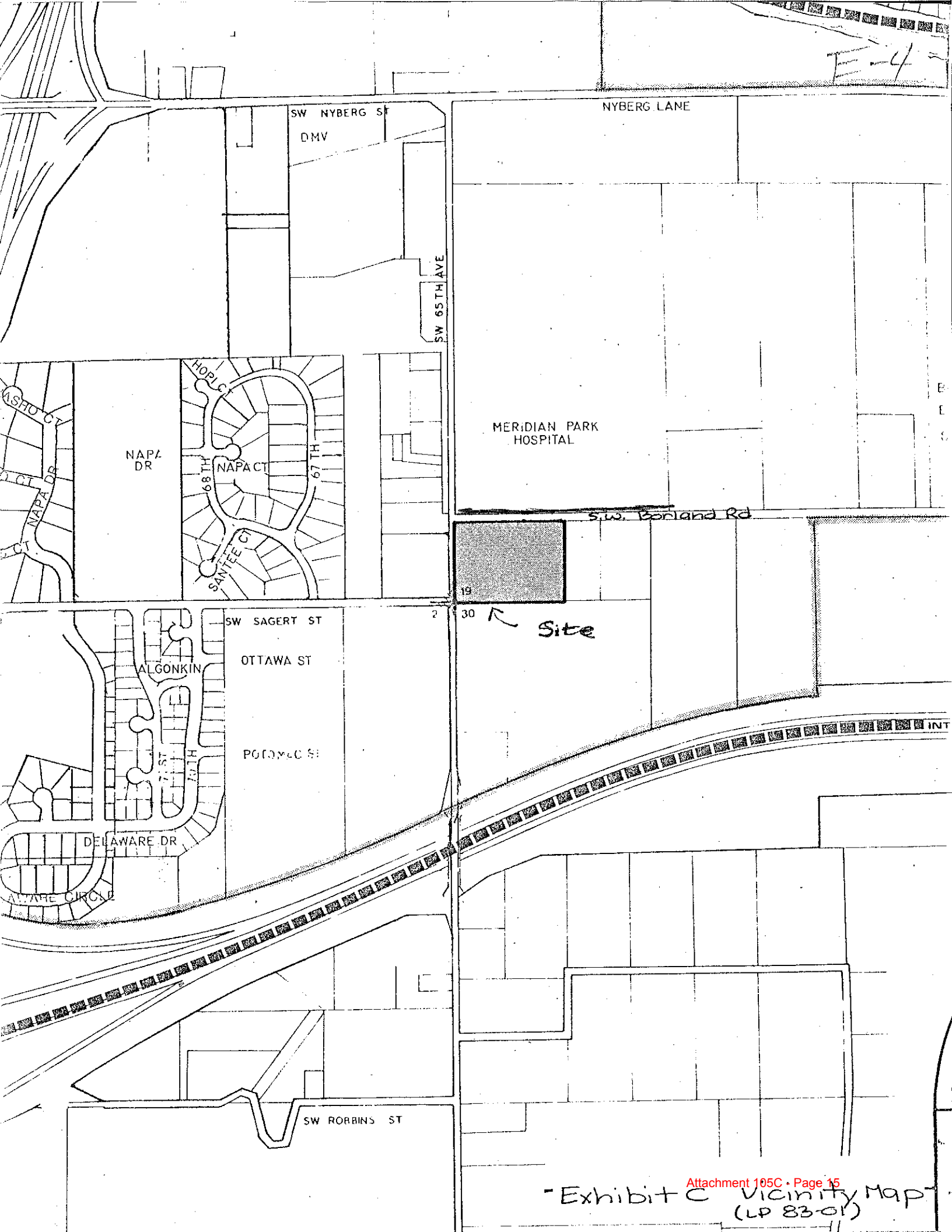
BY
DAVID EVANS & ASSOCIATES, INC.
2626 S.W. CORBETT AVE.
PORTLAND, OREGON 97201
1-503-223-6663

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Ronald E. Fowler
OREGON
1007 1st Street
PORTLAND, OREGON 97201
503

Sec. Cor. Fd. Brass Disc

S 1/4 Cor. Fd. 11/2" IP

4



SW NYBERG ST
DMV

NYBERG LANE

SW 65TH AVE

MERIDIAN PARK
HOSPITAL

NAPA DR

NAPA CT

HOPK CT

68TH

67TH

SANTEE CT

S.W. Portland Rd

19

2

30

Site

SW SAGERT ST

ALGONKIN

OTTAWA ST

POCONO ST

DELAWARE DR

DELAWARE CIRCLE

SW ROBBINS ST

CITY OF TUALATIN
APPLICATION FOR LAND PARTITION

E-4

PLEASE PRINT IN INK OR TYPE

Applicant's Name David Evans & Associates, Inc. Phone 223-6663

Applicant's Address 2626 S.W. Corbett Ave., Portland, Oregon 97201
(street) (city) (state) (ZIP)

Owner's Name Plaza Builders, Inc. Phone 1/509-735-8402

Owner's Address 500 N. Morain, Suite 2104, Kennewick, Washington 99336
(street) (city) (state) (ZIP)

Applicant is: Owner Contract Purchaser Developer Agent
Other (specify) Engineer Mickey Mouse

Owner recognition of application: Plaza Builders, Inc.

Michael Liddy by Ronald E. Lambert
Signature of owner(s)

Assessor's Map Number 2 1E 30B Tax Lot Number(s) 500

Address 6464 S.W. Borland Planning District Office/Commercial

Existing Use Farmland Proposed Use Medical Clinic

Land Area: Parcel 1 2.82 Parcel 2 2.41 Parcel 3 xx Total 5.50
acres acres acres acres

Application Checklist

Application Form ()
Filing Fee (\$125.00) ()
Sketch Map (4 copies) ()

As the person responsible for this application, I, the undersigned, hereby acknowledge that I have read the above application and its attachments, understand the requirements described herein, and state that the information supplied is as complete and detailed as is currently possible, to the best of my knowledge.

Name Ronald E. Lambert Date 2-28-83 Phone 223-6663

Address 2626 S.W. Corbett Ave. Portland, Oregon 97201
(street) (city) (state) (ZIP)

Case No. LP-83-01

Date Received 2-28-83 By RS

City Filing Fee \$125.00

Receipt No. # 6111

AFFIDAVIT OF MAILING

STATE OF OREGON)
) ss
County of Washington)

I, EILEEN I. SEELEY, being first duly sworn, depose and say:

That on the 16th day of March, 1983, I served upon the persons shown on Exhibit "A," attached hereto and by this reference incorporated herein, a copy of the Notice of Hearing marked Exhibit "B," attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original thereof. I further certify that the addresses shown on said Exhibit "A" are their regular addresses as determined from the books and records of the Washington County Department of Assessment and Taxation 1982-1983 Tax Rolls, and that said envelopes were placed in the United States Mail at Hillsboro, Oregon, with postage fully prepaid thereon.

15/ Eileen I. Seeley

SUBSCRIBED AND SWORN before me this 16th day of March, 1983.

By Mable L. Handbeck
Notary Public for Oregon
My commission expires: 2-17-84

RE: David Evans & Associates, Land Partition (LP-83-01)

LAW OFFICES

SCHWENN, BRADLEY, BATCHELOR AND BRISBEE

W. C. SCHWENN
CARRELL F. BRADLEY
DEMAR L. BATCHELOR
LARRY A. BRISBEE
WILLIAM H. STOCKTON

P. O. BOX 567
139 NE LINCOLN
HILLSBORO, OREGON 97123
TELEPHONE (503) 648-6677

March 16, 1983

REC'D.
CITY OF TUALATIN

MAILS

Mayer
Admin.
Police
Eng.
Bldg.
Recreation
File No.

Ms. Jan Nelson
City of Tualatin
P. O. Box 369
Tualatin, Oregon 97062

Re: Affidavit of Mailing

Dear Jan:

Enclosed please find an Affidavit of Mailing in the David Evans & Associates Land Partition matter.

Yours very truly,

DLB:eis

Enclosure

cc: Mr. David Prescott ✓

EXHIBIT "A"

Portland General Electric
621 S. W. Alder
Portland, Oregon 97205

David & Patricia Wagner
19875 S. W. 65th Avenue
Tualatin, Oregon 97062

Earl & Margaret Sagert
20130 S. W. 65th Avenue
Tualatin, Oregon 97062

Donald & Ingrid Brown
19945 S. W. 65th Avenue
Tualatin, Oregon 97062

Hospital Facilities
19300 S. W. 65th Avenue
Tualatin, Oregon 97062

Century 21 Properties
7412 S. W. Beaverton-Hillsdale
Highway
Portland, Oregon 97225

Metro Hospitals, Inc.
2801 N. Gantenbein
Portland, Oregon 97227

EXHIBIT "B"

NOTICE OF HEARING

CITY OF TUALATIN, OREGON

NOTICE IS HEREBY GIVEN that a public hearing will be held before the City Council of the City of Tualatin, Oregon, commencing at 7:30 o'clock p.m. on Monday, March 28, 1983, at the City Hall, Tualatin, Oregon, to consider the following matters:

1. The application for approval of a preliminary subdivision plat to be known as Squaw Valley upon real property described on the records of the Washington County Department of Assessment and Taxation as Tax Account No. 2S1-26DD-12800, which property is located at S. W. 90th Avenue and Blake Street, Tualatin, Oregon.
2. The application of Marcelyn K. Hanlon for a conditional use permit to construct a day care center in a Central Commercial (CC) Planning District upon real property described on the records of the Washington County Department of Assessment and Taxation as Tax Account No. 2S1-24BC-Tax Lot 901, located at 18725 S. W. Boones Ferry Road, Tualatin, Washington County, Oregon.
3. The application of David Evans & Associates for a land partitioning of real property described on the records of the Department of Assessment and Taxation as Tax Account No. 21E-30B-500, located at 6464 S. W. Borland, Tualatin, Clackamas County, Oregon.
4. The application of Playland Shows, Inc., for approval of a temporary use for a carnival and outdoor sale on property which is described on the records of the Washington County Department of Assessment and Taxation as Tax Account No. 2S1-24C-100, located at 19200 S. W. Martinazzi, Tualatin, Washington County, Oregon.

All residents and inhabitants of the City are invited to attend said hearing and be heard upon the applications. A map or maps more particularly describing the above-described property are on file, together with copies of the application and supporting documents, in the Office of David Prescott, City Planner, City Hall Annex, Tualatin, Oregon, for examination by the public.

CITY OF TUALATIN, OREGON

By Stephen Rhodes
City Recorder

NOTE TO TUALATIN TIMES: Please publish Thursday, March 17, 1983,
and March 24, 1983

PGE
621 S.W. Alder
Portland, OR 97205
2S1 30B TL#400

Earl & Margaret Sagert
20130 S.W. 65th Avenue
Tualatin, OR 97062
2S1 30B TL#600

Hospital Facilities
19300 S.W. 65th Avenue
Tualatin, OR 97062
2S1 19 TL#1300

Metro Hospitals, Inc.
2801 N. Gantenbein
Portland, OR 97227
2S1 19 TL#1302

David & Patricia Wagner
19875 S.W. 65th Avenue
Tualatin, OR 97062
2S1 24DD TL#900

Donald & Ingrid Brown
19945 S.W. 65th Avenue
Tualatin, OR 97062
2S1 24DD TL#1000

Century 21 Properties
7412 S.W. Beaverton-Hillsdale
Highway
Portland, OR 97225
2S1 25A TL#100

MEMORANDUM

TO; David Bantz, DeMar Batchelor, Joe Greulich, Mike McKillip,
Steve Rhodes

FROM: Dave Prescott, City Planner *DP*

DATE: March 2, 1983

SUBJECT: Land Partition--6464 S.W. Borland Road (LP-83-01)

On February 28, 1983, the City of Tualatin received an application for a Land Partition involving the above-described property (Tax Lot 500, Tax Map 21E 30B). Attached for your review and comment are copies of the application and sketch map.

April 25, 1983 is the tentative date of the public hearing on the proposed Land Partition. Please review the attached materials and return any written comments to me on or before Friday, March 18, 1983, to allow for consideration of these comments in preparation of the staff report.

FILE: LP-83-01
6464 S.W. Borland Road

DP/11s

Planning

Please attach a condition for
dedication of half street for Borland,
Sagert & 65th

SAR

CITY OF TUALATIN
APPLICATION FOR LAND PARTITION

PLEASE PRINT IN INK OR TYPE

Applicant's Name David Evans & Associates, Inc. Phone 223-6663

Applicant's Address 2626 S.W. Corbett Ave., Portland, Oregon 97201
(street) (city) (state) (ZIP)

Owner's Name Plaza Builders, Inc. Phone 1/509-735-8402

Owner's Address 500 N. Morain, Suite 2104, Kennewick, Washington 99336
(street) (city) (state) (ZIP)

Applicant is: Owner Contract Purchaser Developer Agent
Other (specify) Engineer

Owner recognition of application: Plaza Builders, Inc.

Michael Kelly for Ronald E. Lambert
Signature of owner(s)

Assessor's Map Number 2 1E 30B Tax Lot Number(s) 500

Address 6464 S.W. Borland Planning District Office/Commercial

Existing Use Farmland Proposed Use Medical Clinic

Land Area: Parcel 1 2.82 Parcel 2 2.41 Parcel 3 XX Total 5.50
acres acres acres acres

Application Checklist

Application Form ()
Filing Fee (\$125.00) ()
Sketch Map (4 copies) ()

As the person responsible for this application, I, the undersigned, hereby acknowledge that I have read the above application and its attachments, understand the requirements described herein, and state that the information supplied is as complete and detailed as is currently possible, to the best of my knowledge.

Name Ronald E. Lambert Date 2-28-83 Phone 223-6663

Address 2626 S.W. Corbett Ave. Portland, Oregon 97201
(street) (city) (state) (ZIP)

Case No. LP-83-01

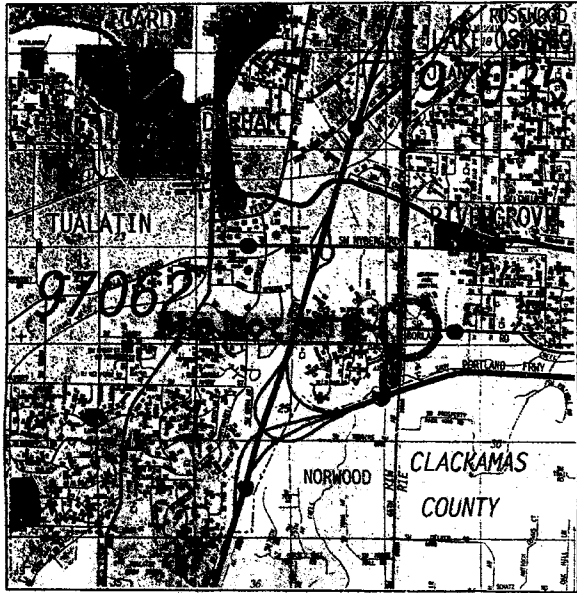
Date Received 2/28/83 By [Signature]

City Filing Fee \$125.00

Receipt No. 223-6663

S.W. 65th AVENUE S.W. BORLAND ROAD TO S.W. SAGERT STREET ROADWAY AND DRAINAGE IMPROVEMENTS CITY OF TUALATIN

VICINITY MAP



SHEET INDEX

1. COVER SHEET + INDEX
2. S.W. 65th AVENUE
S.W. BORLAND ROAD TO S.W. SAGERT STREET
PLAN AND PROFILE ST. STA. 141+50 TO 145+75
3. S.W. 65th AVENUE
S.W. BORLAND ROAD TO S.W. SAGERT STREET
PLAN AND PROFILE ST. STA. 145+75 TO 150+50
4. TYPICAL SECTIONS AND DETAILS
5. EROSION CONTROL AND LANDSCAPING PLAN
6. TRAFFIC FLASHER EQUIPMENT PLAN
7. PAVEMENT MARKING PLAN
8. CONSTRUCTION PHASING PLAN
9. TYPICAL PHASE 1 CONSTRUCTION SIGNING + DETOUR PLAN
10. TYPICAL PHASE 2 CONSTRUCTION SIGNING + DETOUR PLAN
11. TYPICAL PHASE 3 CONSTRUCTION SIGNING + DETOUR PLAN

LEGEND
(ALL ITEMS MAY NOT BE USED - EXISTING FEATURES ARE SHADED)

• DENOTES FOUND MONUMENT AS NOTED	CO* PROPOSED CLEANOUT
○ SEWER MANHOLE	SS- SEWER LINE
□ STORM MANHOLE	ST- STORM LINE
○ CATCH BASIN	○ PROPOSED CATCH BASIN
○ IRRIGATION VALVE	○ PROPOSED MANHOLE
○ FIRE HYDRANT	○ PROPOSED FIRE HYDRANT
— WATER LINE	— CURB
— WATER METER	— RETAINING WALL
— WATER VALVE	— EDGE OF PAVEMENT
— GAS LINE	— BRUSH/TREE LINE
— GAS METER	— DITCH/CREEK
— GAS VALVE	— PROPERTY LINE
— UG- UNDERGROUND TELEPHONE LINE	— GUARDRAIL
— UG- TELEPHONE PEDESTAL	— SIGN POST
— TELEPHONE MANHOLE	— PROPOSED SIGN POST
— FLASHING YELLOW GROUND LIGHT	— CULVERT
— SIGNAL CONTROL BOX	— MAILBOX
— SIGNAL POLE - PEDESTRIAN CROSSING LIGHT	— FENCE
— LIGHT POLE	— CONCRETE GARBAGE CONTAINER
— UG- UNDERGROUND POWER LINE	— DECIDUOUS TREE
— OUP- OVERHEAD POWER LINE	— EVERGREEN TREE
— POWER PEDESTAL	— CONCRETE PAVEMENT
— UTILITY POLE	— F — LIMIT OF FILL SLOPE
— GUY ANCHOR	— C — LIMIT OF CUT SLOPE
— LIGHT ON POLE	
[A] ADJUST EXT'G MH TO FINISH GRADE	
[RM] RELOCATE MAILBOX	
[RW] RELOCATE/ADJUST WATER METER	
⊕ INSTALL MONUMENT BOX	

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF TUALATIN AND WASHINGTON COUNTY STANDARDS AND SPECIFICATIONS.
2. ALL TREES, SHRUBS, AND MISCELLANEOUS STRUCTURES SHOWN WITHIN THE GRADING LIMITS SHALL BE REMOVED UNLESS NOTED ON THE PLANS TO REMAIN.
3. ALL VALVES WITHIN PROJECT LIMITS TO BE ADJUSTED TO FINISH GRADE.
4. ALL PRIVATE UTILITIES WITHIN PROJECT LIMITS TO BE ADJUSTED AND/OR RELOCATED BY OTHERS.
5. CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATING AND COMPLY WITH ALL OTHER REQUIREMENTS OF ORS 757.541 AND 757.571.
6. EXISTING SIGNS TO BE RELOCATED AS DIRECTED BY CITY INSPECTOR.
7. CITY INSPECTOR SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
8. NO WORK SHALL BE "COVERED" UNTIL APPROVED AND INSPECTED BY CITY.
9. THE WATER LINE WITHIN THIS PROJECT SERVES AS THE SOLE WATER SUPPLY TO MERIDIAN PARK HOSPITAL. THE CONTRACTOR MUST PROVIDE WRITTEN NOTICE OF THE SHUT-OFF DATE TO THE CITY A MINIMUM OF ONE WEEK PRIOR TO PERFORMING THE WORK. THE WATER LINE CAN ONLY BE SHUT DOWN BETWEEN 1:00 TO 5:00 A.M. ON A TUESDAY, WEDNESDAY, OR THURSDAY.

WASHINGTON COUNTY
BENCH MARK 469

OREGON STATE HIGHWAY DEPARTMENT BRASS DISK SET IN CURB AT THE SOUTHEAST CORNER OF A BRIDGE ON NYBERG ROAD 0.4 MILES EAST OF I-5, MORE PARTICULARLY DESCRIBED AS BEING ON THE OUTSIDE EDGE OF CURB 4.5 FEET FROM THE SOUTH END.

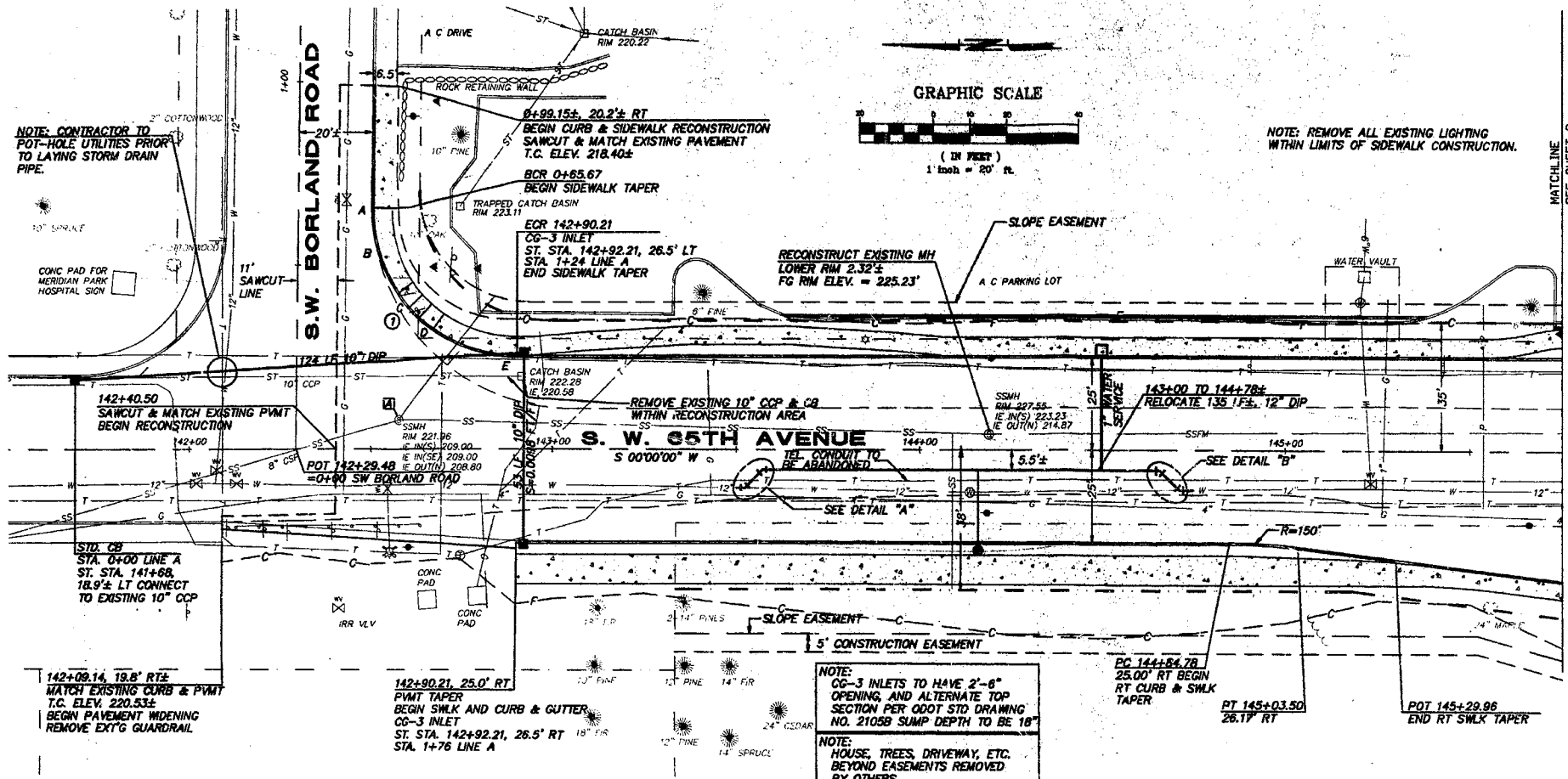
ELEVATION: 124.436'

NOTE:
THESE AS-BUILT PLANS ARE BASED ON SURVEY MEASUREMENTS OF DRAINAGE FACILITIES AND RECORDS SUPPLIED BY CITY OF TUALATIN INSPECTOR.

95-900

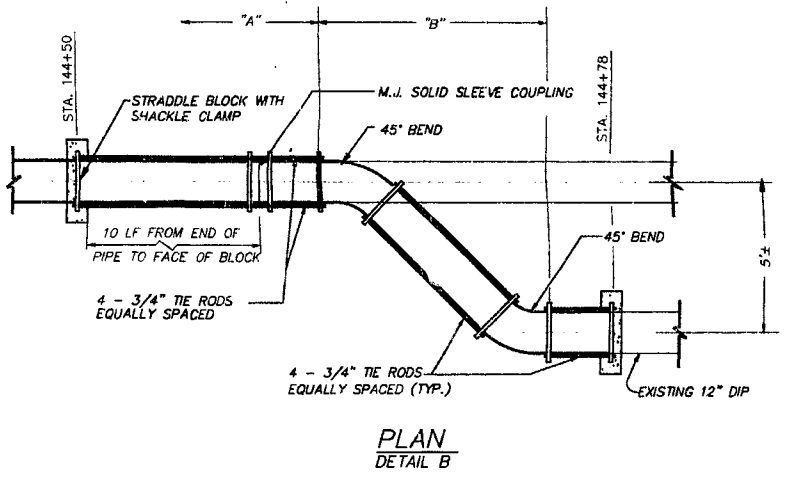
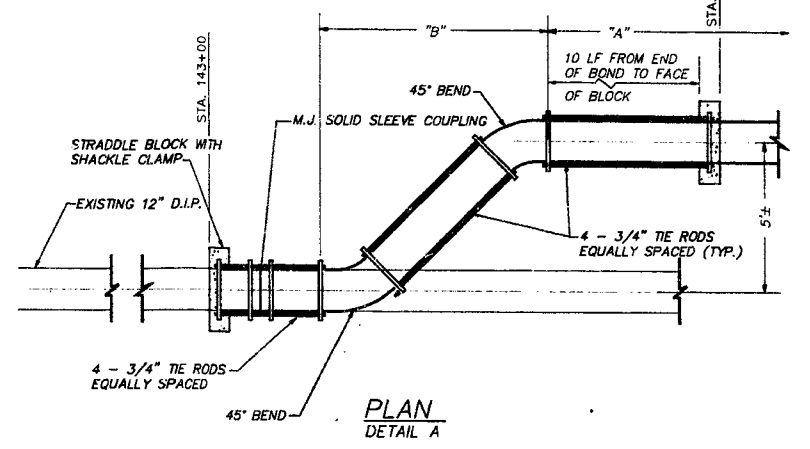
 CITY OF TUALATIN 18880 S.W. MARTINAZZI AVENUE TUALATIN, OREGON 97062	DRAWN JRN	DATE 1/3/05	 REGISTERED PROFESSIONAL ENGINEER CIVIL ENGINEERING LAND SURVEYING KA KAMPE ASSOCIATES 1000 S.W. BULLING 9700 S.W. COLLEGE WAY LAKE OSWEGO, OREGON 97030 (503) 625-7447 FAX (503) 625-5488	SW 65th AVENUE SW BORLAND ROAD TO SW SAGERT STREET COVER SHEET & INDEX	SHEET OF 11 DRAWING NUMBER
	CHECKED	DATE		Attachment 105B - Page 1	
	APPROVED	DATE		10/25/98	
	SCALE AS NOTED			NO. REVISION DATE BY	

98100G01



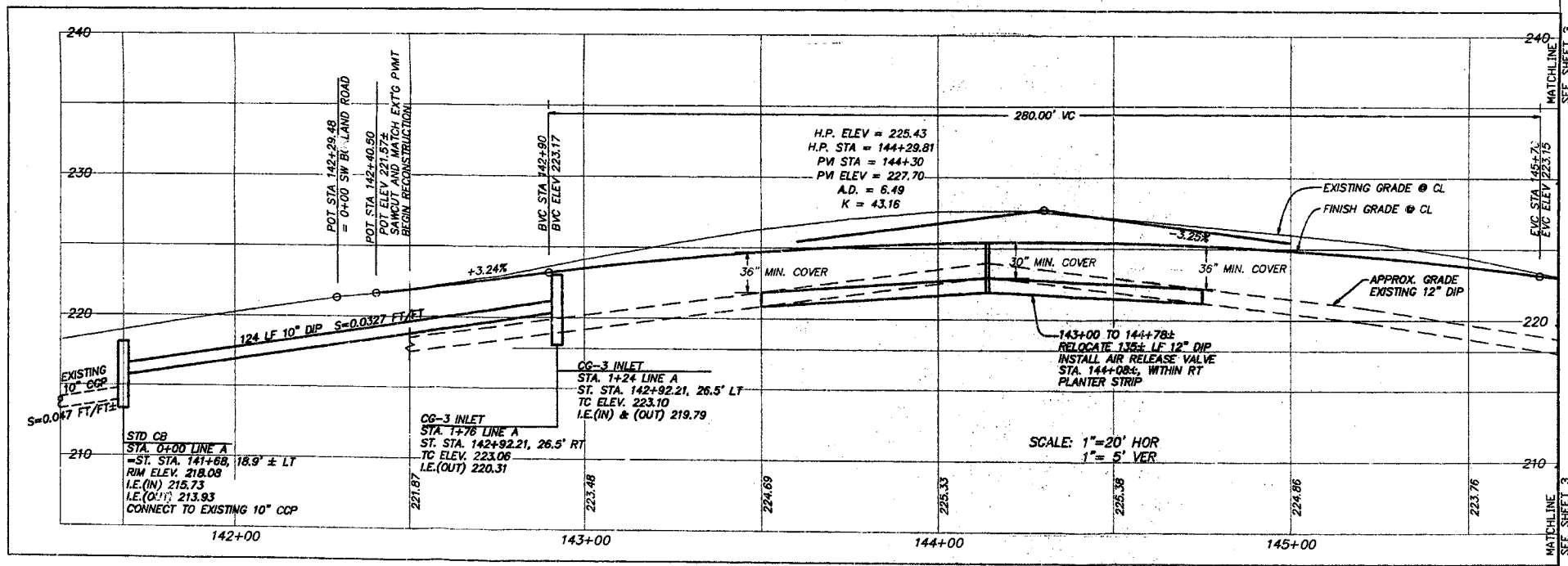
CURB RETURN DATA

CURVE	SYMBOL (Δ/4 PTS)	TC ELEVATION
① Δ = 90°38'24"	A	219.81
R = 40.00'	B	220.56
L = 63.28'	C	221.48
	D	222.36
	E	223.00



- NOTES:**
- USE 2" TEMP. CONNECTION AT HIGHEST END FOR FLUSHING, AND 2-1/2" TEMP. OPENING FOR BLOW OFF.
 - "A" DENOTES NEW MAIN TO BE PRESSURE TESTED AND DISINFECTED PRIOR TO CONNECTION TO EXISTING MAIN.
 - "B" DENOTES SWAB PIPE AND FITTINGS IN PRESENCE OF CITY INSPECTOR.
 - POUR STRADDLE BLOCKS 7 DAYS IN ADVANCE OF SUBJECTING TO PRESSURE.
 - STRADDLE BLOCKS TO BE 24" THICK AND EXTEND A MINIMUM OF 18" INTO UNDISTURBED SOIL AT SIDES AND BOTTOM OF TRENCH.
 - CONCRETE FOR STRADDLE BLOCKS TO BE 3000 PSI, MINIMUM, @ 28 DAYS.

NOTE:
THESE AS-BUILT PLANS ARE BASED ON SURVEY MEASUREMENTS OF DRAINAGE FACILITIES AND RECORDS SUPPLIED BY CITY OF TUALATIN INSPECTOR.



CITY OF TUALATIN
18880 S.W. MARTINAZZI AVENUE
TUALATIN, OREGON 97062

DRAWN	JRN/PKW	DATE	10/24/94
CHECKED		DATE	
APPROVED		DATE	
SCALE	1" = 20'		

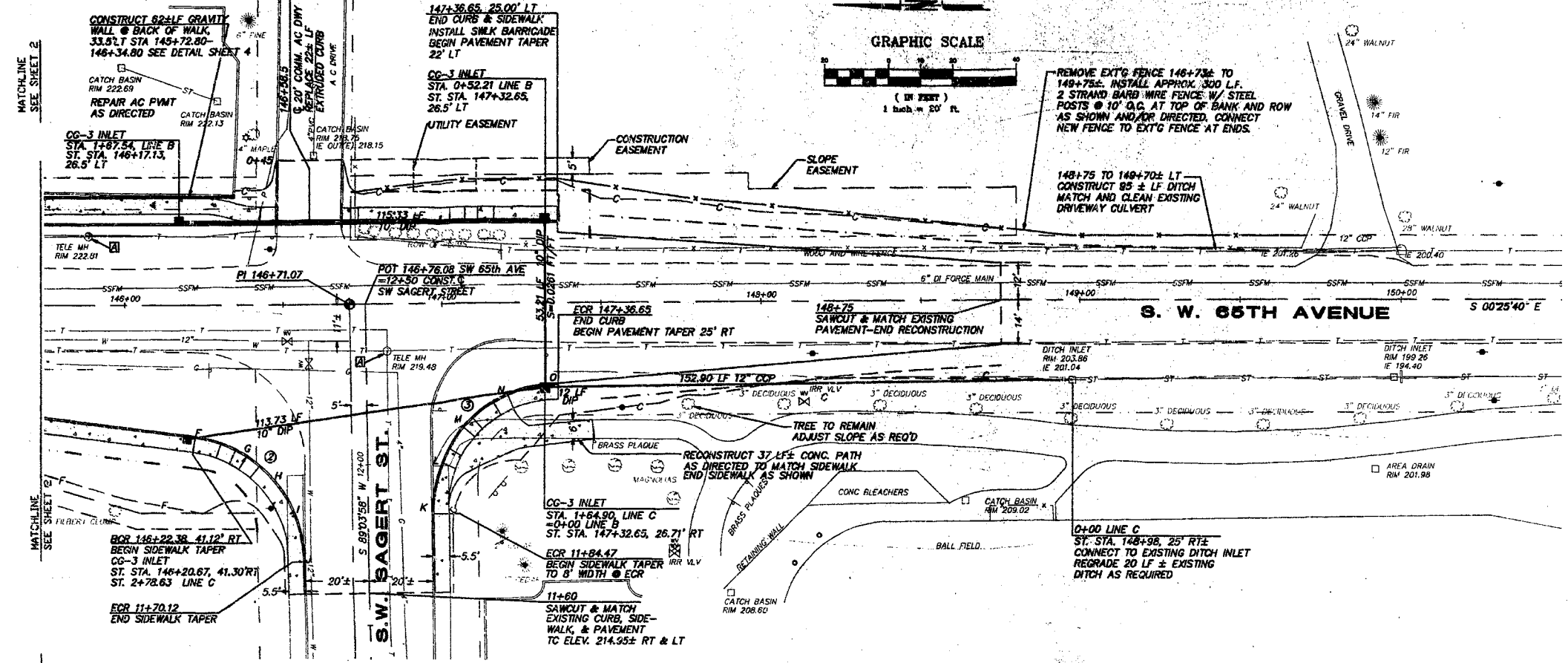


SW 65TH AVENUE
PLAN AND PROFILE STATION 141+50 TO 145+75
SW BORLAND ROAD TO SW SAGERT STREET

NO.	REVISION	DATE	BY
7	AS-BUILT	10/25/95	BLS
6	REVISE WATER LINE LOCATION	3/17/95	PKW
5	REVISE WATER LINE DETAIL PER CITY	1/17/95	PKW
4	REVISE PER FINAL CITY REVIEW	1/3/95	PKW
3	ADDED NOTES PER CITY REVIEW	12/15/94	PKW
2	ADDED RT SWLK PL	12/7/94	PKW
1	ADDED RT TURN LANE	7/12/94	PKW

DRAWING NUMBER: 11

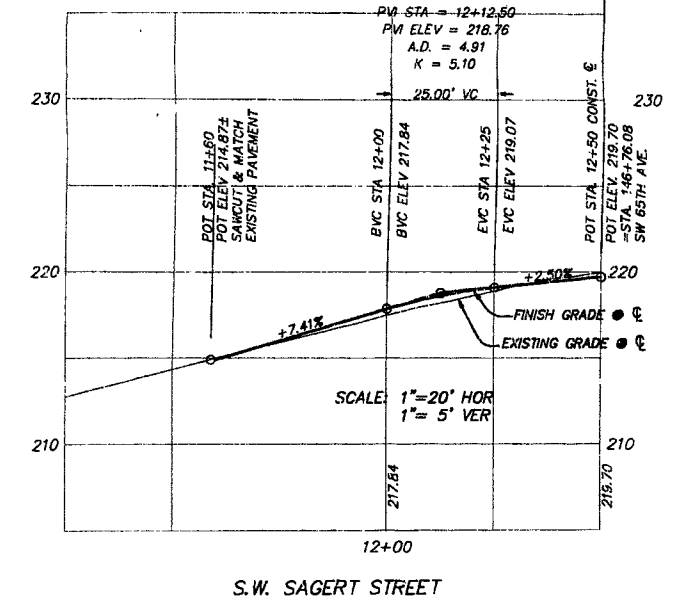
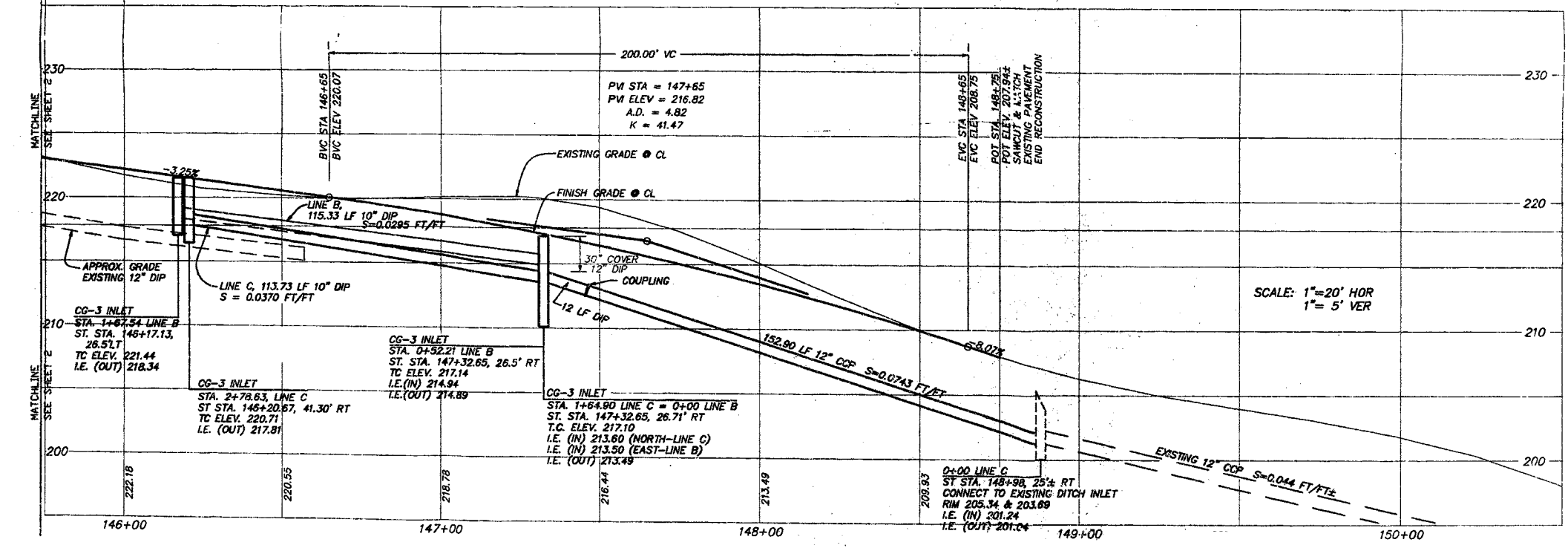
NO. REVISION DATE BY



GRAPHIC SCALE
(IN FEET)
1 inch = 20' ft.

CURB RETURN DATA

CURVE	SYMBOL (Δ /4 PTS)	TC ELEVATION
② $\Delta = 81^{\circ}53'57''$ $R = 40.00'$ $L = 57.18'$	F	220.68
	G	219.75
	H	218.35
	I	216.84
	J	215.58
③ $\Delta = 90^{\circ}30'22''$ $R = 40.00'$ $L = 63.19'$	K	216.64
	L	217.48
	M	217.81
	N	217.62
	O	216.95



NOTE:
THESE AS-BUILT PLANS ARE BASED
ON SURVEY MEASUREMENTS OF DRAINAGE
FACILITIES AND RECORDS SUPPLIED
BY CITY OF TUALATIN INSPECTOR.



CITY OF TUALATIN
18880 S.W. MARTINAZZI AVENUE
TUALATIN, OREGON 97062

DRAWN	JRN/PKW	DATE	10/24/94
CHECKED		DATE	
APPROVED		DATE	
SCALE	1" = 20'		

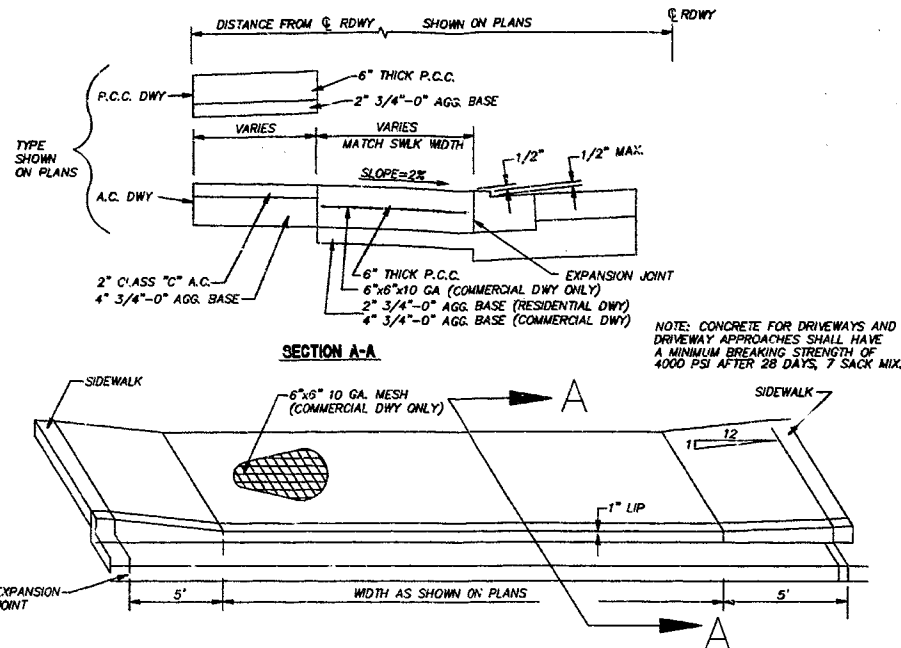


PLANNING
CIVIL ENGINEERING
LAND SURVEYING
KA
KAMPE ASSOCIATES
200 W. PARK BLVD. SUITE 200
TUALATIN, OR 97062
503-625-4141 FAX 503-625-2400

SW 65TH AVENUE
PLAN AND PROFILE STATION 145+75 TO 150+50
SW BORLAND ROAD TO SW SAGERT STREET

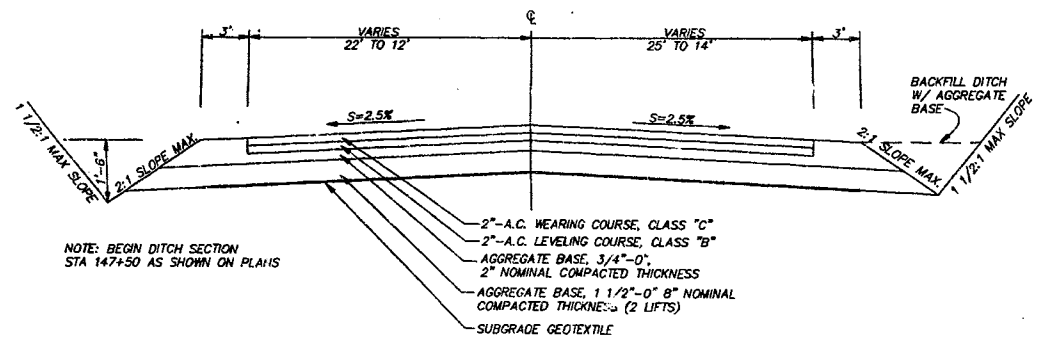
SHEET		3	
OF		11	
NO.	REVISION	DATE	BY
4	AS-BUILT	10/25/95	BLS
3	REVISE PER CITY FINAL REVIEW	1/3/95	JRN
2	ADDED FENCE/NOTES PER CITY REVIEW	12/15/94	PKW
1	ADDED RT TURN LANE	7/12/94	PKW
ND.			

DRAWING NUMBER: 93186AB
93-186



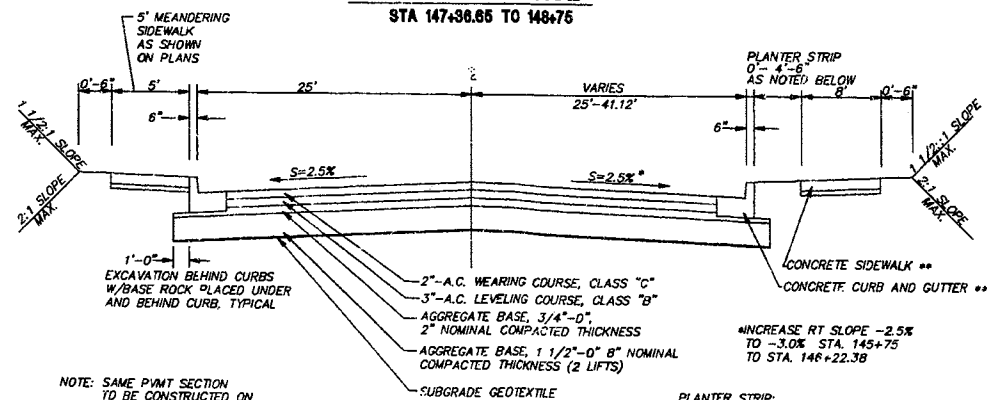
RESIDENTIAL & COMMERCIAL DRIVEWAY APPROACH

N.T.S.



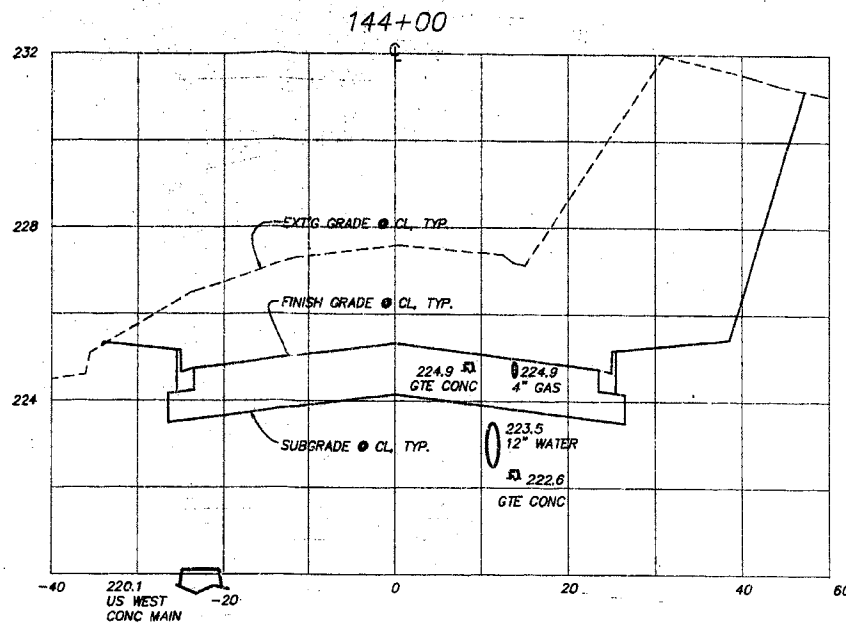
S.W. 65th AVENUE

STA 147+36.65 TO 148+75

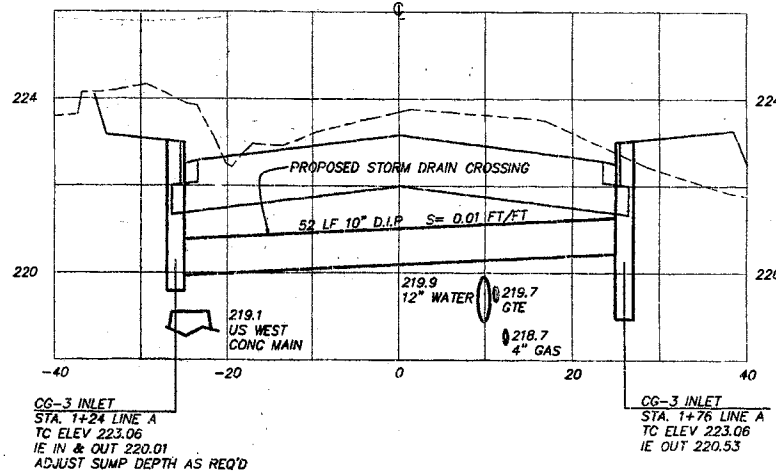


S.W. 65th AVENUE

STA 142+40.50 TO 147+36.05

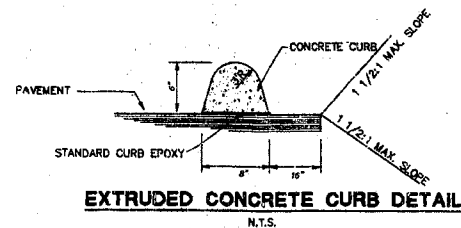


142+92.21



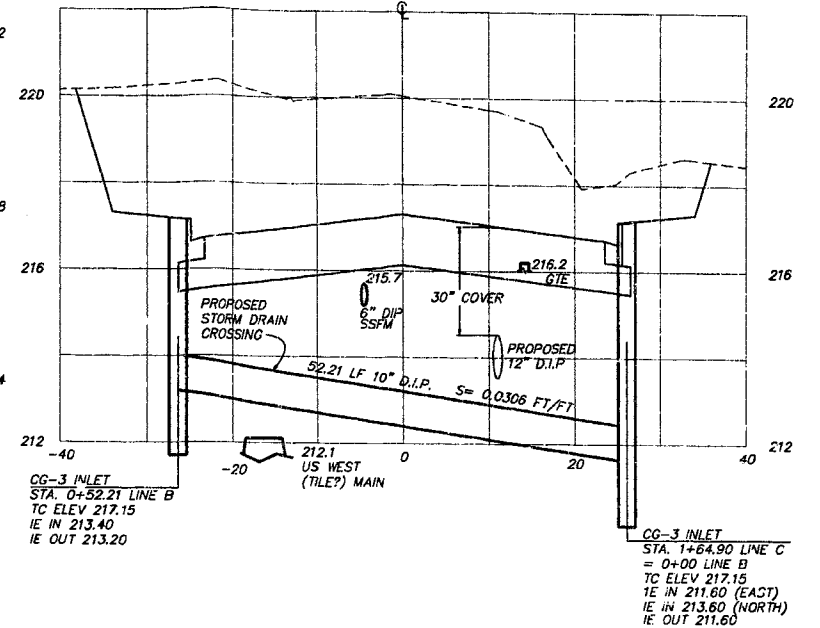
UTILITY CROSSING DETAILS

SCALE: 1"=10' HOR/1"=2' VER

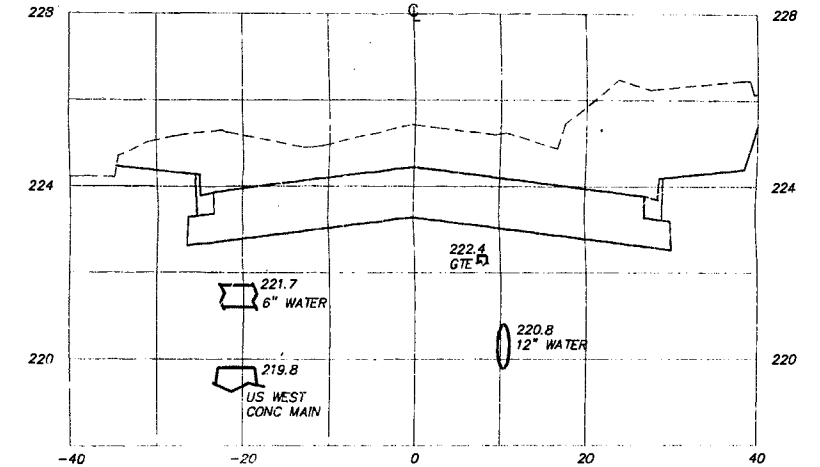


NOTE: EXTRUDED CURB TO BE INSTALLED STA. 142+09.14 TO STA. 142+90.21 RT W/O SWLK AS SHOWN ON PLAN.

147+32.65



145+22



NOTE: UTILITY ELEVATIONS DETERMINED FROM POT-HOLE MEASUREMENTS PERFORMED BY CITY OF TUALATIN 2/1/94 AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. ALL UTILITIES WITHIN STREET NOT SHOWN

SW 65th AVENUE GRAVITY WALL DETAILS

STATION	ELEVATION BACK OF SWLK	ELEVATION BOTTOM OF WALL	ELEVATION TOP OF WALL	"H"
145+72.80	223.06	221.06	224.26	3.20
146+75	222.99	220.99	223.74	2.75
146+00	222.18	220.18	223.48	3.30
146+25	221.36	219.36	223.06	3.70
146+34.80	221.05	219.05	223.05	4.00

NOTE: GRAVITY WALL TO CONFORM TO THE DETAILS OF ODOT STANDARD PLAN NO. 45309 *STANDARD GRAVITY RETAINING WALL FOR 2:1 SLOPE*



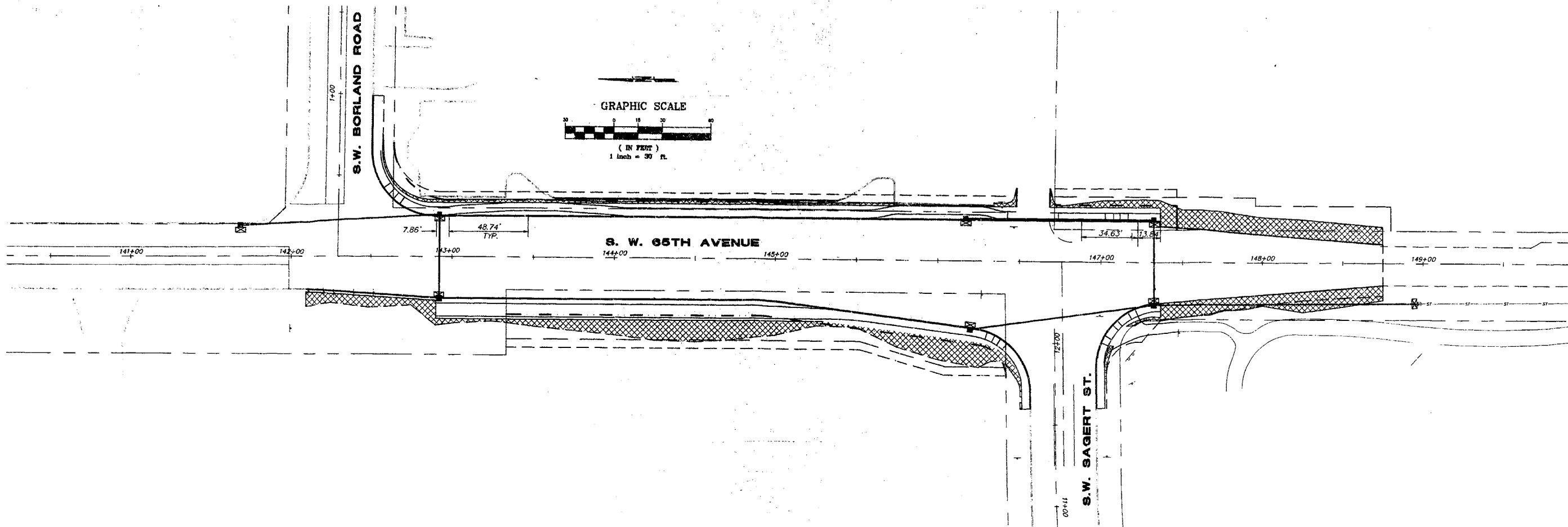
CITY OF TUALATIN
18880 S.W. MARTINAZZI AVENUE
TUALATIN, OREGON 97062

DRAWN	DATE
PKW	7/13/94
CHECKED	DATE
APPROVED	DATE
SCALE	N.T.S.



SW 65TH AVENUE
SW BORLAND ROAD TO SW SAGERT STREET
TYPICAL SECTIONS & DETAILS

				SHEET	4
				OF	11
3	AS BUILT	10/25/95	BLS		
2	REVISE PER CITY FINANCE	10/23/94	PKW		
1	ADDED RT SWLK PLANTER STRIP	12/15/94	PKW		
NO.	REVISION	DATE	BY	DRAWING NUMBER	



GENERAL EROSION CONTROL NOTES:

- A. Approval of this erosion/sedimentation control (ESC) plan does not constitute an approval of permanent road or drainage design (e.g., size and location of pipes, restrictors, channels, retention facilities, utilities, etc.)
- B. The implementation of these ESC plans and the construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the applicant/contractor until all construction is completed and approved and vegetation/landscaping is established.
- C. The boundaries of the clearing limits shown on this plan shall be clearly flagged in the field prior to construction. During the construction period, no disturbance beyond the flagged clearing limits shall be permitted. The flagging shall be maintained by the applicant/contractor for the duration of construction.
- D. The ESC facilities shown on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to insure that sediment and sediment laden water do not enter the drainage system, roadways, or violate applicable water standards.
- E. The ESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESC facilities shall be upgraded as needed for unexpected storm events and to ensure that sediment and sediment-laden water do not leave the site.
- F. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
- G. The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within the 24 hours following a storm event.
- H. At no time shall more than one foot of sediment be allowed to accumulate within a trapped catch basin. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment laden water into the downstream system.
- I. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to insure that all paved areas are kept clean for the duration of the project.

SEEDING / MULCHING NOTES:

- A. Temporary grass cover measures must be fully established by November 1 or other cover measures will have to be implemented until adequate grass coverage is achieved. To establish an adequate grass stand for controlling erosion by November 1, it is recommended that seeding and mulching occur by September 1.
- B. Hydromulch shall be applied with grass seed at a rate of 2000 lb./acre. On slopes steeper than 10 percent, hydrosseed and mulch shall be applied with a bonding agent (tackifier). Application rate and methodology to be in accordance with seed supplier recommendations.
- C. Dry, loose, weed-free straw used as mulch shall be applied at double the hydromulch application requirement (4000 lb./acre). Anchor straw by working in by hand or with equipment (rollers, cleat tracks, etc.).
- D. Mulch shall be spread uniformly immediately following seeding.
- E. Soil Preparation - Top soil should be prepared according to landscape plans, if available, or recommendations of grass seed supplier. It is recommended that slopes be roughened before seeding by "track-walking," (driving a crawling tractor up and down slopes to leave a pattern of cleat imprints parallel to slope contours) or other method to provide more stable sites for seeds to rest.
- F. Seeding - Recommended erosion control grass seed mixes are as follows. Similar mixes designed to achieve erosion control may be substituted if approved by jurisdiction.
 1. Dwarf Grass Mix (low height, low maintenance):
Dwarf Perennial Ryegrass, 80% by weight
Creeping Red Fescue, 20% by weight
Application rate: 100 pounds minimum per acre
 2. Standard Height Grass Mix
Annual Ryegrass, 40% by weight
Turf-type Fescue, 60% by weight
Application rate: 100 pounds minimum per acre
- G. Fertilization for grass seed - In accordance with supplier's recommendations. Development areas within 50 feet of water bodies and wetlands must use a non-phosphorus fertilizer.
- H. Netting and Anchors, as needed - For disturbed areas on slopes and in ditches/swales, biodegradable netting or jute is desirable and may be used instead of bonding agents to provide a stable area for seeding. Netting should be anchored in accordance with manufacturer's recommendations.
- I. Watering - Seeding shall be supplied with adequate moisture to establish grass. Supply water as needed, especially in abnormally hot or dry weather or on adverse sites. Water application rates should be controlled to provide adequate moisture without causing runoff.
- J. Re-seeding - Areas which fail to establish grass cover adequate to prevent erosion shall be re-seeded as soon as such areas are identified, and all appropriate measures taken to establish adequate cover.

EROSION CONTROL LEGEND

- BIOFILTRATION BAG SEDIMENT BARRIER
- SEED AND MULCHING AREA

LANDSCAPING LEGEND

- 4' SQUARE CAST IRON TREE FRAME AND GRATE "OT TITLE-24" AS MANUFACTURED BY URBAN ACCESSORIES OF WOODINVILLE, WASHINGTON. INSTALL WITH EDGE AGAINST BACK OF CURB

NOTE:
THESE AS-BUILT PLANS ARE BASED ON SURVEY MEASUREMENTS OF DRAINAGE FACILITIES AND RECORDS SUPPLIED BY CITY OF TUALATIN INSPECTOR.



CITY OF TUALATIN
18880 S.W. MARTINAZZI AVENUE
TUALATIN, OREGON 97062

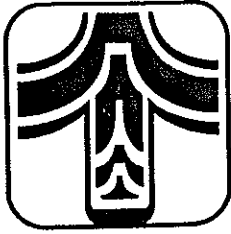
DRAWN	JRN/TJF	DATE	1/3/95
CHECKED		DATE	
APPROVED		DATE	
SCALE	1" = 30'		



PLANNING
CIVIL ENGINEERING
LAND SURVEYING
KAMPE ASSOCIATES
200 OLIVE PARK BUILDING
200 SW GELING WAY
LONG BEACH, OREGON 97106
(503) 639-7441 FAX (503) 639-7400

SW 65TH AVENUE
SW BORLAND ROAD TO SW SAGERT STREET
EROSION CONTROL AND LANDSCAPING PLAN

				SHEET	5
				OF	11
				DRAWING NUMBER	
1	AS-BUILT	Attachment 105D - Page 5	10/25/95	DATE	BY
NO.	REVISION				
					93186ERC
					93-186



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000



March 9, 1983

ARCHITECTURAL REVIEW BOARD
City of Tualatin

Members of the Board:

Item #: 5
Case #: ARB-83-06
Project: Tualatin Professional Center
Status: Deferred From 3-2-83 For Modifications

This application is for Board consideration of site, landscaping and grading plans, building elevations, colors, material and lighting for Tualatin Professional Center to be located at 6464 S.W. Borland Road.

FINDINGS

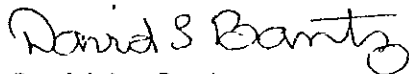
1. The proposal consists of four (4) buildings varying in size from 5625 sq. ft. to 9000 sq. ft.. Total square footage of the projected buildings is 29,587 sq. ft.. Two (2) of the buildings will be single story and two (2) will have partial lower levels.
2. The building will have shingled exteriors with composition roofs. Two color schemes have been submitted for review.
3. Exterior lighting will consist of low 3' high square bollard fixtures and 13' - 14' high pole lights.
4. Total required parking spaces are 163 which is the number provided. There will be a need to have four (4) of the required parking spaces to be designated for the handicapped.
5. Total landscaping equals 33,265 sq. ft. or approximately 27% of the site.
6. The developer is required to dedicate 13.5 feet along the north edge of the property for S.W. Borland Road, 10 feet along the west edge of the property for S.W. 65th Avenue and 30 feet along the south edge for the extension of S.W. Sagert Street. S.W. Sagert Street is to have a 250' centerline radius.
7. The developer will be required to do a half-street improvement including sidewalks along both S.W. Borland and S.W. Sagert. Improvements within S.W. 65th will be deferred until a later date, but the developer will be required to deposit the cost of those improvements with the City of Tualatin.

5. The concerns expressed by the ARB at its meeting of 3-2-83 have not been met as of the time of the writing of this report, but should be at the time of the 3-16-83 meeting.

RECOMMENDATION

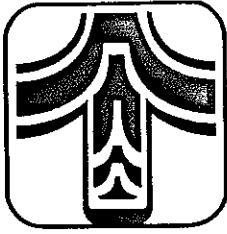
Staff recommends approval of the building colors, materials and lighting, and the general concept of the building elevations, site and landscape plans, but makes no recommendation until the modified plans have been submitted and reviewed.

Sincerely,



David L. Bantz
Economic Development Coordinator

DLB/lls



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000

February 25, 1983

ARCHITECTURAL REVIEW BOARD
City of Tualatin

Members of the Board:

Item #: 4
Case #: ARB-83-06
Project: Tualatin Professional Center
Status: Preliminary Review (New Submittal)

This application is for preliminary review of site and landscape plans, building elevations, colors, materials and lighting for Tualatin Professional Center to be located at 6464 S.W. Borland Road.

FINDINGS

1. The proposal consists of four (4) buildings varying in size from 5625 sq. ft. to 9000 sq. ft.. Total square footage of the projected buildings is 29,587 sq. ft.. Two (2) of the buildings will be single story and two (2) will have partial lower levels.
2. The building will have shingled exteriors with composition roofs. Two color schemes have been submitted for review.
3. Exterior lighting will consist of low 3' high square bollard fixtures and 13' - 14' high pole lights.
4. Total required parking spaces is 163 which is the number provided. There will be a need to have four (4) of the required parking spaces to be designated for the handicapped.
5. Total landscaping equals 33,265 sq. ft. or approximately 27% of the site.
6. The developer is required to dedicate 13.5 feet along the north edge of the property for S.W. Borland Road, 10 feet along the west edge of the property for S.W. 65th Avenue and 30 feet along the south edge for the extension of S.W. Sagert Street.
7. The developer will be required to do a half-street improvement including sidewalks along both S.W. Borland and S.W. Sagert. Improvements within S.W. 65th will be deferred until a later date, but the developer will be required to deposit the cost of those improvements with the City of Tualatin.

(\$50.00 - \$350.00 Fee
For Complete Review)

CITY OF TUALATIN
ARCHITECTURAL REVIEW APPLICATION

\$35.00 Fee for Sign
Review

PROJECT TITLE Tualatin Professional Center

PROJECT ADDRESS N.E. Corner of Dorland & 65th Street (6464 SW Portland Rd)

OWNER/DEVELOPER Consolidated Asset Group PHONE (509) 735-8402

(Street Address) 900 N. Moran Suite 2104 City Kennewick State Wash. Zip 99116

ARCHITECT William Rutledge Architects PHONE (206) 451-0498

(Street Address) 101-116th Ave. S.E. Suite 122 City Pellevue V State Wash. Zip 98004

LANDSCAPE ARCHITECT Name as above PHONE _____

(Street Address) _____ City _____ State _____ Zip _____

ENGINEER David Evens & Associates PHONE (509) 827-1663

(Street Address) 206 S.W. Corbett Ave City Portland State Oregon Zip 97201

DESIGNER _____ PHONE _____

(Street Address) _____ City _____ State _____ Zip _____

SIGN CONTRACTOR _____ PHONE _____

(Street Address) _____ City _____ State _____ Zip _____

OWNER'S SIGNATURE Samuel Wald PHONE (509) 735-7495

PROJECT DESCRIPTION

TAX LOT NO. 500 TAX MAP NO. 21E 100 SITE SIZE 2.8 acres

ZONING office commercial (CO) PROPOSED USE Medical Clinic

NO. OF BUILDINGS 4 NO. OF UNITS _____ EST. NO. OF EMPLOYEES _____

SQ. FT. OF BUILDINGS 19587 SQ. FT. OF PAVING 65,097 SQ. FT. OF LANDSCAPING 33,265

ESTIMATED DEV. DATE about April 1st EST. DEV. PHASES one VALUATION \$1,050,000

AS THE PERSON RESPONSIBLE FOR THIS APPLICATION, I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE ABOVE IS CORRECT AND AGREE TO COMPLY WITH ALL APPLICABLE CITY AND COUNTY ORDINANCES AND STATE LAWS REGULATING BUILDING CONSTRUCTION AND LAND USE.

NAME Frank Cheney (architect) PHONE (206) 451-0498

(Street Address) 101-116th Ave. S.E. #122 City Pellevue State Wash. Zip 98004

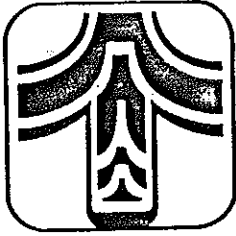
CASE NO: ARB 83-06

FEE: 350.00

RECEIPT NO: 9137

DATE RECEIVED: 2-2-83

BY: D. Rantz



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000



February 16, 1983

Frank Chaney
William Rutledge Architect
301 116th Avenue, S.E.
Suite 225
Bellevue, Washington 98004

RE: Facilities Review For Tualatin Professional Center to
be Located at 6464 S.W. Borland Road (ARB-83-06)

Dear Frank:

A Facilities Review meeting was held on Friday, February 11, 1983 to discuss the proposed Tualatin Professional Center plans. The following items will need to be shown on your site plan prior to proceeding with the Architectural Review Board process.

1. S.W. Borland Road needs to include 13.5 feet of dedicated property and a 20' half-street with 5' sidewalk shall be shown on the site plan.
2. S.W. 65th Avenue needs to include 10' of dedication and a 22' half street with a 5' sidewalk shall be shown on the site plan.
3. S.W. Sagert Street shall be extended eastward along the south property line of the subject property. This extension shall consist of a 30' dedication. Within the 30' row a 20' half-street and 5' sidewalk shall be shown on the site plan.
4. The Tualatin Fire District will require a hydrant to be located on S.W. Borland Road and S.W. Sagert to provide necessary fire protection.

Minor modifications may be necessary due to the need for a half-street along the southern property line or portion thereof. Those may include closing driveways or modifying parking stalls. Details are also needed for lighting and fencing for the trash enclosures.

In addition to the site plan changes mentioned above, the following comments were also made at the Facilities Review.

1. The necessary street improvements for S.W. Borland Road and S.W. Sagert Street will be required at the time the building is constructed. S.W. 65th

Letter
Frank Chaney
February 16, 1983
Page Two

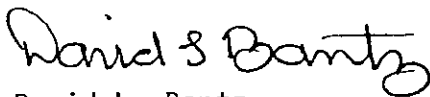
Avenue cannot be constructed until the existing telephone cable is re-located but the cost for said improvements shall be required to be deposit with the City of Tualatin for the future work.

2. Joe Greulich, Battalion Chief for Tualatin Rural Fire Protection District, is concerned that due to low fire flow pressure in the area, the buildings may need to have a sprinkler system installed.
3. The landscape plan has been viewed as one of the best plans that we have seen, however, the use of poplars along the east edge of the development appears to be in an area too small for such a tree.

You will need to submit 10 sets of plans for the Architectural Review Board. As soon as I receive the plans with the necessary changes, I will be able to assign a hearing date for your review.

I am looking forward to seeing your revised plan. Please let me know if you have any questions.

Sincerely,



David L. Bantz
Economic Development Coordinator

DLB/lls

cc: Ron Lambert
Michael Reidy

FILE: ARB-83-06 ✓
6464 S.W. Borland Road

EXISTING WALKWAY & RAILING

NEW CANOPY WITH ROOFING, SIDING, TRIM & SOFFIT TO MATCH EXISTING

NEW DOOR

EXISTING WINE WALL TO BE REMOVED

NEW WALK

GLULAM BEAM & 2x FRAMING

EXISTING STRUCTURE

EXISTING WINDOW

RECEIVED

RECEIVED
DEC 26 1991

CITY OF TUALATIN PLANNING DEPT.

CITY OF TUALATIN PLANNING DEPT.

TUALATIN PROFESSIONAL CENTER CANOPY - SECTION

12 - 24 - 91

KSWA

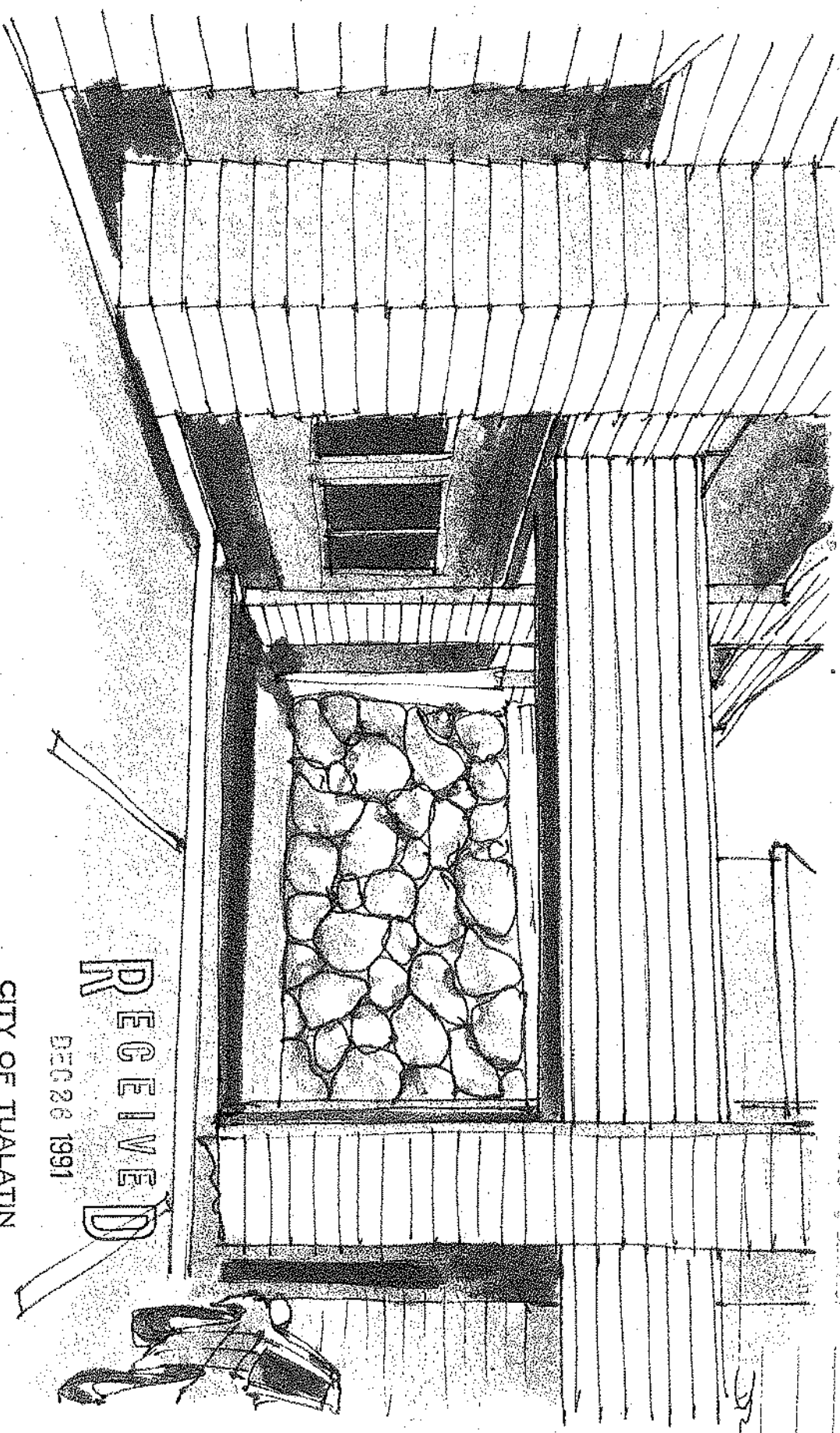
KOCH, SACHS, WHITTAKER, AANDERUD ARCHITECTS, A.T.A.
620 SOUTH WEST 17TH AVENUE PORTLAND, OR 97204
(503) 228-7571 FAX (503) 273-8891

APPROVED

1/26/91

APPROVED
 Architectural Review
 Date Recd
 Building Director

12/15/91
 [Signature]



RECEIVED

DEC 26 1991

CITY OF TUALATIN
 PLANNING DEPT.

TUALATIN PROFESSIONAL
 CENTER CANOPY - PERSPECTIVE

12 - 24 - 91

KSWA

KOCH, SACHS, WHITTAKER, ANDERUD,
 ARCHITECTS, A.I.A.
 630 SOUTHWEST FIFTH AVENUE PORTLAND, OR 97204
 (503) 228-7511 FAX: (503) 273-8897

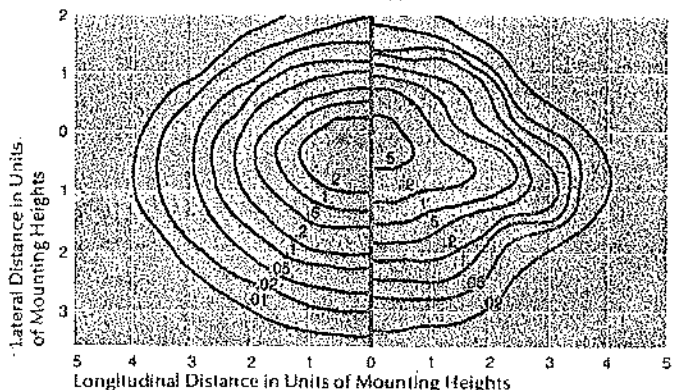
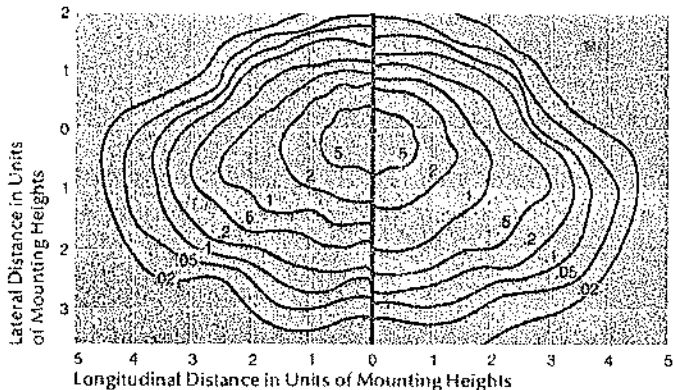
Photometric Data

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Rated 50,000 Lumens
Mounting Height: 30'
Based on IFL #20773
Type II Medium Cutoff

LAMP: 400W HPS
Rated 50,000 Lumens
Mounting Height: 30'
Based on IFL #20774
Type III Medium Cutoff

LAMP: 400W MV (DX)
Rated 21,500 Lumens
Mounting Height: 30'
Based on IFL #20775
Type II Cutoff

LAMP: 400W SUPER METAL ARC
Rated 40,000 Lumens
Mounting Height: 30'
Based on IFL #20777
Type II Medium Cutoff



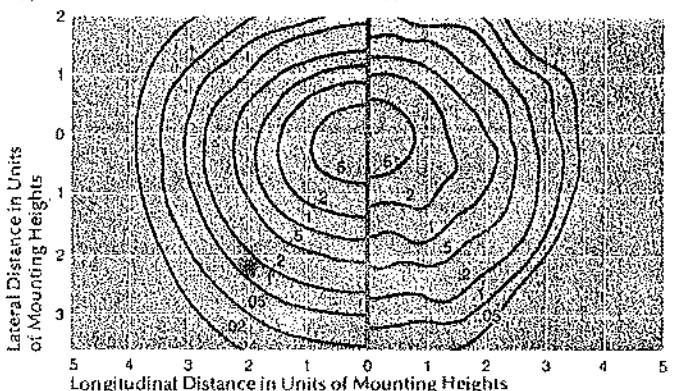
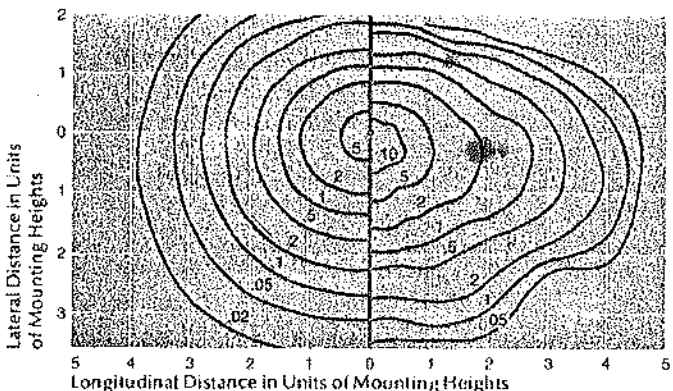
For conversion from 400W HPS to 250W HPS, multiply reading by 0.5.

LAMP: 1000W MV (DX)
Rated 60,000 Lumens
Mounting Height: 30'
Based on IFL #20778
Type III Cutoff

LAMP: 1000W METAL HALIDE
Rated 98,000 Lumens
Mounting Height: 30'
Based on IFL #20779
Type II Medium Cutoff

LAMP: 250W MV (DX)
Rated 11,500 Lumens
Mounting Height: 16'
Based on IFL #20852
Type III Cutoff

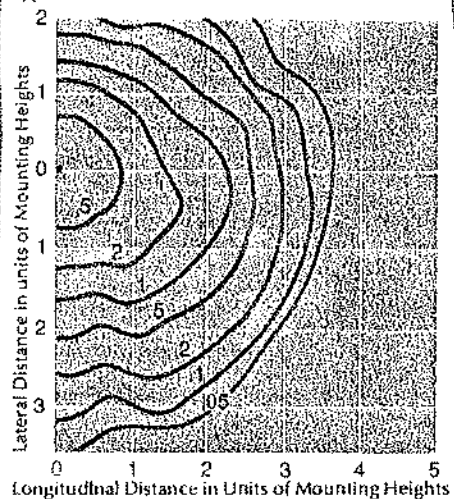
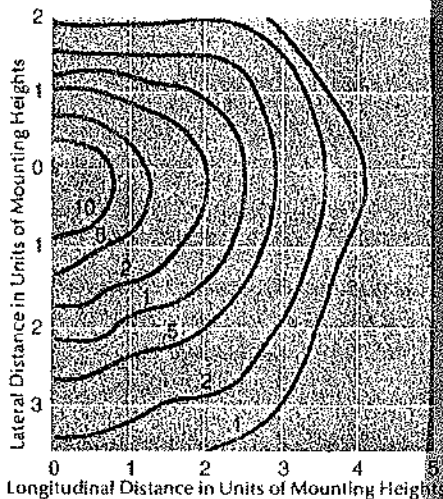
LAMP: 175W SUPER METAL ARC
Rated 15,000 Lumens
Mounting Height: 16'
Based on IFL #20850
Type III Short Cutoff



For conversion from 250W MV (DX) to 175W MV (DX), multiply reading by 0.71
For conversion from 250W MV (DX) to 100W MV (DX), multiply reading by 0.36

LAMP: 1000W HPS
Rated 140,000 Lumens
Mounting Height: 30'
Based on IFL #20780
Type II Short Cutoff

LAMP: 150W HPS (55 ARC VOLT)
Rated 16,000 Lumens
Mounting Height: 16'
Based on IFL #20848
Type III Short Cutoff



For conversion from 150W HPS to 100W HPS, multiply reading by 0.59

Mounting Height Conversion Factors

Use this chart for isolux curves #20850, 20848, and 20852.

Use this chart for isolux curves #20773, 20774, 20775, 20777, 20778, 20779, 20780.

From:	Multiply by	From:	Multiply by
16'	10' - 2.56	20'	2.25
to	12' - 1.77	22'	1.86
	14' - 1.3	24'	1.56
	18' - 0.79	26'	1.33
	20' - 0.64	28'	1.15
	22' - 0.53	35'	0.73
		40'	0.56

Tarlat
21E30B 90000

Transmittal

Date: 27 June 1995

To: Mr. Doug Rux
City of Tualatin
P.O. Box 369
Tualatin, OR 97062-0369

From: Tim Eddy

Re: Tualatin Professional Center

REC'D
CITY OF TUALATIN

JUN 28 1995

MAYOR ___ COUNCIL ___ POLICE ___ ADM ___
FINANCE ___ PLANNING ___ LEGAL ___ OPER ___
ASST ADM ___ PARK & REC ___ ENG & BLDG ___
LIBRARY ___ ECO DEV ___ COURT ___ FILE ___

Enclosed:	Date	Copies
1. Parking Plan 24"x36"	10 April 1995	2

Via: First Class Mail

Message: Doug,

Here is the revised parking plan for the Tualatin Professional Center. I discussed the plan with Joanne Stetzel and have sent her a record copy under separate cover. The Owners will be completing this work over the next few months. If you need any additional information or have any questions, please call.

Thanks for your assistance,

Tim Eddy



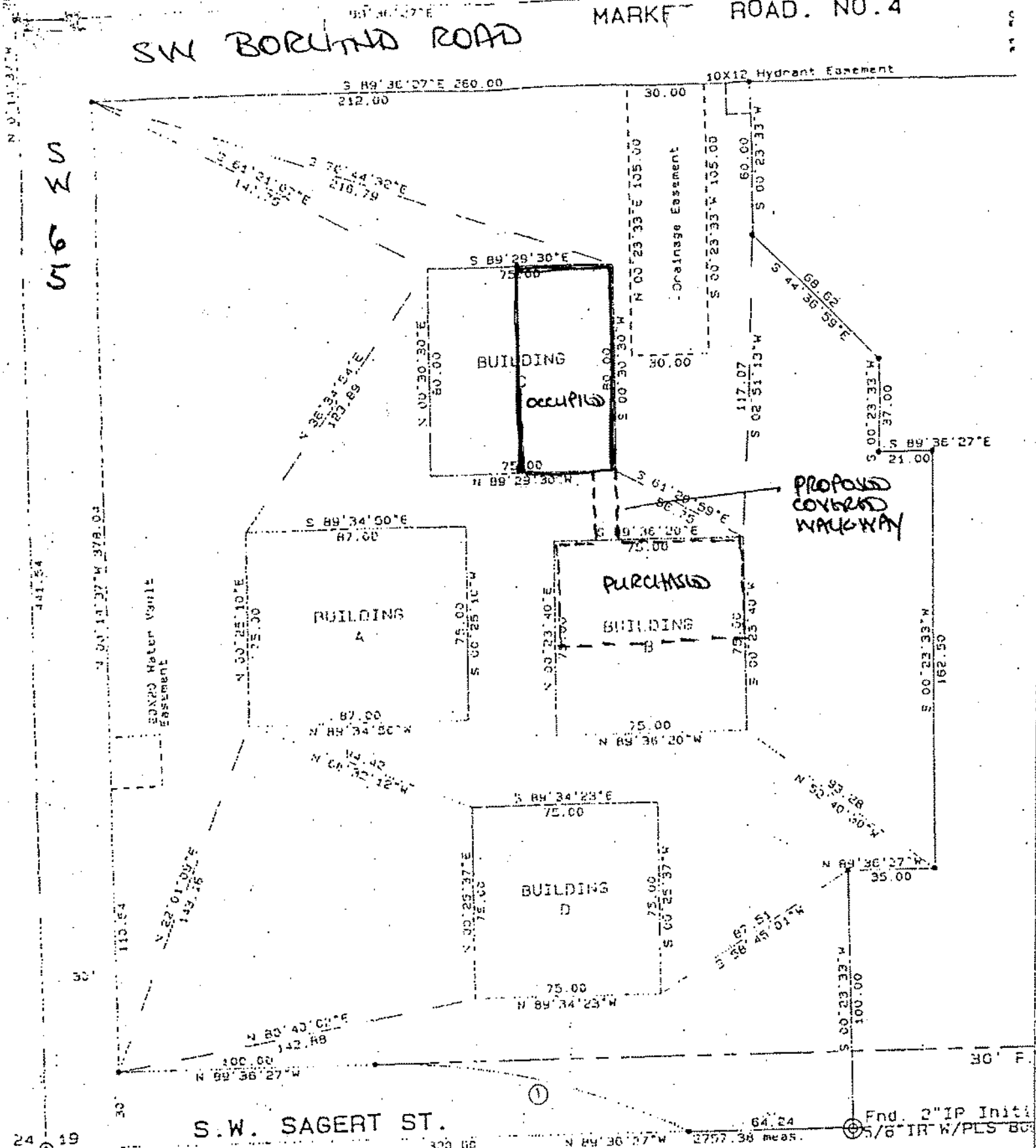
Copies: Jim Fluge, Bullier & Bullier

AR 83-06

SW BORUM RD ROAD

MARKET ROAD. NO. 4

S
56
W



S.W. SAGERT ST.

Fnd. 2" IP Initial
5/8" IR W/PLS BC

24 19
25 30

Sec. Cor. Fd. Br 333, D154

To: Building Division

From: DAVID BANTZ

Subject: Final for Tualatin Pro. Center

Items needed at Tualatin Professional Center prior to approving final inspection.

- 1) completion of landscaping
- 2) completion of lighting
- 3) installation of trash enclosures
- 4) striping of parking lot

November 23, 1983



OPERATIONS DIVISION

JOHN C. McINTYRE JERRY A. MARSHALL
Director Operations Director

City of Tualatin
Attn: Mike Darby
P.O. Box 369
Tualatin, OR 97062

SUBJ: Tualatin Professional Center
 Encroachment Permit #21373-N-12

The Clackamas County Operations Division fully supports the City of Tualatin in their request for removal of the curb gutter recently installed by Plaza Builders adjacent to the Tualatin Professional Center. Subsequent to our inspection and staff meeting on November 23, we concur that the profile grade of the curb as presently installed is incompatible with the grade of the existing edge of pavement along the south side of Borland Road and in no way lends itself to proper road design geometrics.

The County's initial decision to allow the City of Tualatin to act as the inspecting and approval agency in this installation stands, as it is still the County's opinion that road improvements need to be to the satisfaction of the City of Tualatin to assure successful future road jurisdiction transfer.

I would like to take this opportunity to point out a dilemma with this development, that being that the Encroachment Permit issued by the County Operations Division has not been fully executed by the developer and the requested \$6,500 Performance Bond has not been submitted. It is not the County's intent to revoke the access permit, but simply to resolve the problem as created by the placement of the curb at the improper grade.

JERRY A. MARSHALL
Operations Director

/mb





Portland General Electric Company

June 17, 1983

REC'D.
CITY OF TUALATIN

JUN 20 '83

Mayor	_____	Council	_____
Admin.	_____	Admin. Asst.	_____
Police	_____	Finance	_____
Eng.	<u>PLC</u>	Planning	_____
Biog.	_____	Library	_____
Recreation	_____	Operations	_____
File No.	_____		

Mr. Russell Welch
Plaza Builders, Inc.
Designers, Planners, Builders
500 N. Morain, Suite 2104
Kennewick WA 99336

Dear Russ:

I reviewed your preliminary plans for development of the Tualatin Professional Center located at the intersection of SW Borland Road and SW 65th Avenue, Tualatin.

The construction of an ingress-egress driveway for the development off of SW 65th Avenue at Sagert Street will require that our underground electrical distribution conductors be relocated within our easement. PGE will require reimbursement for this relocation. A relocation cost of "not to exceed" \$10,000 covers only the relocation of the first 200 feet of conductor as previously discussed. The above cost is good for 60 days.

If the ingress-egress driveway is redesigned from its present configuration as shown on the site plan provided to PGE, the cost will need to be refigured.

The PGE easement will remain intact and we will supply evidence of our right upon request.

Sincerely,

Glenn Butler
Commercial-Industrial Representative
643-5454, Extension 362

GB/9sa2.4A27

c: Mr. Mike McKillip, City of Tualatin
Mr. Ronald Lambert, David Evans & Associates, Inc.

①

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSETS GROUP, INC, a foreign corporation of Washington

hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of _____, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at a point on the South line of Section 19 that is South 89°36'27" East a distance of 30.00 feet from the Southwest corner of said Section 19; thence North 0°14'37" West, parallel with and 30.00 feet Easterly, when measured at right angles, from the West line of Section 19, a distance of 30.00 feet; thence South 89°36'27" East, parallel with and 30.00 feet Northerly, when measured at right angles from the South line of Section 19, a distance of 100.00 feet to a point of curvature; thence along the arc of a 280.00 foot radius curve to the right, through a central angle of 26°45'53", an arc distance of 130.80 feet, (the chord bears South 76°13'30" East 129.61 feet) to a point on the South line of Section 19; thence North 89°36'27" West along the South line of Section 19 a distance of 225.76 feet to the point of beginning.

OF TUALATIN, its successors in interest and assigns forever, against the claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is _____

_____.

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the CRANTOR.

WITNESS our hands and seals this _____ day of _____, 19__.

(seal)

(seal)

(seal)

STATE OF OREGON)
)ss
County of

On this _____ day of _____, 19____, before me, the undersigned, a Notary Public, personally appeared _____ and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me: _____
Notary Public for Oregon
My Commission Expires: _____

(2)

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that MERIDIAN MEDICAL ASSOCIATES
a joint venture

hereinafter called the CRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Commencing at the Southwest corner of Section 19; thence North 0°14'37" West along the West line of Section 19 a distance of 421.54 feet to the South line of Borland Road; thence South 89°36'27" East along the South line of Borland Road, a distance of 290.15 feet to the point of beginning of the tract herein to be described; thence continuing South 89°36'27" East a distance of 297.85 feet; thence South 0°14'37" East a distance of 13.50 feet; thence North 89°36'27" West a distance of 298.00 feet; thence North 0°23'33" East a distance of 13.50 feet to the point of beginning.

And the CRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the CRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is _____

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

STATE OF OREGON)
)ss
County of

On this _____ day of _____, 19____, before me, the undersigned, a Notary Public, personally appeared _____ and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me: _____
Notary Public for Oregon
My Commission Expires: _____

3

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSETS GROUP, INC., a foreign corporation of Washington

hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Commencing at the Southwest corner of Section 19; thence South 89°36'27" East along the South line of Section 19 a distance of 30.00 feet; thence North 0°14'37" West, parallel with the West line of Section 19, a distance of 421.54 feet to the South line of Borland Road and the point of beginning of the tract herein to be described; thence South 89°36'27" East along the South line of Borland Road a distance of 260.15 feet; thence South 0°23'33" West a distance of 13.50 feet; thence North 89°36'27" West, parallel with the centerline of Borland Road and 33.50 feet Southerly when measured at right angles, a distance of 260.00 feet; thence North 0°14'37" West a distance of 13.50 feet to the point of beginning.

representatives shall warrant and defend the above granted premises to the CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is _____

_____.

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

(seal)

(seal)

(seal)

STATE OF OREGON)
)ss
County of

On this _____ day of _____, 19____, before me, the undersigned, a Notary Public, personally appeared _____ and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me: _____
Notary Public for Oregon
My Commission Expires: _____

CITY OF TUALATIN - STANDARD

④

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSETS GROUP, INC. A foreign corporation of Washington

hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at the point of intersection of the East line of Meridian Road with the South line of Section 19, said point being South 89°36'27" East 20.00 feet from the Southwest corner of Section 19; thence North 0°14'37" West along the East line of Meridian Road a distance of 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°37'27" East along the South line of Borland Road 10.00 feet; thence South 0°14'37" East, parallel with the centerline of Meridian Road and 30.00 feet Easterly when measured at right angles, a distance of 421.54 feet; thence North 89°36'27" West a distance of 10.00 feet to the point of beginning.

AND THE GRANTOR ABOVE NAMED DO COVENANT TO and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is _____

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this _____ day of _____ 19__.

_____ (seal)

_____ (seal)

_____ (seal)

STATE OF OREGON)
)ss
County of

On this _____ day of _____, 19____, before me, the undersigned, a Notary Public, personally appeared _____ and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me: _____
Notary Public for Oregon
My Commission Expires: _____

TUALATIN PROFESSIONAL CENTER
May 19 - 1983

DEAR STEVE -

I APPRECIATE THE OPPORTUNITY TO BRING MY CONCERNS REGARDING CERTAIN ELEMENTS OF OFFSITE COST TO YOUR ATTENTION IN THIS SOMEWHAT UNCONVENTIONAL MANNER.

TO BEST DESCRIBE THE CIRCUMSTANCES AS I SEE THEM, I NEED TO ESTABLISH A BIT OF A CHRONOLOGY LEADING TO THE PRESENT TIME. PLEASE ACCEPT SOME APPROXIMATIONS IN DATING, AS I'M NOT IN MY OFFICE TO REVIEW ALL MY RECORDS.

1. IN AUGUST OF 1982, MY PARTNER, DR. BASSINGER, VISITED YOUR CITY TO GATHER PERTINENT INFORMATION REGARDING EXTRAORDINARY COSTS INCURRED TO THE DEVELOPMENT OF THE SUBJECT PROPERTY. THE RESULT OF THE MEETING WAS AN INTRODUCTION TO THE ECONOMIC DEVELOPMENT COORDINATOR AND RESULTANT COMMUNICATION FROM SAME (SEE LETTER 8-25-82 & EXHIBIT E TO THAT LETTER). FROM THE INFORMATION CONTAINED IN THE LETTER AND ITS EXHIBITS AND FROM ADDITIONAL VERBAL COMMUNICATION WITH VARIOUS STAFF, WE WERE ABLE TO ACCURATELY ASSESS THE PROBABLE OFFSITE COSTS REQUIRED BY THE DEVELOPMENT.
2. ARMED WITH THE OFFSITE COST ESTIMATION AND OUR KNOWN ON-SITE, CONSTRUCTION AND FINANCE COSTS, WE NEGOTIATED A PURCHASE OF THE PROPERTY, IN SEPTEMBER, 1982.
3. IN EARLY 1983 WE APPLIED FOR ARB APPROVAL AND BEGAN THE BUSINESS OF MINOR LAND PARTITIONING. DURING THE ARB PROCESS, WE LEARNED THAT THE CITY WOULD NOW REQUIRE A CERTAIN EXTENSION TO SAGEPT ROAD. THIS REQUIREMENT WAS MADE A CONDITION OF ARB APPROVAL, EVEN THOUGH NO INTIMATION OF THIS IMPROVEMENT WAS MADE PRIOR TO THAT POINT. WE ACCEPTED THE NEW OFF-SITE COST AND PROCEEDED WITH A BUILDING PERMIT.

Application

4. DURING THIS TIME PERIOD, WE WERE INFORMED THAT ALTHOUGH IMPROVEMENTS TO S.W. 65TH WERE REQUIRED, BECAUSE OF AN EXISTING PHONE LINE IN THE R/W, SAIO IMPROVEMENTS WOULD BE INDEFINITELY POSTPONED. IT WAS INTIMATED THAT WE WOULD HAVE TO MAKE A SATISFACTORY PAYMENT ARRANGEMENT FOR THIS FUTURE WORK.
5. WE APPLIED FOR A BUILDING PERMIT IN EARLY APRIL; WE WERE TOLD THAT A TWO TO THREE WEEK PERIOD WOULD BE NECESSARY FOR PROCESSING.
6. IN LATE APRIL, WE WERE TOLD THAT THE PERMIT WOULD BE READY SHORTLY. THE STAFF HAD BEEN INFORMED OF OUR CONSTRUCTION INITIATION BEGINNING WITH EXEMPTION AT THAT TIME AND WERE AWARE THAT TIME WAS IMPORTANT.
7. REPEATED INQUIRIES AS TO THE STATUS OF THE PERMIT ELLICITED RESPONSES THAT IT WAS ABOUT READY, BUT, NOT QUITE. FINALLY, I CAME TO TULALIN TO MEET WITH MY GENERAL SUPERINTENDENT - RUSS WELCH TO GO OVER THE PERMIT PROCESS. THIS OCCURRED IN THE FIRST WEEK IN MAY. WE CAME TO THE ANNEX AND WERE INFORMED THAT A MEETING OF SEVERAL STAFF MEMBERS WOULD BE HELD TO GO OVER ALL ELEMENTS OF THE PERMIT. DURING THAT MEETING, I WAS INFORMED THAT ALL FEES NEEDED TO BE PAID PRIOR TO THE ISSUANCE OF THE PERMIT. THIS WAS THE FIRST INDICATION OF SAME, AND AFTER DISCUSSIONS WITH YOUR OWN CONVERSATIONS WITH MARILYN MATHEWS REGARDING ALTERNATIVES TO IMMEDIATE PAYMENTS, I DEPOSITED A CHECK FOR SOME \$42,000.00 TO THE CITY TO OBTAIN THE NEEDED PERMITS.

8. IT WAS ALSO DURING THAT MEETING THAT I FIRST LEARNED THAT THE STORM DRAINAGE FELL UNDER THE RESPONSIBILITY OF CLACKAMUS COUNTY. THE AUGUST 25TH LETTER INFORMED US TO DESIGN A DRAINAGE SYSTEM THAT CHANNELLED ALL WATER TO A DRAINAGE DITCH IN THE EAST P/W OF S.W 65TH; WE PAID OUR ENGINEERS TO DO SO. THE DAY AFTER THE MEETING WITH STAFF, WE MET WITH CLACKAMUS COUNTY; WE ULTIMATELY INFORMED THAT, IN ORDER TO USE THE DRAINAGE SYSTEM ALREADY DESIGNED, WE HAD TO FILL THE DITCH. SUBSEQUENT INVESTIGATION INDICATED THAT THE COST WOULD APPROACH \$87,000.00. CLEARLY, AN UNPLANNED EXPENSE OF THAT MAGNITUDE IS UNWELCOME, AT BEST, AND HAS THE EFFECT OF SIGNIFICANTLY CHANGING THE OVERALL PROJECT ECONOMICS. CRITICALLY, AT THIS TIME WE HAD ALREADY LOCKED IN OUR TOTAL ECONOMICS AND CAN NOT RECOVER EXTRAORDINARY COSTS. THE RESULT WAS TO PAY THE ENGINEER, A SECOND TIME, TO DESIGN A STORM SEWER SYSTEM WHICH ELIMINATED THE USE OF THE DITCH.

9. INHERENT IN THE ARB APPROVAL IN MID-MARCH WAS A REQUIREMENT TO ENTER INTO A STREET IMPROVEMENT AGREEMENT REGARDING BONDARD, 65TH, AND THE ADDED STREET - STREET FOND. THAT AGREEMENT WAS DELIVERED TO MY OFFICE ON ~~APRIL~~ 16. THE AGREEMENT REQUIRES A \$6,000.00 CASH FUND TO BE HELD FOR UP TO 10 YEARS FOR SUBSEQUENT IMPROVEMENTS. QUOTE OBVIOUSLY, THIS AMOUNT WAS NOT ANTICIPATED. AT NO TIME WERE ANYONE AT THE CITY INDICATED THAT THE SCOPE OF THE S.W 65TH IMPROVEMENT INCLUDED A TOTAL REVISION OF THE STREET, THE INCLUSION OF A STORM

DRAINAGE SYSTEM AND WHATEVER ELSE IS INCLUDED IN AN UNSUCCESSFUL L.I.D. PROPOSAL INVOLVING A SIGNIFICANT PORTION OF S.W. 65E. UNTIL I RECEIVED THIS BELATED AGREEMENT, I WAS NOT AWARE THAT THIS L.I.D. HAD EVER BEEN PROPOSED. MY UNDERSTANDING OF THE SCOPE OF IMPROVEMENT ON S.W. 65E (BASED ON THE AUGUST 25 LETTER & EXHIBIT E) WAS AN EXTENSION OF THE EXISTING PAVED AND SURFACING TO A TRAVEL WAY OF 44' MEASURED FROM THE EXISTING PAVEMENT CENTERLINE, PLUS THE ADDITION OF AN 8' BIKEWAY. MY ESTIMATOR INDICATES THAT SUCH IMPROVEMENTS WILL COST APPROXIMATELY \$6400.00. THOSE IMPROVEMENTS WE ARE PREPARED TO DO DURING OUR COURSE OF CONSTRUCTION IF IT IS DEEMED IMPRACTICAL TO DO THOSE IMPROVEMENTS NOW, WE WOULD LIKE TO SUGGEST THAT WE TENDER TO THE CITY A LETTER OF CREDIT, IN THAT AMOUNT, TO BE ASSIGNED FOR CITY USE FOR THESE IMPROVEMENTS. IN THE MEANTIME, UNTIL WE CAN MUTUALLY RESOLVE THIS ISSUE, WE ARE VERY NEAR THE POINT OF HAVING TO CEASE CONSTRUCTION (PAVING OF STRUCTURAL CURBS) AS WE HAVE NO PERMIT.

I SUBMIT THAT PERHAPS SOME LARGER QUESTIONS ARE INVOLVED IN THIS ISSUE. I HAVE BEEN ASSOCIATED WITH THE DEVELOPMENT NOWHAY FOR 15 YEARS. THAT EXPERIENCE HAS TAUGHT ME THAT THE BURDEN OF PUBLIC UTILITY AND ROADWAY IMPROVEMENTS IS LARGELY BORNE BY NEW DEVELOPMENT. IT'S ACCEPTED PRACTICE AND ANTICIPATED BY THE DEVELOPER. WE ASKED WHAT THOSE BURDENS WOULD BE, FELT THEM ECONOMICALLY ACCEPTABLE WITHIN THE FRAMEWORK OF OUR PROPOSAL; ON THE STRENGTH OF THAT COMMITTED OURSELVES TO A MAJOR PROJECT. CITIES HAS A RESPONSIBILITY TO BE ACCURATE IN INFORMING THE DEVELOPMENT COMMUNITY OF THOSE COSTS. THE LACK OF INFORMATION REGARDING TARGET ROAD AND

THE DRAINAGE REQUIREMENTS WAS HANDLED WITH pragmatism. WE SIMPLY ACCEPTED SAFEST ROAD AS A GOOD IDEA, EVEN THOUGH WE HAD NO ALLOCATION IN OUR COMPLETED BUDGET FOR THE \$500.00 IT WILL COST US. WE RE-ENGINEERED THE DRAINAGE AT AN ADDITIONAL ENGINEERING COST OF SOME \$3500.00 TO AVOID THAT PROBLEM. THE POSSIBLE ISSUE OF THE SCOPE OF WORK RE. SW. 65TH CAN ONLY BE HANDLED BY A SIMILAR EXHIBITION OF PRAGMATISM ON THE PART OF THE CITY.

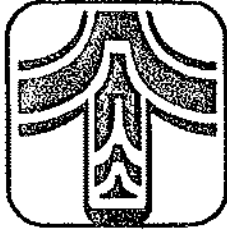
I WON'T DEBATE THE ENGINEERING LOGIC OR THE TRANSPORTATION LONG RANGE GOALS BEHIND THE SCOPE OF THIS FORMER LID PROPOSAL. I WILL DEBATE THE CITY'S POSITION THAT THIS DEVELOPMENT SHOULD BE FORCED TO SUPPORT A SIGNIFICANT PORTION OF THE COSTS OF A SCOPE OF WORK WHICH IS CLEARLY MAJOR IN NATURE AND SIGNIFICANTLY BEYOND THE CURRENT OR FUTURE NEEDS OF THIS PROJECT. THE VERY CONCEPT OF AN LID. IS THAT IT ALLOWS A VOLUNTARY PARTICIPATION ON THE PART OF EFFECTED PROPERTY OWNERS, BECOMING INVOLUNTARY ONLY AFTER A MAJORITY APPROXIMATES such payment.

BECAUSE OF THE CONDO. STATUS OF THIS DEVELOPMENT, WE HAVE NO OPPORTUNITY TO RECOVER EXTRAORDINARY COSTS NOW IMPOSED. WE CAN'T PICK IT UP IN FUTURE RENTAL INCREASES. WE CERTAINLY CAN'T GO TO OVER 18 PHYSICIAN CUSTOMERS AND SUGGEST THAT THEY VOLUNTARILY INCREASE THEIR ALREADY AGREED UPON PRICE. I SUBMIT THAT WE ARE BEYOND THE POINT IN TIME TO BE ABLE TO ABSORB THIS SWOON INCREASE. ONE WOULD CERTAINLY BELIEVE THAT AT SOMETIME IN THE 10 MONTHS SINCE WE FIRST APPROACHED THE CITY, WE WOULD HAVE BEEN TOLD OF THIS CIRCUMSTANCE, WE WERE NOT.

Perhaps the suggestion that BEST RESOLVES THIS problem is to let us make the pavenway extension and bike way improvements now. Evidence is that the phone company may be 10 YEARS in its line movement. If we pay for the improvements now, we've increased the streets ability to handle traffic, provided for now - non-existent pedestrian and bike travel, and those benefits will be enjoyed by the population until the major improvement is done, if ever. Certainly, that is a better solution than leaving the narrow, non-pedestrian travel way, as is. If the major improvement is ever undertaken, it is my understanding that the entire ROMO bed will be changed, certainly including the temporary improvements which we propose to pay for.

As you are aware, a resolution of this matter is critical to our progress. Realizing that such resolution will require your consultation with staff, I await your call on this matter, next Wednesday, May 25. If you wish to talk with me before then, please call the number listed below.

Sincerely
Mike Reidy
509-783-7495



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 638-2633

Arch Review Appl Fee
500,000 - 1M = \$300
> 1M = \$350

August 25, 1982

Dear Dr. Larry Bassinger:

The following information pertains to your development proposal discussed on August 24, 1982, for 6464 S.W. Borland Road, also known as 21E 30B, Tax Lot 500.

Zoning - The parcel is located in the Office Commercial (CO) Planning District (see attached Exhibit A).

Water - Water can be provided by the City of Tualatin by a 12" line in both S.W. 65th Avenue and S.W. Borland Road (see attached Exhibit B).

Sewer - Sewer service is provided by the Unified Sewerage Agency by an existing 8" line in S.W. 65th Avenue (see attached Exhibit C).

Storm Sewer - No storm sewers currently exist to serve the property. Storm runoff will need to be channeled to the drainage ditch on the east side of S.W. 65th Avenue which in turn will drain into a creek south of the property.

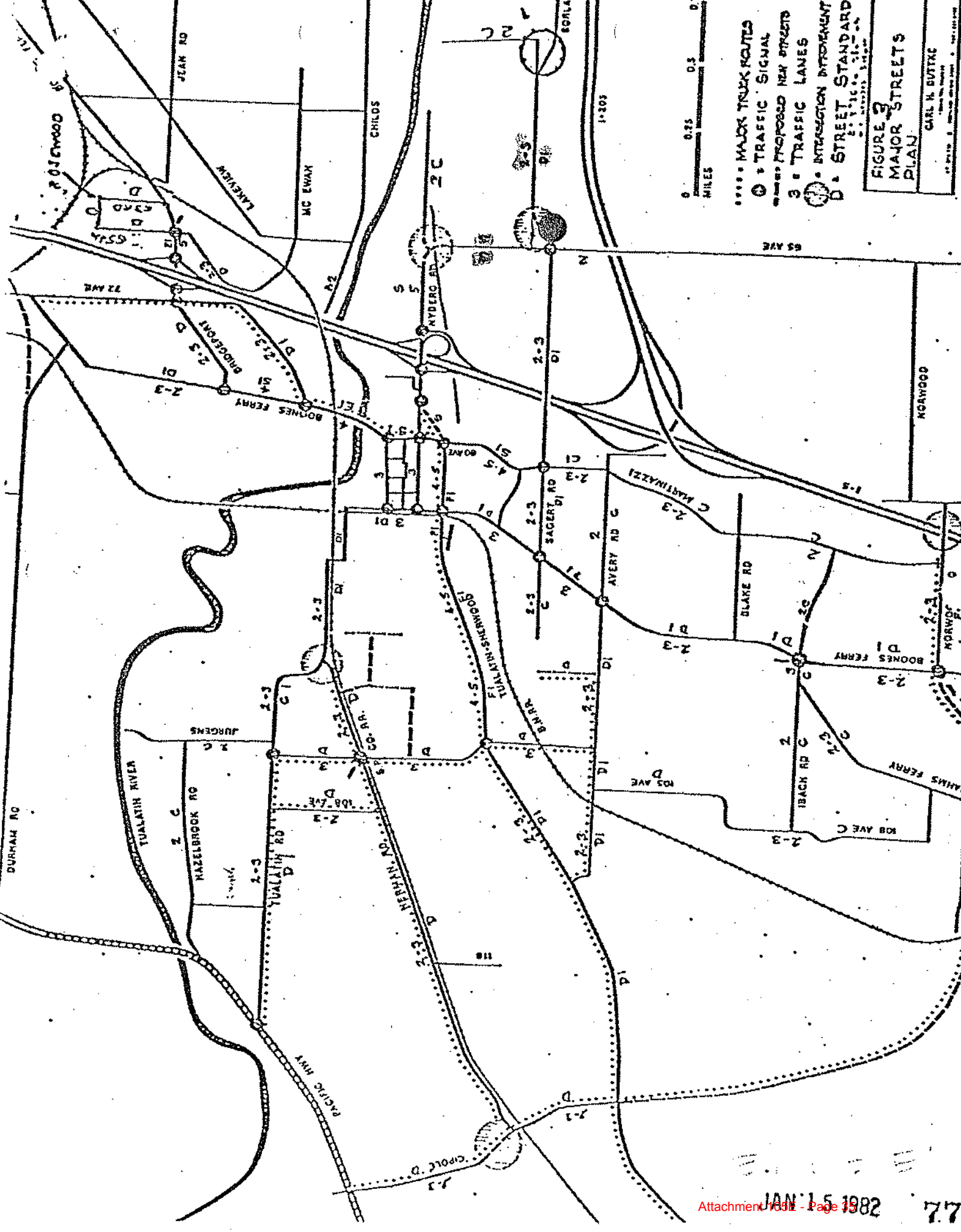
Fees - The fees have been itemized on Exhibit D.

Right-of-Way & Street Improvements - The existing right-of-way of S.W. 65th, adjacent to the subject property, is 40 feet with 20 feet coming off of each side of the center line. Plans call for S.W. 65th Avenue to be a 60' right-of-way which would require an additional 10' of right-of-way from each side. S.W. Borland Road is currently a 53.5' right-of-way adjacent to the subject property with 20 feet coming off of the south side and 33.5' from the north side. A 13.5' dedication will be needed from the subject property. Half-street improvements will be needed for both streets (see Exhibit E).

Curb Cut Limitations - I have enclosed a copy of the parking standards from the Community Development Code. It contains information regarding driveway locations. I would also like to mention that we would like to see any access along S.W. 65th Avenue be located as close to the southerly property line as possible so that it would align with S.W. Sagert Street (see attached Exhibit F).

Utilities -

Power - Portland General Electric
Gas - Northwest Natural Gas
Phone - General Telephone



- MAJOR TRUCK ROUTES
- ⊙ TRAFFIC SIGNAL
- PROPOSED NEW STREETS
- 3- TRAFFIC LANES
- ⊕ INTERSECTION IMPROVEMENT
- D- STREET STANDARD

FIGURE 2
MAJOR STREETS
PLAN

CARL H. BUTTKE
 ENGINEER
 1001 1/2 N. 10TH ST. SUITE 100
 PORTLAND, OREGON 97227

Plan to encourage drivers traveling to... to use Lower Boones Ferry Road. Bridgeport Road should be developed as a two-lane roadway with left turns at the intersections in accordance with Street Standard 0.

Lower Boones Ferry Road will function as an arterial.

The year 2000 traffic volume is forecast to be approximately 13,000 vehicles per day. If additional traffic can be diverted from Bridgeport Road, then this volume may increase substantially and lower the estimated year 2000 traffic volumes on Bridgeport Road and Upper Boones Ferry Road. Consequently, the right-of-way width for this section of roadway should be in accordance with Street Standard E1 and the roadway should be designed as a two-lane roadway with left-turn lanes in accordance with Street Standard 01. Street Standard 01 will permit the development of an eight-foot wide bike-way in lieu of a five-foot sidewalk on one side of the street."

Pacific Highway functions as an arterial road through Washington County. It is a four lane divided roadway with left turn lanes southwest of Tigard. It is constructed to rural standards with shoulders and drainage ditches. It should remain as a divided four lane roadway with left turn lanes but eventually be developed to urban standards with curb and gutter and sidewalks in accordance with Street Standard F. Partial control of access along Pacific Highway should be achieved to limit driveways and maintain a high capacity.

COLLECTOR STREETS - The following streets are planned to function as collector streets within the City:

- . 65th Avenue
- . 65th Avenue, 63rd Avenue and Rosewood St. North of L. Boones Ferry Rd
- . Martinazzi Avenue south of Sagert Street
- . Grahms Ferry Road
- . 102nd - 104th Avenues
- . 105th - 108th Avenues
- . Cipole Road
- . Hazelbrook Road
- . Tualatin Road
- . Herman Road
- . Boones Ferry Road between Tualatin Road and 80th Avenue
- . Nyberg Street west of Tualatin-Sherwood Road
- . Borland Road
- . McEwan Street
- . Sagert Street
- . Avery Street west of Boones Ferry Road
- . Norwood Road
- . New Streets

Sixty-Fifth Avenue south of Nyberg Street functions as a collector street. However, because it serves the high density residential and hospital, the forecast traffic volume is higher than a typical collector street. It is planned as a 44 foot wide roadway within a 60 foot right-of-way to accommodate two travel lanes and left turn lanes. An eight foot bikeway is proposed along 65th Avenue between the bridge over the creek and Sagert Street in lieu of a sidewalk. South of Sagert Street, its cross-section can be reduced to a two lane rural road standard as it is serving agricultural land outside of the urban growth boundaries.

Herman Road is an industrial collector street throughout its length between Tualatin and Cipole Roads. It should therefore be developed as Street Standard O, with the following modification: for that portion of the road that runs parallel to and adjacent to the Southern Pacific Railroad tracks, the 7-foot planter strip and 5-foot sidewalk should be eliminated from the southerly side of the road, resulting in a reduction of total right-of-way from 64 feet to 54 feet. The intersection with Tualatin Road should be realigned as shown on Figure 3 to reduce the existing accident potential. The foregoing modification applies only to the following described portion of S.W. Herman Road; the southerly right-of-way line of S.W. Herman Road, also known as County Road No. 489, Washington County, Oregon, beginning at the easternmost corner of Tax Lot 400, Map 2S1-210; and thence northeasterly for a distance of 9,375 feet, more or less, to the northeasterly corner of Tax Lot 1203, Map 2S1-23B.

Boones Ferry Road between Tualatin Road and Martinazzi Avenue is planned to function as a downtown collector street. It is expected to carry approximately 9000 vehicles per day by the Year 2000. It is planned in the Urban Renewal Plan to utilize a special street section 44 feet wide within a 64 foot right-of-way. This section will provide for two travel lanes, left turn lanes and curb parking on the south side of the street.

Nyberg Street between the Tualatin-Sherwood Bypass and Boones Ferry Road is planned to function as a downtown collector street. It is planned in the Urban Renewal Plan to be developed into a special section varying in width and direction of operation. Immediately west of the intersection with the Tualatin-Sherwood extension, it is to be a 24 foot wide one-way westbound street entering downtown. Between 80th and approximately 150 feet to the east, it should contain an eastbound lane to serve the shopping center access point located there. The eastbound and westbound lanes could be separated by a landscaped median.

Between 80th Avenue and Boones Ferry Road, Nyberg Street should remain as it is -- a two lane roadway with left turn lanes and parking on the north side of the street.

Borland Road is an east-west collector street functioning between 65th Avenue in Tualatin to Stafford Road immediately south of Lake Oswego. Its forecast traffic volume for the Year 2000 is estimated to be approximately 9000 vehicles per weekday. Borland Road should be developed as a two lane roadway with left turn lanes at intersections within the urbanized area and in accordance with Street Standard C1. Provisions should be made to develop an eight foot bikeway on the north side of the road in lieu of a five foot sidewalk. It should also be realigned at 65th Avenue to form one intersection with 65th Avenue and Sagert Street as shown on Figure 3. This realignment is necessary to direct traffic to and from the downtown and the west via Sagert Street rather than Nyberg Street which is expected to operate at capacity in the vicinity of I-5 by the Year 2000.

McEwan Street is planned to function as a collector street from Lower Boones Ferry Road to 65th Avenue. It should be constructed in accordance with Street Standard D.

Sagert Street is planned to function as a collector street from approximately 93rd Avenue to 64th Avenue. Its traffic volume is forecast to vary between 6500 vehicles per weekday at Boones Ferry Road to 10,000 vehicles per day at 65th Avenue. It should be developed as a two lane

CONSOLIDATED ASSET GROUP, INC.
500 N. MORAIN SUITE 2104
KENNEWICK, WA 99336
(509) 783-7495

REC'D.
CITY OF TUALATIN

MAY 18 '83

May 16, 1983

David Bantz
Economic Development Coordinator
City of Tualatin
Box 369
Tualatin, Oregon 97062

Mayor	_____	Council	_____
Admin.	_____	Admin. Asst.	_____
Police	_____	Finance	_____
Eng.	_____	Planning	_____
Bldg.	_____	Personnel	_____
Recreation	_____	Operations	_____
File No.	_____		

Bantz

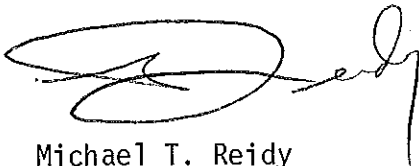
Dear David,

As requested, I am enclosing a copy of a recent title report indicating ownership of the property involved in our minor land partition. As you can see, the Sagert interest is at an end.

I'm also enclosing the four, original Deeds of Dedication. As the legal description error is corrected, we will cause recordation and delivery of the original.

Sincerely,

CONSOLIDATED ASSET GROUP, INC.



Michael T. Reidy

MTR/pd

Enclosures: as noted

BUILDING APPROVAL CHECKLIST

(All Buildings Except Single-Family Residences)

ARB CASE NO. 83-05 BUILDING PERMIT NO. _____

PROJECT NAME Tualatin Professional Center

PROJECT ADDRESS 6464 SW Bonland Rd

	<u>DATE</u>	<u>INITIALS</u>
1. ARB application and required plans received:	<u>2-2-83</u>	<u>D.B</u>
2. Plans reviewed for completeness. Applicant notified if additional information needed:	<u>—</u>	<u>—</u>
3. Plans and Facilities Review Notice sent to Planning, Engineering, TRFD, Administration:	<u>2-3-83</u>	<u>D.B</u>
4. Facilities Review meeting held:	<u>2-11-83</u>	<u>D.B</u>
5. Applicant notified of Facilities Review decision and ARB meeting date:	<u>2-16-83</u>	<u>D.B</u>
6. ARB staff report prepared and furnished to ARB and applicant:	<u>2-9-83</u>	<u>D.B</u>
	<u>2-25-83</u>	<u>D.B</u>
7. Plans approved by ARB and applicant notified of necessary permits: <i>approved</i> <i>denied</i>	<u>3-16-83</u>	<u>D.B</u>
	<u>3-2-83</u>	<u>D.B</u>
8. Building Permit application received. Planning and Engineering notified:	<u>3-30-83</u>	<u>D.B</u>
9. Building Permit issued:	_____	_____
10. Final ARB Inspection held:	_____	_____
11. Completion Notice signed by affected departments:	_____	_____
12. Certificate of Occupancy issued:	_____	_____

NOTE: This checklist shall become a permanent part of the ARB Case File.



Title report

PIONEER NATIONAL TITLE INSURANCE

ATICOR COMPANY

P.O. BOX 69
820 MAIN STREET
OREGON CITY, OREGON 97045
PHONE 656-PNT1

107 NORTH IVY STREET
CANBY, OREGON 97013
PHONE 266-2707
PHONE 656-PNT1

April 14, 1983

City of Tualatin
Attn: David Bantz
P. O. Box 369
Tualatin, Oregon 97062

ESCROW NO. 171-145
RE: Meridian Medical -
Consolidated Asset

REC'D.
CITY OF TUALATIN

APR 15 '83

Gentlemen:

In connection with the above numbered Escrow, we enclose the following:

- () Statement of Receipts and Disbursements
- () Our check # _____ in the sum of \$ _____

- () Deed recorded _____ Book _____ Page _____
records of _____ County,
- () Mortgage recorded _____ Book _____ Page _____
records of _____ County,
- () Note dated _____ in the sum of \$ _____
- () Title Insurance Policy No. _____ in the sum of \$ _____
- () Fire Insurance Policy in the amount \$ _____

(xx) Copies of Deed of Dedication for Borland Road, Sagert Road and Meridian Road, which have been recorded April 13, 1983.

Mayor	_____	Council	_____
Admin.	_____	Admin. Asst.	_____
Police	_____	Finance	_____
Eng.	_____	Planning	_____
Bldg.	_____	Library	_____
Recreation	_____	Operations	_____
File No.	_____		

Any other documents to which you are entitled will be forwarded as soon as they are available.

Yours very truly,
Pioneer National Title Insurance Company

By: Margo Haney

Margo Haney, Escrow Branch Manager/mh

APR 13 1983

90 0

171-145

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that MERIDIAN MEDICAL ASSOCIATES
a joint venture

hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

Arb 135 out of (38)

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Commencing at the Southwest corner of Section 19; thence North 0°14'37" West along the West line of Section 19 a distance of 421.54 feet to the South line of Borland Road; thence South 89°36'27" East along the South line of Borland Road, a distance of 290.15 feet to the point of beginning of the tract herein to be described; thence continuing South 89°36'27" East a distance of 297.85 feet; thence South 0°14'37" East a distance of 13.50 feet; thence North 89°36'27" West a distance of 298.00 feet; thence North 0°23'33" East a distance of 13.50 feet to the point of beginning.

83 10436

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 1983.

Meridian Medical Associates,
a partnership

By C. Lewis (Signature) (seal)

Managing Partner (seal)

2

X

APR 13 1983

83 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is None

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 1983.

Medway Medical Associates,
a partnership
By C. Lawrence [Signature] (seal)
Managing Partner (seal)

2

APR 13 1983

STATE OF OREGON)
County of)es

On this 13th day of April, 1983, before me, the undersigned, a Notary Public, personally appeared E. Edward Steaders and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me: Margaretta P. Hony
Notary Public for Oregon
My Commission Expires: 1/18/85



STATE OF OREGON
County of Clatsop
I, Justice N. Orr, County Clerk, do hereby certify that the foregoing instrument was recorded in the records of said County at

1983 APR 13 PM 4:10



JUSTICE N. ORR
Recording Clerk
CCP-84 83 10136

PAGE -2-

3

APR 13 1983

APR 13 1983

50

171-145

FORM No. 1111 - MEMORANDUM OF LAND-SALE CONTRACT
ASTORIA: HAZEL LAW FIRM (PHONE 324-3311) - PORTLAND, OR, U.S.A.

MEMORANDUM OF LAND-SALE CONTRACT

KNOW ALL MEN BY THESE PRESENTS, that on April 13, 1983,
NERIDIAN MEDICAL ASSOCIATES, an Oregon partnership, as vendor(s) and
CONSOLIDATED ASSET GROUP, INC. a Washington corporation, as vendee(s)
made and entered into a certain land-sale contract wherein said vendor(s) agreed to sell to said vendee(s) and the
latter agreed to purchase from said vendor(s) the fee-simple title in and to the following described real property in
CLACKAMAS County, State of Oregon, to-wit:

IN THE COUNTY OF CLACKAMAS AND STATE OF OREGON

Beginning at the southwest corner of Section 19, Township 2 South, Range 1 East, of the W. M.; running thence North 441 feet; thence East on the road, 788 feet to an iron pipe; thence South 441 feet to an iron pipe; thence West 788 feet to the place of beginning.

EXCEPTING THEREFROM the parcel of land conveyed to Portland General Electric Company by Deed recorded September 24, 1968, Recorder's Fee No. 68 19723, Clackamas County Records.

Recorded By
Theor Tubb
Insurance Company

38
135

CONSOLIDATED ASSET GROUP, INC. 83 10437

NOTE: The foregoing memorandum shall be recorded by the conveyer not later than 15 days after the "land sale contract" is executed and the parties are bound thereby. OES 89,623.

STATE OF OREGON,
County of Clackamas }
April 13, 1983.
Personally appeared the above named
C. Edward Skeeters

STATE OF OREGON, County of Clackamas }
April 13, 1983.
Personally appeared Michael T. Reidy and
who, being duly sworn,
each for himself and not one for the other, did say that the former is the
president and that the latter is the
secretary of

Consolidated Asset Group, Inc. a corporation
and that the seal affixed to the foregoing instrument is the corporate seal
of said corporation and that said instrument was signed and sealed in the
hall of said corporation by authority of its board of directors; and each of
them acknowledged said instrument to be their voluntary act and deed.

and acknowledged the foregoing instru-
ment to be his voluntary act and deed.

Notary Public for Oregon
My commission expires: 1/18/85

Before me:
Notary Public for Oregon
My commission expires: 1/18/85

STATE OF OREGON

VENOR'S NAME AND ADDRESS

VENOR'S NAME AND ADDRESS

After reading above to:
Larry Trust, acty at law
1120 S.W. 6th
Portland, Ore

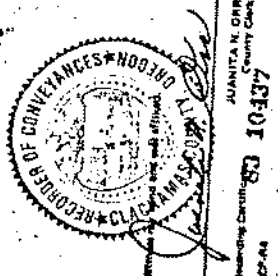
NAME, ADDRESS, ZIP

Mail a check to regional office if no statements shall be sent to the following address:

NAME, ADDRESS, ZIP

STATE OF OREGON
County of Clackamas
I, Juanita N. Orr, County Clerk, & Official
Recorder of Conveyances of the County of Clackamas, do hereby
acknowledge that the instrument of writing was recorded by
me according to the records of said County at

8:03 APR 13 PM '83



By _____ Deputy

2

APR 13 1983

83 10437

APR 13 1983

The true and actual consideration for the transfer, set forth in said contract, is \$ 750,000.00 payable \$ down on the signing of said contract and the balance payable in monthly, quarterly, semi-annual, annual installments (indicate which) of not less than \$ _____ each; all deferred payments bear interest at the rate of _____% per annum from the date of said contract until paid.

In Witness Whereof the said vendor(s) has executed this memorandum April 13, 19 83

MERIDIAN MEDICAL ASSOCIATES
C. Edward Skeeters

CONSOLIDATED ASSET GROUP, INC
Michael T. Heidy

NOTE: The foregoing memorandum shall be recorded by the recorder not later than 13 days after the "lock-out period" is executed and the parties are bound thereby. OES 93.625.

STATE OF OREGON,
County of Clackamas
April 13, 19 83.
Personally appeared the above named
C. Edward Skeeters

and acknowledged the foregoing instrument to be his voluntary act and deed.

Notary Public for Oregon
My commission expires: 1/18/85

SEAL

STATE OF OREGON, County of Clackamas, Jm.
April 13, 19 83
Personally appeared Michael T. Heidy and _____ who, being duly sworn,

each for himself and not one for the other, did say that the former is the president and that the latter is the secretary of

Consolidated Asset Group, Inc. a corporation, and that the seal utilized in the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

Before me,
Notary Public for Oregon
My commission expires: 1/18/85

SEAL

VENDOR'S NAME AND ADDRESS

VENDOR'S NAME AND ADDRESS

After recording refers to:
Tony Hunt, city address
1108 S.W. 6th
Portland, Ore.

Send a change if requested off her statement should be sent to the following address

NAME, ADDRESS, ZIP

STATE OF OREGON
County of Clackamas
I, _____, Notary Public for Oregon, do hereby certify that the instrument of writing was recorded by recording in the records of said County at

1983 APR 13 PM 4 10



AVANITA N. OBER
County Clerk
83 10437
COP-544

By _____ Deputy

APR 13 1983

APR 13 1983

FORM No. 897-800 The Law Publishing Co., Portland, Or. 97204

171-145

SPECIAL WARRANTY DEED—STATUTORY FORM
MERIDIAN MEDICAL ASSOCIATES, a joint venture
 conveys and specially warrants to **CONSOLIDATED ASSET GROUP, A Washington corporation**
 the following described real property free of encumbrances created or suffered by the Grantor except as specifically set forth herein, situated in **Clackamas County, Oregon** to-wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

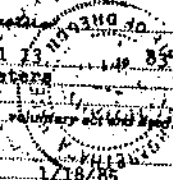
Recorded By
Tutor Title
Insurance Company

Beginning at the point of intersection of the East line of Meridian Road with the South line of Section 19, said point being South 89°36'27" East 20.00 feet from the Southwest corner of Section 19; thence North 0°14'37" West along the East line of Meridian Road 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°36'27" East along the South line of Borland Road 270.15 feet; thence South 0°23'33" West 73.50 feet; thence South 44°36'59" East 68.62 feet; thence South 0°23'33" West 37.00 feet; thence South 89°36'27" East 21.00 feet; thence South 0°23'33" West 162.50 feet; thence North 89°36'27" West 35.00 feet; thence South 0°23'33" West a distance of 100.00 feet to a point on the South line of Section 19; thence North 89°36'27" West along said South line a distance of 300.00 feet to the point of beginning.

Arb 136
out of
38

83 10438

MERIDIAN MEDICAL ASSOCIATES
 By: *C. Edward Skeeters*
 STATE OF OREGON, County of **Clackamas**, on **April 13, 1983**
 Personally appeared the above named **C. Edward Skeeters**
 and acknowledged the foregoing instrument to be his voluntary act and deed.
 Before me: *Margaret A. Arling*
 Notary Public for Oregon—My commission expires: **1/18/85**



SPECIAL WARRANTY DEED

GRANTOR

GRANTEE

GRANTEE'S ADDRESS, ZIP

Also recording return to:

Consolidated Asset Group
5219 West Clair Union
Suite 7, Kennewick, WA 99324
Attn: Mike Kowal

NAME, ADDRESS, ZIP

If a change is requested, all new statements should be sent to the following address:

NAME, ADDRESS, ZIP

STATE OF OREGON

Notary Public for Oregon

83 APR 13 PM 4 10

CLACKAMAS COUNTY

83 10438

Recording Certificate

COPIES

APR 13 1983

BY SPACE INSUFFICIENT, CONDENSED DESCRIPTION ON REVERSE SIDE

The said property is free of all encumbrances created or suffered by the Grantor except

The true consideration for this conveyance is \$ 0.00 (Here comply with the requirements of ORS 93.030)

Total consideration consists of a partial fulfillment of a
 Land Sales Contract

Dated this 13th day of April, 19 83

MERIDIAN MEDICAL ASSOCIATES

BY: C. Edward Skeeters

STATE OF OREGON, County of Clackamas, ss. April 13, 1983

Personally appeared the above named C. Edward Skeeters

and acknowledged the foregoing instrument to be his voluntary act and deed

Before me: Margaret Anthony

(OFFICIAL SEAL)

Notary Public for Oregon—My commission expires: 3/18/85

SPECIAL WARRANTY DEED

GRANTOR
GRANTEE

BRINKER'S ADDRESS, If:

After recording return to:
Consolidated Asset Group
5219 West Clatsop
Suite 7, Knapwick, Id 99321
Attn: Mike Rudy

NAME, ADDRESS, ZIP

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

NAME, ADDRESS, ZIP

STATE OF OREGON

STATE OF OREGON
County of Clackamas
I, Juanita N. Orr, County Clerk, Es-Officio
do hereby certify that the foregoing instrument is
for the County of Clackamas, Oregon, and
that the instrument of writing was received by
recording in the records of said County at

833 APR 13 PM 4 10



JUANITA N. ORR
County Clerk
Recording Certificate
83 10438
CCP-14

2

13 05 dw

171-145

CITY OF TUALATIN - STANDARD
DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC. A foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Arb 137 out of 38

Beginning at the point of intersection of the East line of Meridian Road with the South line of Section 19, said point being South 89°36'27" East 20.00 feet from the Southwest corner of Section 19; thence North 0°14'37" West along the East line of Meridian Road a distance of 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°37'27" East along the South line of Borland Road 10.00 feet; thence South 0°14'37" East, parallel with the centerline of Meridian Road and 30.00 feet Easterly when measured at right angles, a distance of 421.54 feet; thence North 89°36'27" West a distance of 10.00 feet to the point of beginning.

83 10439

sors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM NO. 31 - AFFIDAVIT OF EXECUTION

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and

duly sworn, did say that he, the said Michael T. Reidy both to me personally known, who being is the President, and he, the said Secretary of CONSOLIDATED ASSET GROUP, INC.

the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by majority of its Board of Directors, and

acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

[Signature]
Notary Public for Oregon.
My Commission expires 1/18/83

APR 13 PM 4 10



J. HANITA A. ORR
Notary Public
83 10439

APR 13 1983

Recorded By
Treasurer's Office
Insurance Category

APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM No. 94—ACKNOWLEDGMENT—CORPORATION

STYVING-HARRIS LAW FIRM, INC., SEASIDE, CALIF.

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and

both to me personally known, who being
duly sworn, did say that he, the said Michael T. Reidy

is the President, and he, the said Secretary

of CONSOLIDATED ASSET GROUP, INC.
the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

and acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

2 *[Signature]*
Notary Public for Oregon.
My Commission expires 1/18/83

STATE OF OREGON
County of Clackamas
T. Juanita N. Orr, County Clerk, St. Office
Register of Conveyances of the State of Oregon,
for the County of Clackamas, do hereby certify
that the within writing was received for
recording in our records of said County at

1983 APR 13 PM 4 10



JUANITA N. ORR
County Clerk
Commission Expires 03 10 1983
COP-84

171-145

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC., a foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

Arb 138 out of 38

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at a point on the South line of Section 19 that is South 89°36'27" East a distance of 30.00 feet from the Southwest corner of said Section 19; thence North 0°14'37" West, parallel with and 30.00 feet Easterly, when measured at right angles, from the West line of Section 19, a distance of 30.00 feet; thence South 89°36'27" East, parallel with and 30.00 feet Northerly, when measured at right angles from the South line of Section 19, a distance of 100.00 feet to a point of curvature; thence along the arc of a 280.00 foot radius curve to the right, through a central angle of 26°45'53", an arc distance of 130.80 feet, (the chord bears South 76°13'30" East 129.61 feet) to a point on the South line of Section 19; thence North 89°36'27" West along the South line of Section 19 a distance of 225.76 feet to the point of beginning.

83 10440

OF TUALATIN, its successors in interest and assigns, all claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM No. 34-ACKNOWLEDGMENT-CORPORATION

RECORDING LAW OF THE STATE OF OREGON

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83 before me appeared Michael T. Reidy and

duly sworn, did say that he, the said Michael T. Reidy both to me personally known, who being is the President, and he, the said

Secretary of CONSOLIDATED ASSET GROUP, INC. the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

and acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

2 [Signature] Notary Public for Oregon. My Commission expires 12/18/85

APR 13 1983

Recorded By Tiora Thibault Laranson Computer

2

Notary Public for Oregon, My Commission expires 12/18/85

APR 13 PM 4 10



83 10440



APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

_____ (seal)

FORM No. 34—ACKNOWLEDGMENT—CORPORATION. STATE—OREGON LAW PUB. CO., PORTLAND, ORE.

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and

Michael T. Reidy both to me personally known, who being duly sworn, did say that he, the said Michael T. Reidy is the President, and he, the said Michael T. Reidy is the Secretary of CONSOLIDATED ASSET GROUP, INC.

the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

[Signature]
Notary Public for Oregon.
My Commission expires 1/18/85

STATE OF OREGON
County of Clackamas
I, Joanita N. Orr, County Clerk, do hereby certify that the instrument of writing was recorded for recording in the records of said County of Clackamas on this 13th day of April, 19 83.

1983 APR 13 PM 4:10



JOANITA N. ORR
County Clerk
My Commission Expires 83 10140
COR 44

4 13 05

171-145

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC., a foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

APR 13 1983

Orb 139 outos (38)

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Forwarded By
Vice Title
Insurance Company

Commencing at the Southwest corner of Section 19; thence South 89°36'27" East along the South line of Section 19 a distance of 30.00 feet; thence North 0°14'37" West, parallel with the West line of Section 19, a distance of 421.54 feet to the South line of Borland Road and the point of beginning of the tract herein to be described; thence South 89°36'27" East along the South line of Borland Road a distance of 260.15 feet; thence South 0°23'33" West a distance of 13.50 feet; thence North 89°36'27" West, parallel with the centerline of Borland Road and 33.50 feet Southerly when measured at right angles, a distance of 260.00 feet; thence North 0°14'37" West a distance of 13.50 feet to the point of beginning.

83 10411

OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM NO. 34 - ACKNOWLEDGMENT - CORPORATION. STEVENS-HESS LAW FIRM, P.C., PORTLAND, ORE.

STAT. OF OREGON,

County of Clackamas On this 13th day of April, 19 83 before me appeared Michael T. Reidy and both to me personally known, who being

duly sworn, did say that he, the said Michael T. Reidy is the President, and he, the said Secretary of CONSOLIDATED ASSET GROUP, INC. the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and acknowledge said instrument to be the true act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

[Signature] Notary Public for Oregon. My Commission expires 1/18/85

13 PM 4 10
CLACKAMAS COUNTY CLERK
10411

City Clerk, Ex-Office
The State of Oregon,
at the County Clerk's
Office, Clackamas
County, Oregon.

13 03

APR 13 1983

APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 1983

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM No. 54—CONVEYANCE—CORPORATION

STANDARD FORM NO. 54, REV. 1-1-77, OREGON, 1982

STATE OF OREGON,

County of Clackamas On this 13th day of April, 1983

before me appeared Michael T. Reidy both to me personally known, who being

duly sworn, did say that he, the said Michael T. Reidy is the President, and he, the said Secretary of CONSOLIDATED ASSET GROUP, INC.

the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal this day and year last above written.

[Signature]
Notary Public for Oregon.
My Commission expires 1/18/85

OREGON
of Clackamas
in N. Div. County Clerk, 2-0-0784
of Conveyances of the State of Oregon
County of Clackamas, so hereby certify
that the instrument of writing was received for
in the National of said County at

883 APR 19 PM 4:10



RECORDED
INDEXED
APR 19 1983
CLACKAMAS COUNTY CLERK
83 10441

APR 13 1983

120

171-145

EASEMENT

THIS EASEMENT is made and entered into this 15th day of April, 1983, by and between Consolidated Asset Group, Inc., a corporation (herein "Grantor") and Meridien Medical Associates, an Oregon partnership (herein "Grantee").

RECITALS:

A. By Agreement bearing even date herewith, Grantee is selling to Grantor, on Land Sale Contract, the real property described on Exhibit "A" attached hereto (herein the "Property"). Contemporaneously with the sale and purchase of the Property, Grantee will be deeding to Grantor the real property described on Exhibit "B" attached hereto (herein "Parcel 1"). The real property described on Exhibit "C" attached hereto (herein "Parcel 2") is the balance of the Property.

B. Grantee desires an easement across Parcel 1 for the benefit of Parcel 2. Grantor is willing to grant to Grantee said easement.

NOW, THEREFORE, it is agreed as follows:

1. Grant of Easement. Grantor hereby grants to Grantee an easement over and across Parcel 1 for the benefit of Parcel 2. The exact location of the easement cannot be located at the present time. It is the intent of the parties that the easement granted herein be thirty (30) feet in width and shall be across the southeasterly portion of Parcel 1. The easement shall provide access to Grantee across Parcel 1 to Sagert Road, which is to be constructed.

83 10442

2

The easement granted herein shall be perpetual and run with the land. At such times as Grantee desires to use the easement, the parties shall mutually agree to its location, taking into consideration the requirements of the City of Tualatin, State of Oregon for access to Sagert Road.


2. Purpose of Easement. The purpose of the easement shall be to provide Grantee, its successors and assigns, access to Sagert Road across Parcel 1.

3. Costs of Improvement. All costs of improving the easement area shall be at the cost and expense of Grantee.


4. Prior Encumbrance. The parties hereto acknowledge that the easement granted herein is encumbered, in part, by an easement in favor of Portland General Electric Company, which easement was recorded on September 24, 1968, as Fee No. 68-19724, Deed Records, Clackamas County, State of Oregon.

WHEREFORE, the parties have executed this Easement Agreement on the date and year first above written.

CONSOLIDATED ASSET GROUP, INC.
a corporation

By 
Mike Reidy, President

MERIDIAN MEDICAL ASSOCIATES,
an Oregon partnership

By 
C. Edward Sketers

2 - EASEMENT

Z

Beginning at the Southwest corner of Section 19, Township 2 South, Range 1 East of the Willamette Meridian; running thence North 441 feet; thence East on the road, 788 feet to an iron pipe; thence South 441 feet to an iron pipe; thence West 788 feet to the place of beginning.

Excepting therefrom the parcel of land conveyed to Portland General Electric Company by deed recorded September 24, 1968, Recorder's Fee No. 6819723 Clackamas County Records.

STATE OF OREGON,

County of Clackamas

FORM NO. 88 - ACKNOWLEDGMENT
STATIONERS LAW FIRM CO., PORTLAND, ORE.

BE IT REMEMBERED, That on this 13th day of April, 1983
 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within
 named C. Edward Skeeters

known to me to be the identical individual described in and who executed the within instrument, and
 acknowledged to me that he executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
 my official seal the day and year above written.

Margaret A. Lewis
 Notary Public for Oregon
 My Commission expires 1/18/85

3 EXHIBIT "A"

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

136
137
138
139

Beginning at the point of intersection of the East line of Meridian Road with the South line of Section 19, said point being South 89°36'27" East 20.00 feet from the Southwest corner of Section 19; thence North 0°14'37" West along the East line of Meridian Road 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°36'27" East along the South line of Borland Road 270.15 feet; thence South 0°23'33" West 73.50 feet; thence South 44°36'59" East 68.62 feet; thence South 0°23'33" West 37.00 feet; thence South 89°36'27" East 21.00 feet; thence South 0°23'33" West 162.50 feet; thence North 89°36'27" West 35.00 feet; thence South 0°23'33" West a distance of 100.00 feet to a point on the South line of Section 19; thence North 89°36'27" West along said South line a distance of 300.00 feet to the point of beginning.

FORM No. 21—ACKNOWLEDGMENT—CORPORATION.

SYSTEM—REEL LAW FOR OR. PORTLAND, ORE.

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83, before me appeared Michael T. Reidy

and duly sworn, did say that he, the said Michael T. Reidy both to me personally known, who being is the President, and he, the said Secretary

of CONSOLIDATED ASSET GROUP, INC. the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

and acknowledge said instrument to be the free act and deed of said Corporation. IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

Margaret J. [Signature]
Notary Public for Oregon
My Commission expires 1/18/85

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EXHIBIT "B"

MAR 13 1983

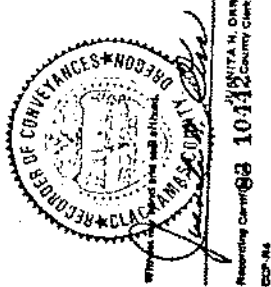
A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Commencing at the Southwest corner of Section 19; thence North 0°14'37" West along the West line of Section 19 a distance of 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°36'27" East along the South line of Borland Road a distance of 290.15 feet to the point of beginning of the tract herein to be described; thence continuing South 89°36'27" East a distance of 297.85 feet; thence South 0°14'37" East, parallel with the West line of Section 19, a distance of 421.54 feet to a point on the South line of Section 19; thence North 89°36'27" West along the South line of Section 19, a distance of 268.00 feet; thence North 0°23'33" East, 100.00 feet; thence South 89°36'27" East 35.00 feet; thence North 0°23'33" East, 162.50 feet; thence North 89°36'27" West, 21.00 feet; thence North 0°23'33" East 37.00 feet; thence North 44°36'59" West 68.62 feet; thence North 0°23'33" East 73.50 feet to the point of beginning. Containing an area of 2.50 acres, more or less.

38
135

STATE OF OREGON
County of Clackamas
I, HANNAH N. ORR, County Clerk, do hereby certify that the foregoing is a true and correct copy of the instrument of writing as recorded in the records of said County at

1983 APR 13 PM 4 10



HANNAH N. ORR
County Clerk
Recording Office 1011 1/2
COP-14

EXHIBIT "C"
5

APR 12 1983

APR 13 1983

171-145

CITY OF TUALATIN - STANDARD

DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC., a foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

Arb 139 outos 38

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Provided By West Title Insurance Company

Commencing at the Southwest corner of Section 19; thence South 89°36'27" East along the South line of Section 19 a distance of 30.00 feet; thence North 0°14'37" West, parallel with the West line of Section 19, a distance of 421.54 feet to the South line of Borland Road and the point of beginning of the tract herein to be described; thence South 89°36'27" East along the South line of Borland Road a distance of 160.15 feet; thence South 0°23'33" West a distance of 13.50 feet; thence North 89°36'27" West, parallel with the centerline of Borland Road and 33.50 feet southerly when measured at right angles, a distance of 260.00 feet; thence North 0°14'37" West a distance of 13.50 feet to the point of beginning.

83 10441

OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

FORM NO. 34 - ACKNOWLEDGMENT - CORPORATION

STATE OF OREGON,

County of Clackamee On this 13th day of April, 19 83 before me appeared Michael T. Reidy both to me personally known, who being duly sworn, did say that he, the said Michael T. Reidy is the President, and he, the said is the Secretary of CONSOLIDATED ASSET GROUP, INC. the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal of the day and year first above written. [Signature] My Commission expires 1/18/85

13 PM 4 10



APR 13 1983

23 APR 83

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

FORM No. 24—ACKNOWLEDGMENT—CORPORATION.

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and
Michael T. Reidy both to me personally known, who being

duly sworn, did say that he, the said Michael T. Reidy
is the President, and he, the said Michael T. Reidy
is the Secretary of CONSOLIDATED ASSET GROUP, INC.
the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and
acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal this day and year last above written.
[Signature]
Notary Public for Oregon.
My Commission expires 1/18/85

803 APR 13 PM 10



OREGON
at Clackamas
J. N. O'K., County Clerk, Et-Officio
of Clackamas County of the State of Oregon.
In testimony whereof, I have hereunto set my hand and seal this day and year last above written.

des

171-145

CITY OF TUALATIN - STANDARD
DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC. A foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at the point of intersection of the East line of Meridian Road with the South line of Section 19, said point being South 89°36'27" East 20.00 feet from the Southwest corner of Section 19; thence North 0°14'37" West along the East line of Meridian Road a distance of 421.54 feet to the South line of Borland Road, Market Road No. 4; thence South 89°37'27" East along the South line of Borland Road 10.00 feet; thence South 0°14'37" East, parallel with the centerline of Meridian Road and 30.00 feet Easterly when measured at right angles, a distance of 421.54 feet; thence North 89°36'27" West a distance of 10.00 feet to the point of beginning.

83 10439

and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)
(seal)

FORM NO. 94—ACKNOWLEDGMENT—CORPORATION

STATE OF OREGON,
County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and
Michael T. Reidy both to me personally known, who being
duly sworn, did say that he, the said Michael T. Reidy
is the President, and he, the said Secretary
is the Secretary of CONSOLIDATED ASSET GROUP, INC.
the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and
acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.
[Signature]
Notary Public for Oregon
My Commission expires 1/18/83

2

APR 13 1983

Recorded by
Title
Business Company

2

Notary Public, State of Oregon
I hereby certify that the foregoing instrument, as hereunto certified by me, is a true and correct copy of the original as recorded in the office of said County of Clackamas.

01 APR 1983



JUANITA N. DER
Notary Public for Oregon
Commission Expires 1/18/83

APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM NO. 34—ACKNOWLEDGMENT—CORPORATION

STEVENS-1982 LAW PUBL. CO., PORTLAND, ORE.

STATE OF OREGON,

County of Clackamas On this 13th day of April, 19 83
before me appeared Michael T. Reidy and

both to me personally known, who being
duly sworn, did say that he, the said Michael T. Reidy
is the President, and he, the said Michael T. Reidy
is the Secretary

of CONSOLIDATED ASSET GROUP, INC.
the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

and
acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

2

[Signature]
Notary Public in Oregon.
My Commission expires 1/18/83

STATE OF OREGON
County of Clackamas
I, Justita N. Orr, County Clerk, do hereby certify that the instrument of writing was received for recording in the records of said County at

1983 APR 13 PM 4:10



JUSTITA N. ORR
County Clerk
COP-14
83 10439

APR 13 1983

90 0

171-145

CITY OF TUALATIN - STANDARD
DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that MERIDIAN MEDICAL ASSOCIATES
a Joint Venture

hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin,
hereinafter called the CITY, its successors in interest and assigns, all the
following real property with the tenements, hereditaments and appurtenances,
situated in the County of Clackamas, State of Oregon, to be
used and held by the CITY for street, road and public utility purposes, bounded
and described as follows, to wit:

Arb 135 out of 38

A tract of land situated in the Southwest one-quarter of
Section 19, Township 2 South, Range 1 East of the Willamette
Meridian in the County of Clackamas and State of Oregon,
more particularly described as follows:

Commencing at the Southwest corner of Section 19; thence North
0°14'37" West along the West line of Section 19 a distance of
421.54 feet to the South line of Borland Road; thence South
89°36'27" East along the South line of Borland Road, a distance
of 290.15 feet to the point of beginning of the tract herein to
be described; thence continuing South 89°36'27" East a distance
of 297.85 feet; thence South 0°14'37" East a distance of 13.50
feet; thence North 89°36'27" West a distance of 298.00 feet;
thence North 0°23'33" East a distance of 13.50 feet to the point
of beginning.

83 10436

And the GRANTOR above named do covenant to and with the CITY, its succes-
sors in interest and assigns that they will, and their heirs and personal repre-
sentatives shall warrant and defend the above granted premises to the said CITY
OF TUALATIN, its successors in interest and assigns forever, against the lawful
claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 1983.

Meridian Medical Associates,
a partnership
C. Leonard Hunter (seal)
Managing Partner (seal)

Recorded By
Tracy Ellis
Insurance Company

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X

APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is None

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 1982.

Christian Medical Association,
* partnership
By C. Thomas [Signature] (seal)
Harvey [Signature] (seal)

2

1 B. 7 12 m

APR 13 1983

STATE OF OREGON)
) as
County of

On this 13th day of April, 1983, before me, the undersigned, a Notary Public, personally appeared E. Edward Steeters and acknowledged the foregoing instrument to be their voluntary act and deed.



Before me: Margaret A. O'Leary
Notary Public for Oregon
My Commission Expires:
4/18/85

STATE OF OREGON)
County of Clatsop) ss
I, Juanita N. Orr, County Clerk, do hereby certify that the County of Clatsop, on hereby certify that the foregoing instrument was received for recording in the records of said County at

5:03 APR 13 PM '83



JUANITA N. ORR
Recording Clerk
63 10:36
CDS:RA

PAGE -2-

3

APR 13 1983

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171-145

CITY OF TUALATIN - STANDARD
DEED OF DEDICATION

KNOW ALL MEN BY THESE PRESENTS, that CONSOLIDATED ASSET GROUP, INC., a foreign corporation of Washington hereinafter called the GRANTOR, does hereby grant unto the City of Tualatin, hereinafter called the CITY, its successors in interest and assigns, all the following real property with the tenements, hereditaments and appurtenances, situated in the County of Clackamas, State of Oregon, to be used and held by the CITY for street, road and public utility purposes, bounded and described as follows, to wit:

Arb 138 out of 38

A tract of land situated in the Southwest one-quarter of Section 19, Township 2 South, Range 1 East of the Willamette Meridian in the County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at a point on the South line of Section 19 that is South 89°36'27" East a distance of 30.00 feet from the Southwest corner of said Section 19; thence North 0°14'37" West, parallel with and 30.00 feet Easterly, when measured at right angles, from the West line of Section 19, a distance of 30.00 feet; thence South 89°36'27" East, parallel with and 30.00 feet Northerly, when measured at right angles from the South line of Section 19, a distance of 100.00 feet to a point of curvature; thence along the arc of a 280.00 foot radius curve to the right, through a central angle of 26°45'53", an arc distance of 130.80 feet, (the chord bears South 76°13'30" East 129.61 feet) to a point on the South line of Section 19; thence North 89°36'27" West along the South line of Section 19 a distance of 225.76 feet to the point of beginning.

83 10410

OF TUALATIN, its successors in interest and assigns, hereby waives all claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

Form No. 54-Acknowledgment-Corporation

STATE OF OREGON, County of Clackamas On this 13th day of April 19 83

before me appeared Michael T. Reidy both to me personally known, who being

duly sworn, did say that he, the said Michael T. Reidy is the President, and he, the said

is the Secretary of CONSOLIDATED ASSET GROUP, INC.

the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

acknowledge said instrument to be the free act and deed of said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

[Signature]
Notary Public for Oregon
My Commission expires 2/18/85

APR 13 1983

Recorded By
This Title
Insurance Company

2

Notary Public for Oregon
My Commission expires 2/18/85

1983 APR 13 PM 4:10



JUANITA M. ORR
Notary Public
83 10410

APR 13 1983

TO HAVE AND TO HOLD, the above described and granted premises unto the said CITY, its successors in interest and assigns forever.

The true consideration of this conveyance is NONE

And the GRANTOR above named do covenant to and with the CITY, its successors in interest and assigns that they will, and their heirs and personal representatives shall warrant and defend the above granted premises to the said CITY OF TUALATIN, its successors in interest and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the GRANTOR.

WITNESS our hands and seals this 13th day of April 19 83

CONSOLIDATED ASSET GROUP, INC. (seal)

[Signature] (seal)

(seal)

FORM No. 36—AFFIDAVIT—CORPORATION. SYSTEM—HOW LAW FIRM, 601, PORTLAND, ORE.

STATE OF OREGON,

County of Clatsop On this 13th day of April, 19 83
before me appeared Michael T. Reidy and

both to me personally known, who being
duly sworn, did say that he, the said Michael T. Reidy
is the President, and he, the said Secretary

of CONSOLIDATED ASSET GROUP, INC.
the within named Corporation, and that the seal affixed to said instrument is the corporate seal of said Corporation, and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors, and

acknowledge said instrument to be the free act and deed of said Corporation.

2

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.
[Signature]
Notary Public for Oregon.
My Commission expires 7/18/85

STATE OF OREGON)
County of Clatsop)
I, Juanita N. Orr, County Clerk, do hereby certify that the amount of recording was received for recording in the records of said County at

1983 APR 13 PM 4 10



JUANITA N. ORR
Recording Clerk
83 10410
CSP/PL

CITY OF TUALATIN
DEVELOPMENT PROCESS EVALUATION

1. What review(s) or approval(s) were you seeking (e.g., conditional use, architectural review, variance, etc.)? ARB APPROVAL / LAND PARTITION

2. Have you experienced similar processes in other jurisdictions in Oregon?
 If yes, which ones? SITE PLAN APPROVAL / MINOR LAND PARTITIONS

3. What was your overall impression of the process just completed in Tualatin?
THE EXISTENCE OF THE BOARD IS FINE. THE VOLUME OF REQUIRED PROCEDURES IS TEDIOUS, EVEN TO THE BOARD. A MORE EFFICIENT ALLOCATION OF STAFF AUTHORITY WOULD ENHANCE THE PROCESS

4. If you answered yes to #2 above, in terms of length of time to complete the process, how was your experience in Tualatin compared to elsewhere:
Longer ✓
Shorter
Same

5. If you answered yes to #2 above, in terms of quality of review, how was your experience in Tualatin compared to elsewhere:
Better
Poorer
Same ✓

6. What thing(s) most impressed you about Tualatin's process? THE EXISTENCE OF AN ECONOMIC DEVELOPMENT COORDINATOR

7. What thing(s) least impressed you about Tualatin's process? THE NEED FOR CITY COUNCIL ACTION FOR LAND PARTITION

8. What change(s) would you suggest to improve the process? MORE

Authority FOR STAFF.

9. In summary, how would you describe your experience in Tualatin?

- Excellent _____
- Good ✓
- Fair _____
- Poor _____

Name (optional): MIKE REIDY

Property Under Review: TUALATIN PROFESSIONAL CENTER

Date: 3/28/83

NAME OF PROJECT Bassinger B P # _____

VALUATION _____ TAX ACCT # 2 1E 30B TL #500

ADDRESS 6464 S.W. Borland Rd SIZE OF LOT 5.5 Acres

NAME OF OWNER _____ # OF D.U.'s 22

BLDG. PERMIT FEE _____

PLAN CK FEE (65% of Bldg Permit)

4% STATE SURCHARGE _____

TOTAL BP FEES _____ \$ _____

SEWER CONNECTION ^{\$}825/unit (4 units/Acre) 5.5 Ac = \$18,150

SEWER INSP. FEE ^{\$}45.00

WATER ONE-TIME DEMAND based on meter size (see attached)

WATER INSTALLATION (" METER) cost + 15%

WATER CONNECTION 760/unit (4 units/Acre) 5.5 Ac = \$16,500

STORM DRAIN FEE ^{\$}.02/sqft of impermeable surface
Basic Sq. Ft. _____

STREET DEVELOPMENT FEE ^{\$}100/each required

OTHER FEES parking space

OTHER FEES sewer refund agreement
^{\$}126.46 + \$ _____

TOTAL FEES \$ _____



CITY OF TUALATIN

18880 SW MARTINAZZI AVE. PO BOX 369
TUALATIN, OREGON 97062
[503] 692-2000

March 23, 1983

Michael Reidy
Consolidated Asset Group
Plaza Building, Inc.
500 N. Morain, Suite 2104
Kennewick, Washington 99336

RE: Architectural Review Board Decision Regarding Tualatin Professional
Center (ARB-83-06) Located at 6464 S.W. Borland Road

Dear Michael:

As you are aware, the Architectural Review Board approved your medical office project at its meeting of March 16, 1983. The approval was subject to the following conditions:

1. The staff shall review parking cross slopes along the east and southeast property lines.
2. The planting along the south property line be changed to provide a future 6-foot hedge.
3. The trash enclosures be designed to more properly blend in with the proposed building architecture.
4. The staff shall review the handicapped parking spaces to make sure they conform to the code.
5. The ARB suggests changing the poplar trees along the northeast entrance to a tree which would be less hazardous to the driveway and curbs.

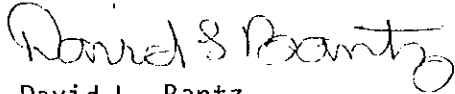
I would like to thank you for your cooperation and patience during the Architectural Review Board process.

I am looking forward to the completion of your development as I am sure it will be a great asset to the City of Tualatin and the entire community.

Letter
Michael Reidy
ARB-83-06
Page Two

Enclosed you will find a "Development Process Evaluation" that I would appreciate you completing and returning to this office.

Sincerely,



David L. Bantz
Economic Development Coordinator

DLB/LLS

FILE: ARB-83-06
6464 S.W. Borland Road

Mr. Searfus indicated he would support the request if the row of trees were staggered so as to screen the clarifying tank. Mr. Zimmerman agreed that doubling up of trees was the solution for screening the tank. Mr. May responded that they could possibly be closer together or staggered. He also suggested larger plants for the back row and filling in the front with smaller plants.

Mr. Kroker expressed a concern that the wheelchair access may be interfered with. Mr. May felt it would not be because the trees could be pruned.

Dave Zimmerman made a Motion to accept ARB-83-08 as per staff recommendations with the following changes:

- 1) that the row of Thuja Plicata Hogan on the East end of the clarifier tank be doubled in spacing as per the Board's comments;
- 2) that a row of suitable plant material, as worked out between the landscaping architect and staff, on the South side of the clarifier tank to provide screening in that direction as worked out with Darrel May and the staff.

Mel Kroker suggested adding; that the row of trees be 8 foot staggered. Mr. Zimmerman revised his Motion to accept ARB-83-08 as per staff recommendation with the following changes: add plant material as shown on a drawing he marked and gave to David Bantz; add Thuja Plicata Hogan along the East end of the clarifier tank; and that proper screening along the South side of the tank be provided as he has shown in the drawing he has given Dave Bantz; and that the plant material be worked out between staff and Darrel May. Jim Searfus seconded the motion. Motion carried.

5. ARB-83-06

TUALATIN PROFESSIONAL CENTER
6464 S.W. Borland Road

Request: Site and Landscape plans,
materials, colors, building
modifications

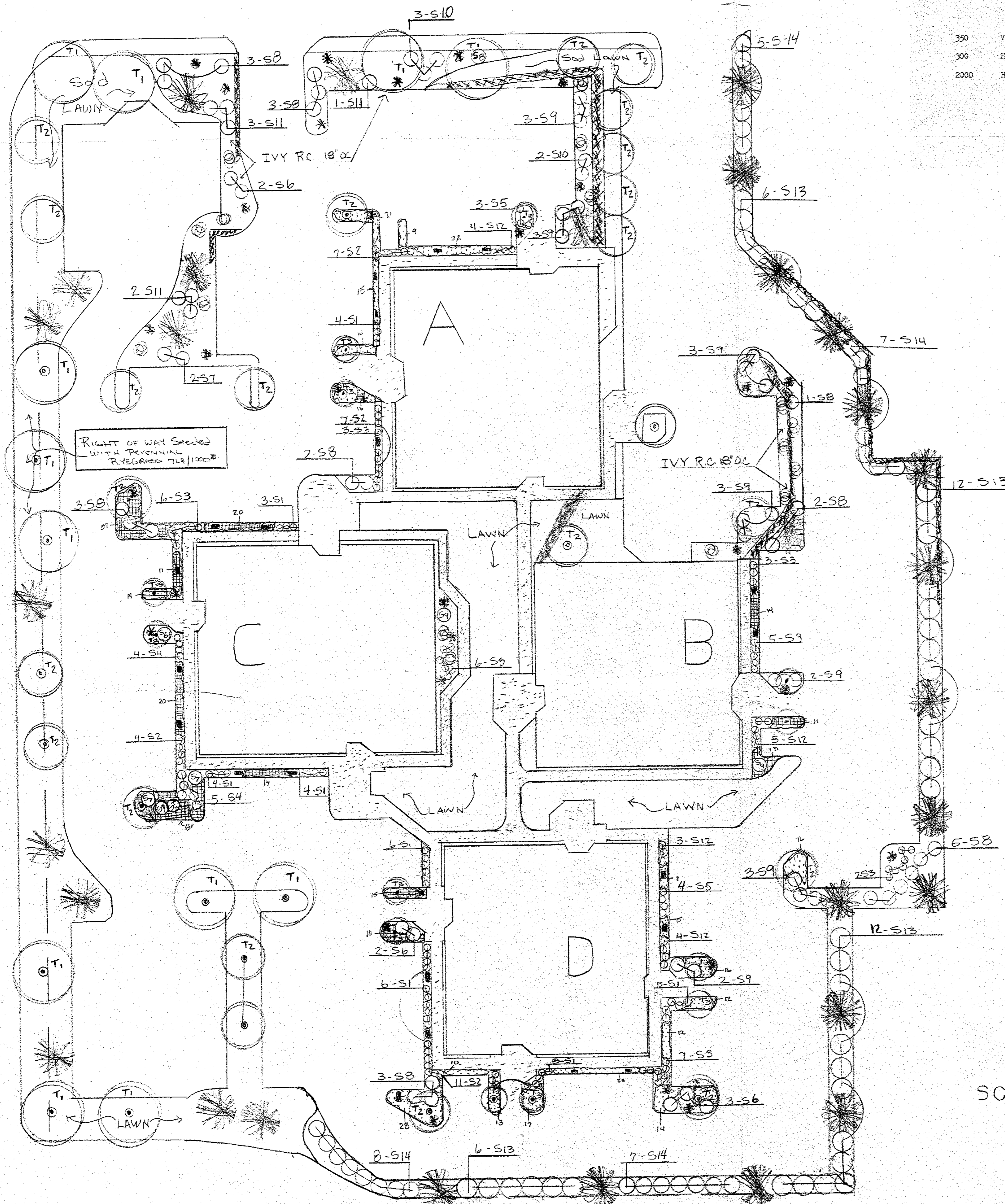
Status: Deferred from March 2, 1983 for
Modification Action
APPROVED w/changes

The staff report and slides of proposed site were presented by David Bantz of staff. Staff recommended approval of the building colors, materials, and lighting and the general concept of the building elevations, site and landscape plans, but makes no recommendation on the modified plans. Mr. Bantz recommended sign approval at a later date. Recommendation was amended to approve the submitted site and landscape plans and hold the signs for later approval of the Board.

The applicant, Michael Reidy, was present. He did not wish to make a presentation but would answer questions from the Board. There were no opponents or proponents present.

Board Discussion

Dave Zimmerman felt the proposed trees were too large and wanted a hedge or screening material along the South side of the property. He stated he would vote to approve the landscape plan as shown in general concept with the understanding the trees would



Quantity	Botanical Name	Common Name	Size	Symbol
11	Platanus acerifolia	London Plane Tree	1 1/2 Cal. SR	T1
23	Acer rubrum 'Armstrong'	Armstrong Red Maple	1 3/4" Cal. BR	T2
13	Carpinus betulus fastigiata	Columnar Hornbeam	1 1/2" Cal.	T3
30	Pinus contorta	Shore Pine	5-6'	T4
15	Acer circinatum	Vine Maple	8-10'	T5
SHRUBS				
32	Mahonia aquifolium compacta	Compact Oregon Grape	10-12"	S1
22	Ilex crenata Helleri	Helleri Japanese Holly	1 Gal.	S2
37	Rhododendron Hino Crimson	Hino Crimson Azalea	1 Gal.	S3
8	Rhododendron Glacier	Glacier Azalea	1 Gal.	S4
4	Rhododendron Tenino	Tenino Azalea	1 Gal.	S5
8	Rhododendron 'Cheer'	Cheer Rhododendron	18-21"	S6
4	Rhododendron 'Vulcan'	Vulcan Rhododendron	"	S7
21	Rhododendron 'Anah Kruschke'	Anah Kruschke Rhododendron	"	S8
21	Rhododendron 'Unique'	Unique Rhododendron	"	S9
5	Azalea Exbury-Orange	Exbury Azalea	15-18"	S10
5	Azalea Exbury-Yellow	Exbury Azalea	"	S11
12	Viburnum Davidii	David's Viburnum	1 Gal.	S12
36	Photinia Fraseri	Fraser's Photinia	15-18"	S13
29	Escallonia Pradesi	Same	3 Gal.	S14
33	Pinus mugh mughus	Mugho Pine	12-15"	S*
GROUNDCOVER				
350	Vinca Minor	Periwinkle	2 1/2" Pot	as indicated
300	Hedera Helix 'Mandas Crested'	Mandas Crested Ivy	2 1/2" Pot	as indicated
2000	Hedera Helix	English Ivy	Rooted cuttings	as indicated

APPROVED
Architectural Review Board
• Site Plan
• Building Exterior
• Landscape Plan
• Signs

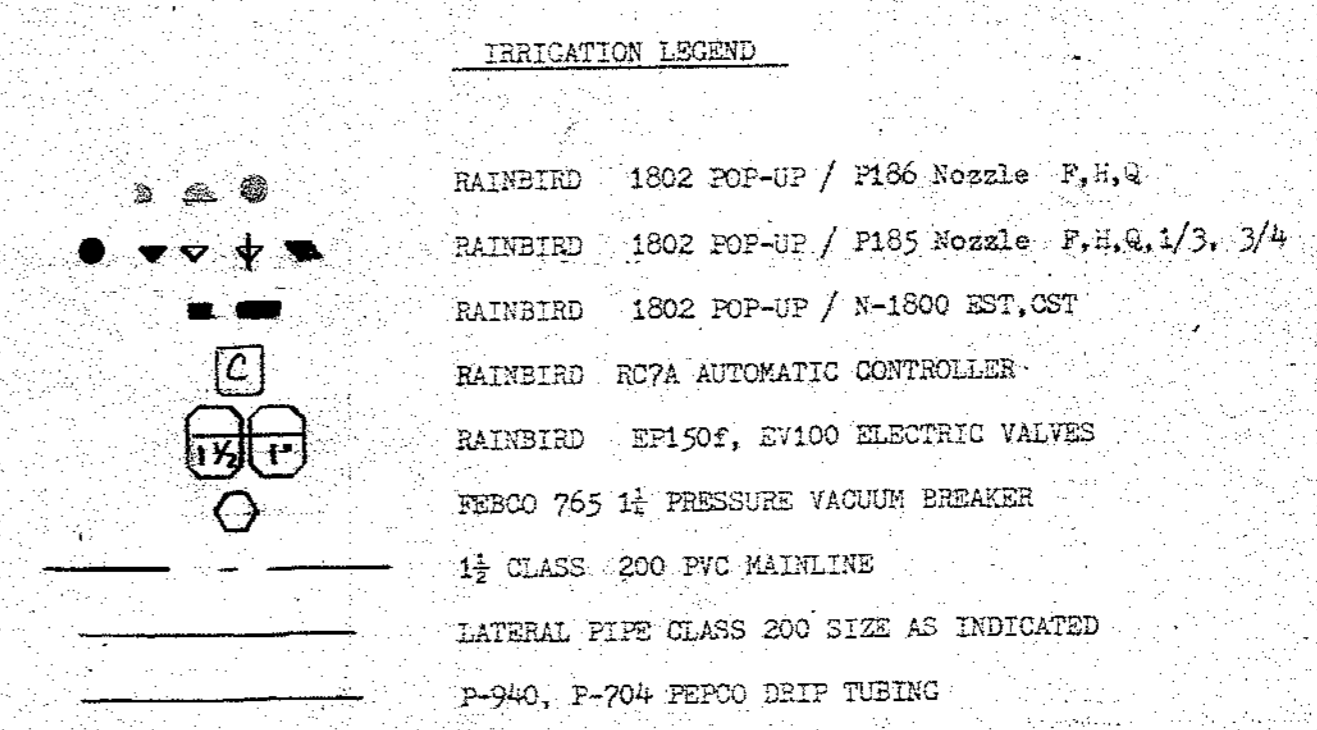
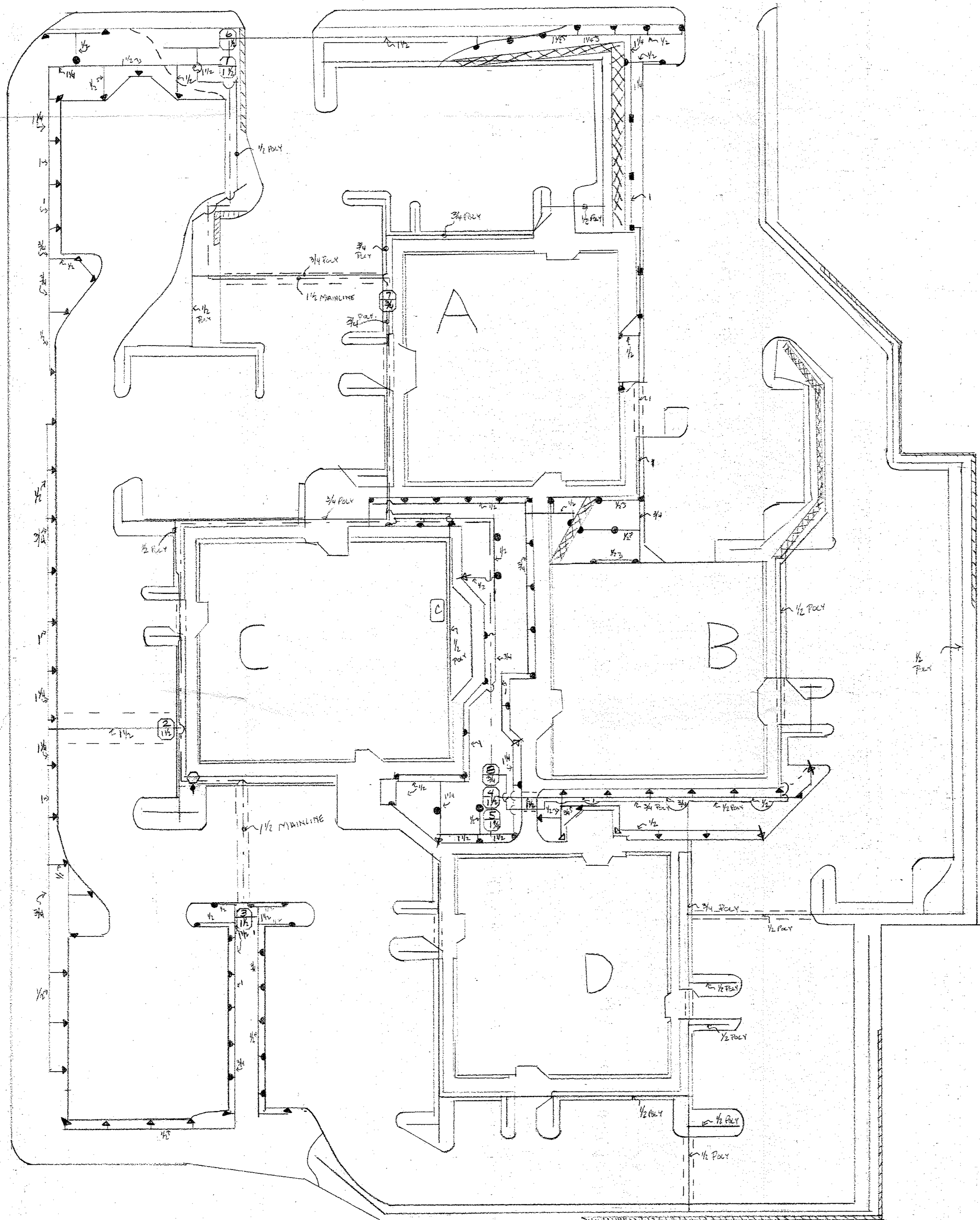
RECEIVED
NOV 15 1983
CITY OF TUALATIN
PLANNING DEPT.

NORTH
SCALE 1" = 20'

KOSTER'S LANDSCAPE SPECIALTIES

2120 BERRY ST SE SALEM, OR 503-378-1281

TUALATIN PROFESSIONAL CENTER
LANDSCAPE



NOTE: ALL POP-UP CONNECTIONS WILL BE MADE WITH A SWING JOINT CONSISTING OF, 2 TORO 850-31 INSERT ELBOWS, 1- 1/2" MARLEX STREET ELBOW AND A 8" SECTION OF TORO 850-01 TUBING.

IRRIGATION ZONE G.P.M.

ZONE 1	29.3 GPM
ZONE 2	27.0 GPM
ZONE 3	25.2 GPM
ZONE 4	27.5 GPM
ZONE 5	35.45 GPM
Zone 6	20.25 GPM

↑
NORTH
SCALE 1" = 20'

RECEIVED
NOV 15 1983
CITY OF TUALATIN
PLANNING DEPT.

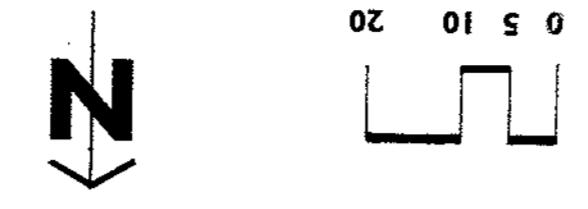
Koster's Landscape Specialties
2000 S.W. 10th St. Portland, OR 97205 (503) 375-1281

TUALATIN PROFESSIONAL CENTER
Irrigation Plan

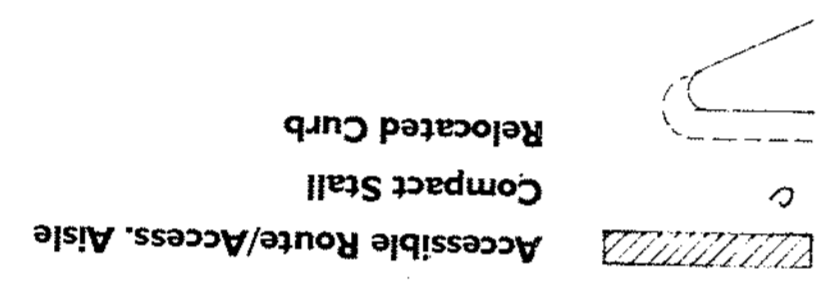
RECEIVED
 JUN 28 1995
 CITY OF TUALATIN
 PLANNING DEPT.

APPROVED
 ARCHITECTURAL REVIEW
 SITE PLAN
 DRAINAGE PLAN
 TRAFFIC IMPROVEMENT PLAN

Tualatin Professional Center
 Proposed Parking Plan Revisions
 10 April 1995

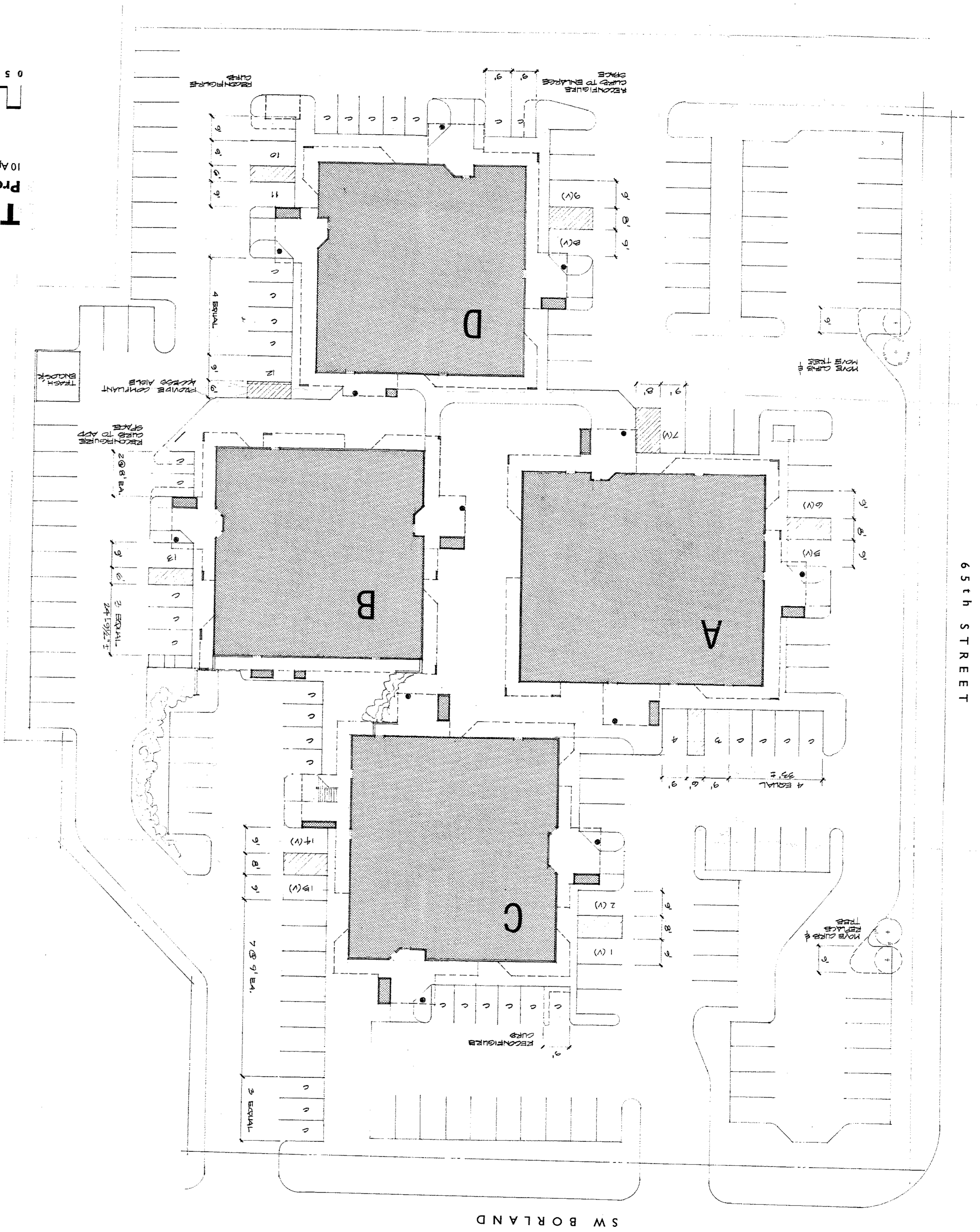


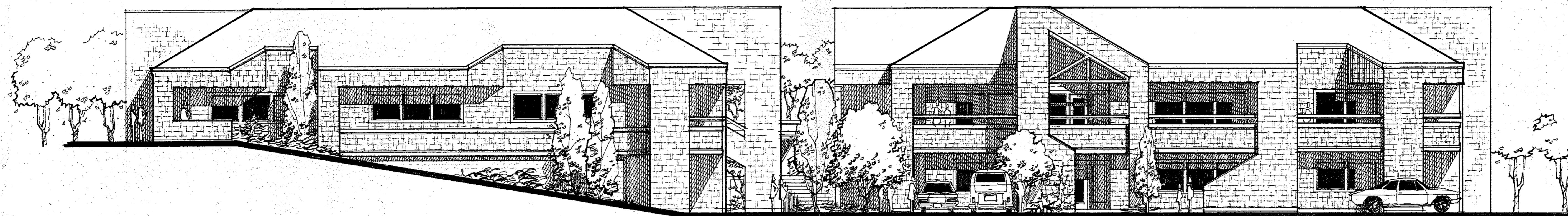
NOTES:
 All accessible parking spaces and signage to meet the Oregon Transportation Commission Standards for Disabled Person Parking and the requirements of the current Uniform Building Code.



Site Summary

Zoning:	Office Commercial		
Lot Size:	122,105.5 SF		
Building Coverage:	23,997 SF		
Areas based on 3/30/83 documents			
Paving	Existing 65,097 SF		
Landscaping	Revised 65,473 SF		
	33,014 SF (27%)		
	32,638 SF (26.7%)		
	15%		
Parking Summary			
(Based on building area from current ownership and use data 11/30/94.)			
Required Stalls			
Area	Stalls/1,000 SF	Required Stalls	
B-2	4,960 SF	3.5	17
I	26,304 SF	5.5	145
Total	31,154 SF		162
Provided Stalls			
Total			
B-2	17	1	142
I	142	14	159
Total			159
Stall Breakdown			
Type	Existing	Revised	
Standard Stalls (30% Allowed)	136	111	
Compact Stalls (30% Allowed)	24	33 (21%)	
Compliant Standard Accessible	0	6	
Van Accessible (2 Required)	0	9	
Total Stalls			159

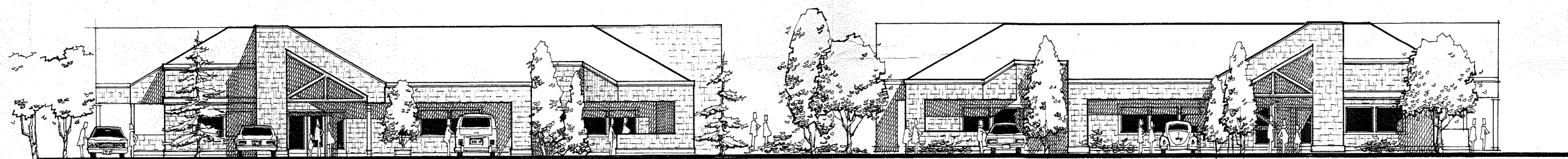




EAST ELEVATION

partial view of two level buildings
looking from east property line

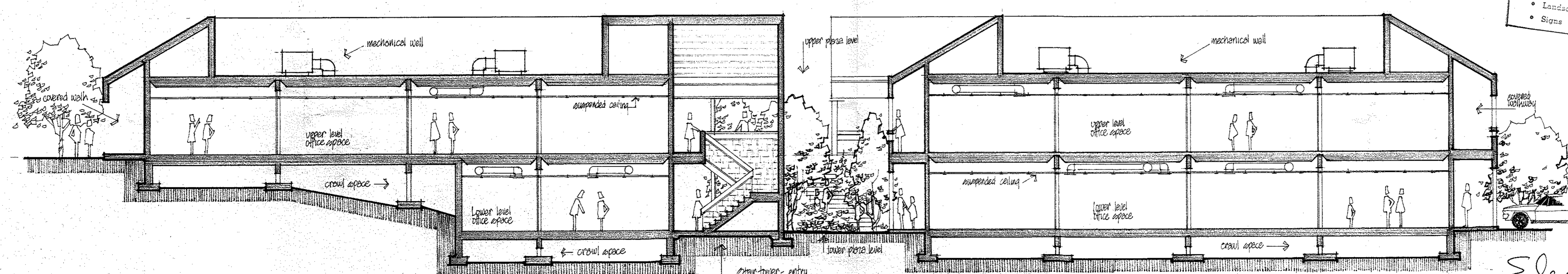
1/8" = 1'-0"



WEST ELEVATION

partial view of buildings A & C looking
from both street to the east

1/8" = 1'-0"



SECTION A-A

partial section through
two level buildings

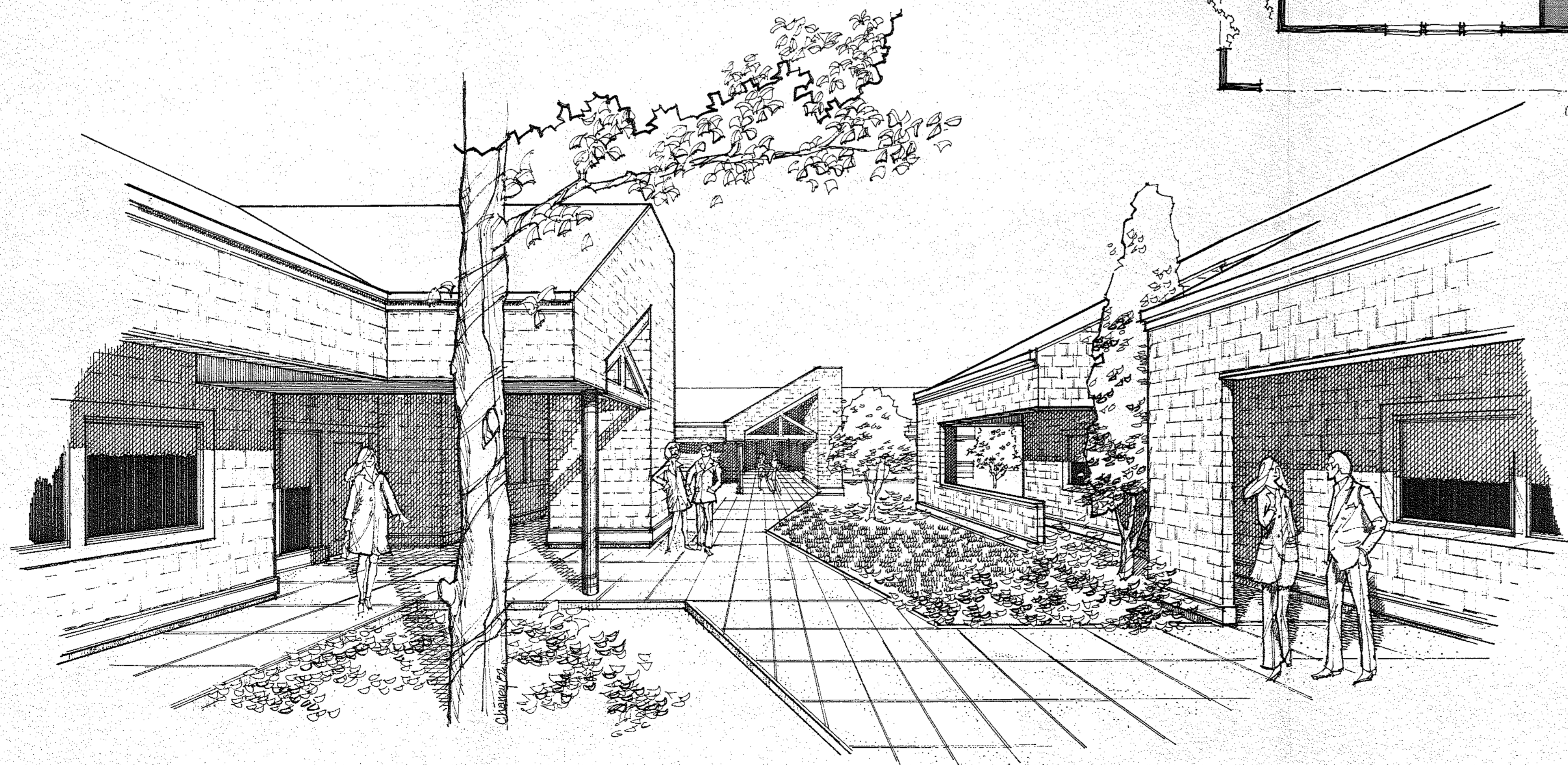
1/8" = 1'-0"

APPROVED
Architectural Review Board
• Site Plan
• Building Exterior
• Landscape Plan
• Signs

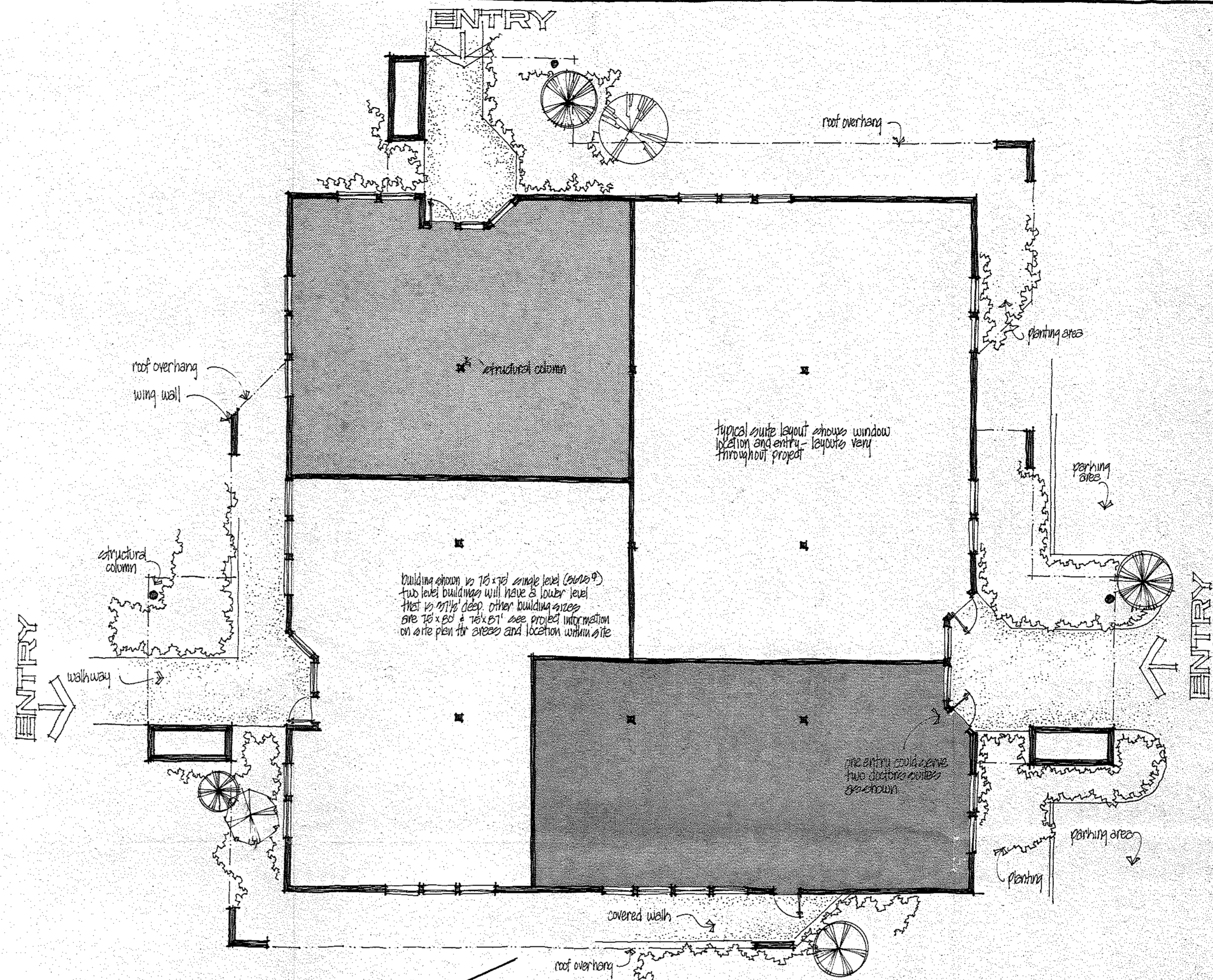
3-17-83

Elevations

VIEW TO COURTYARD



WRA



BUILDING PLAN

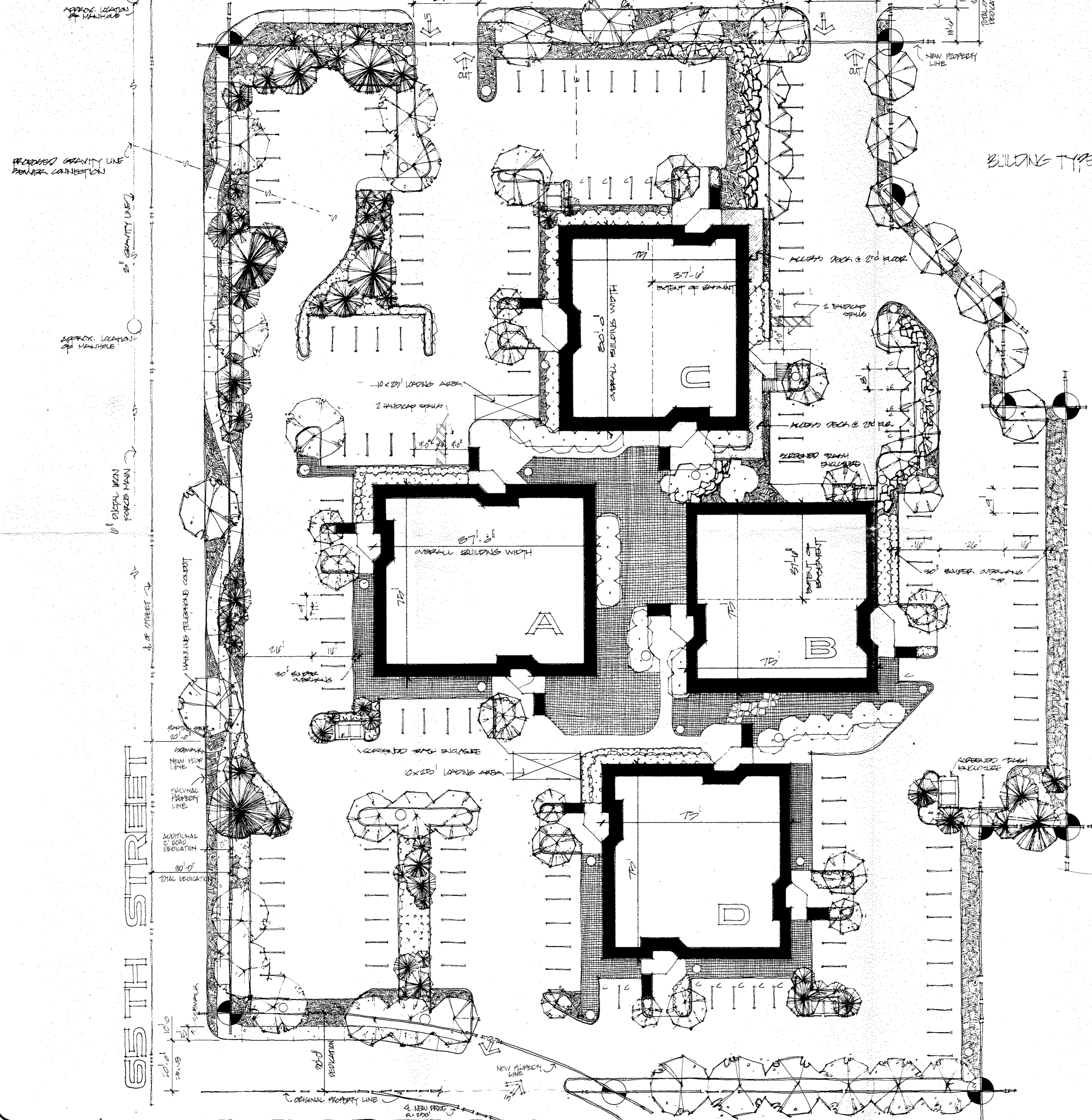
1/8" = 1'-0"

CONSOLIDATED
ASSET GROUP

TUALATIN
PROFESSIONAL
CENTER

WRA
WILLIAM
RUTLEDGE
ARCHITECT

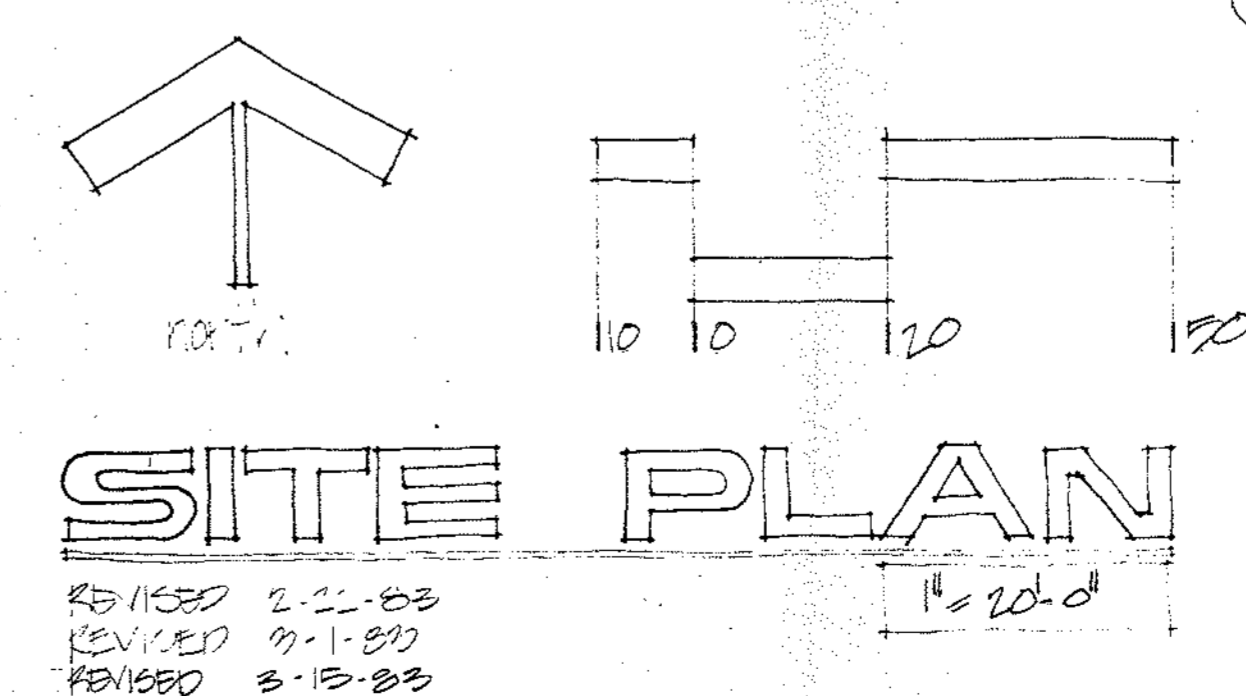
SW BORLAND



PROJECT INFORMATION

- BUILDING TYPES**
- A. SINGLE LEVEL (77' x 87') - 15701.0 sq ft
 - B. TWO LEVEL (77' x 77') - 6427.7 sq ft
LOWER LEVEL = 2812.5 sq ft
UPPER LEVEL = 3615.2 sq ft
 - C. TWO LEVEL (77' x 80') - 9000.0 sq ft
LOWER LEVEL = 4000.0 sq ft
UPPER LEVEL = 5000.0 sq ft
 - D. SINGLE LEVEL (77' x 77') - 5929.0 sq ft
- TOTAL BUILDING AREA: 37,057.7 sq ft

ZONING: OFFICE COMMERCIAL
LOT SIZE: 122,108 sq ft
USE: MEDICAL CLINIC
MARKING: 3.75' SETBACK FROM 100' EASEMENT
 60' SETBACK FROM 100' EASEMENT



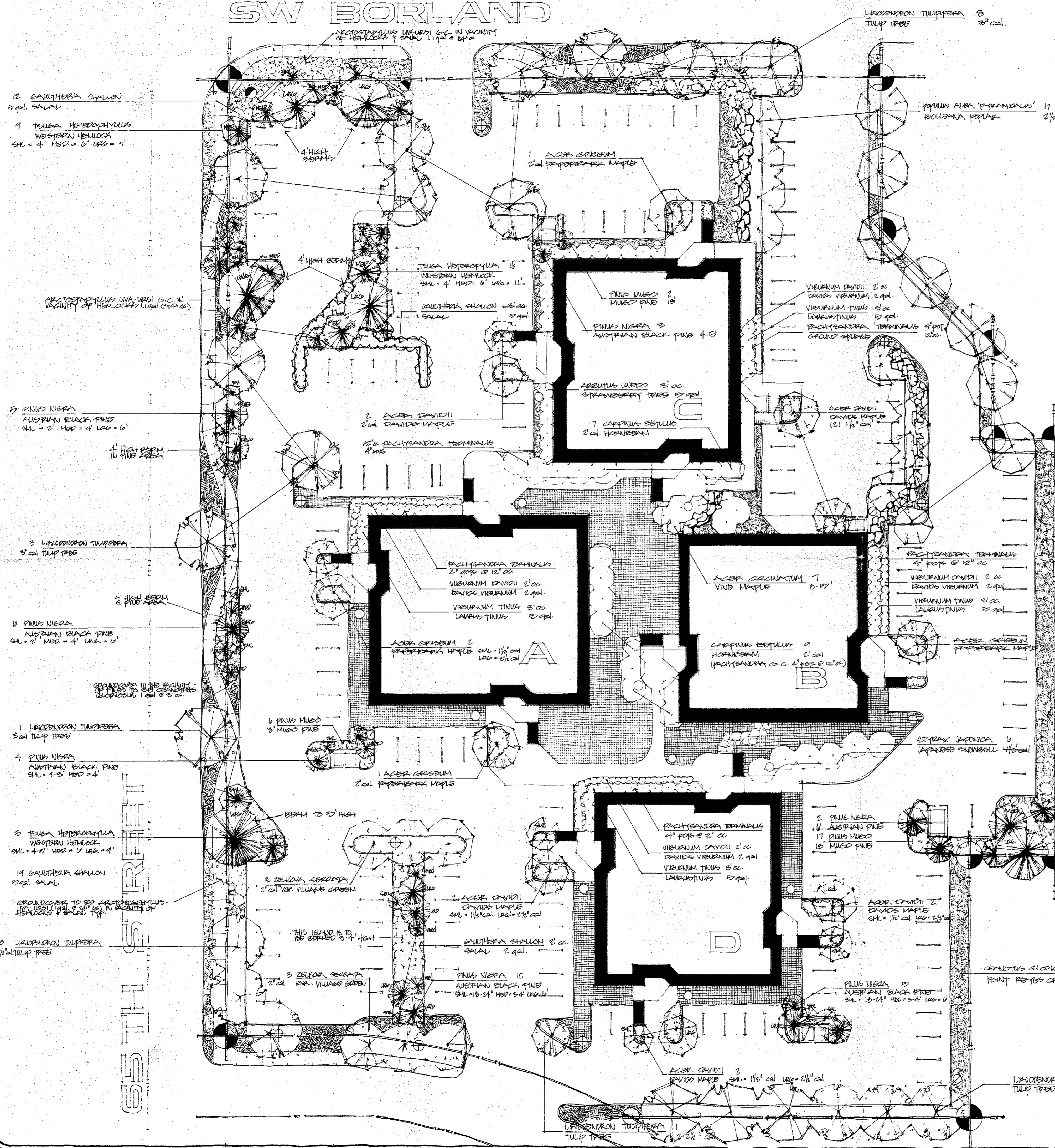
83-06
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 Architectural Review Board
 • Site Plan
 • Building Exterior
 • Landscape Plan
 • Signs
 APPROVED

RECEIVED
 MAR 13 1983
 CITY OF TUALATIN
 PLANNING DEPT.

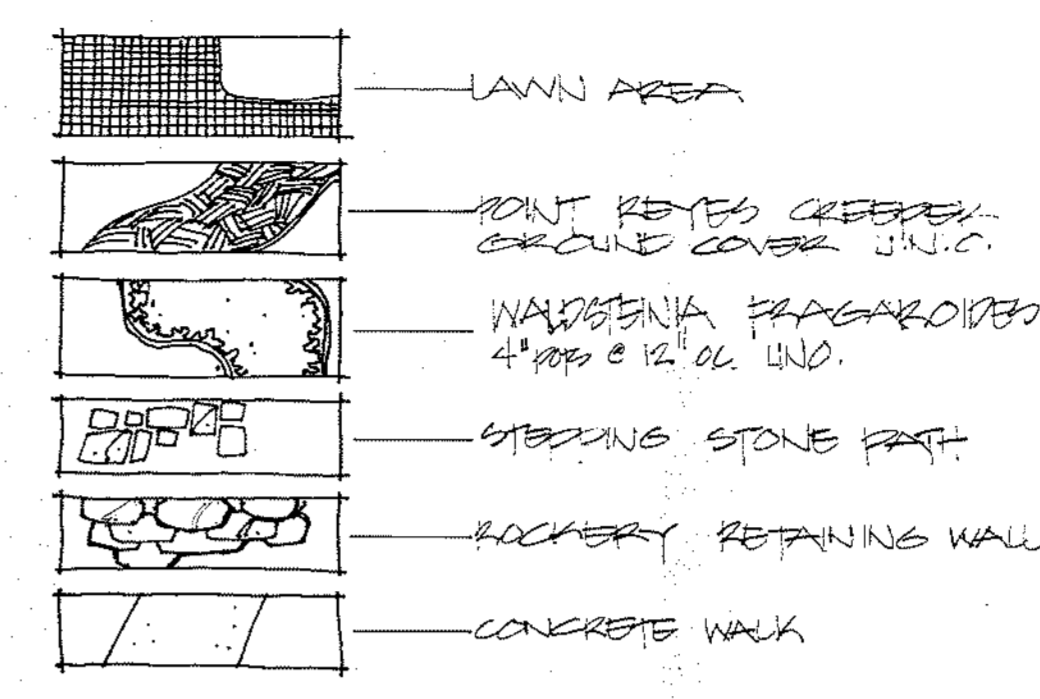
CONSOLIDATED ASSET GROUP
 TUALATIN PROFESSIONAL CENTER

WRA
 WOODRIDGE
 ARCHITECTS

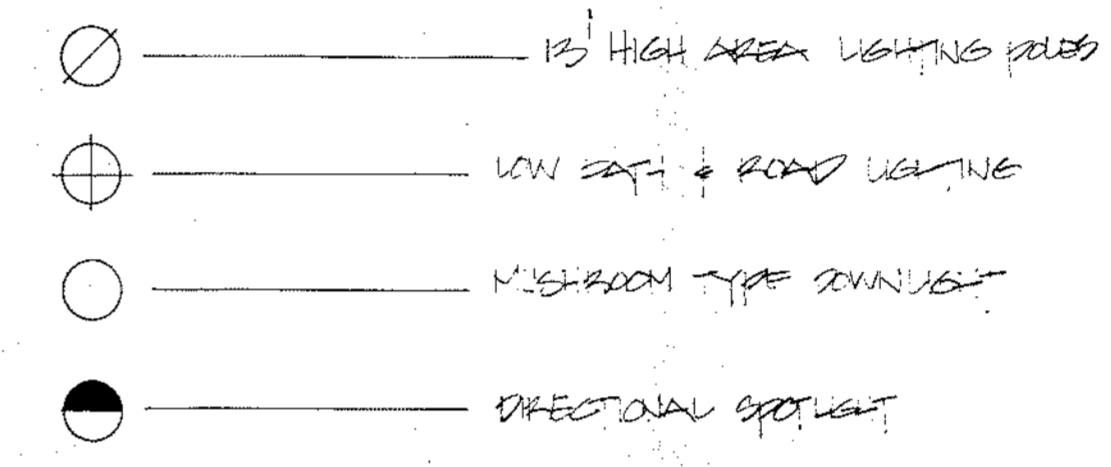
SW BORLAND



SYMBOLS



EXTERIOR LIGHTING

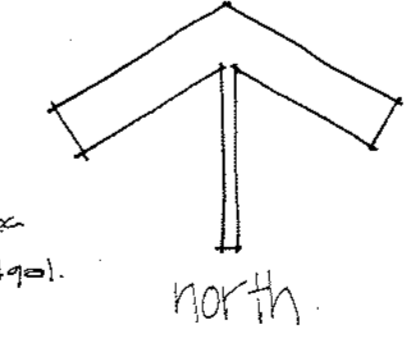


APPROVED
Architectural Review Board

- Site Plan
- Building Exterior
- Landscape Plan
- Signs

APR 23 2008

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MAR 14 2008
CITY OF TUALATIN
PLANNING DEPT.



LANDSCAPE PLAN

2-1-08 REVISED 2-22-08
2-1-08 REVISED 2-1-08
2-14-08 REVISED 2-14-08

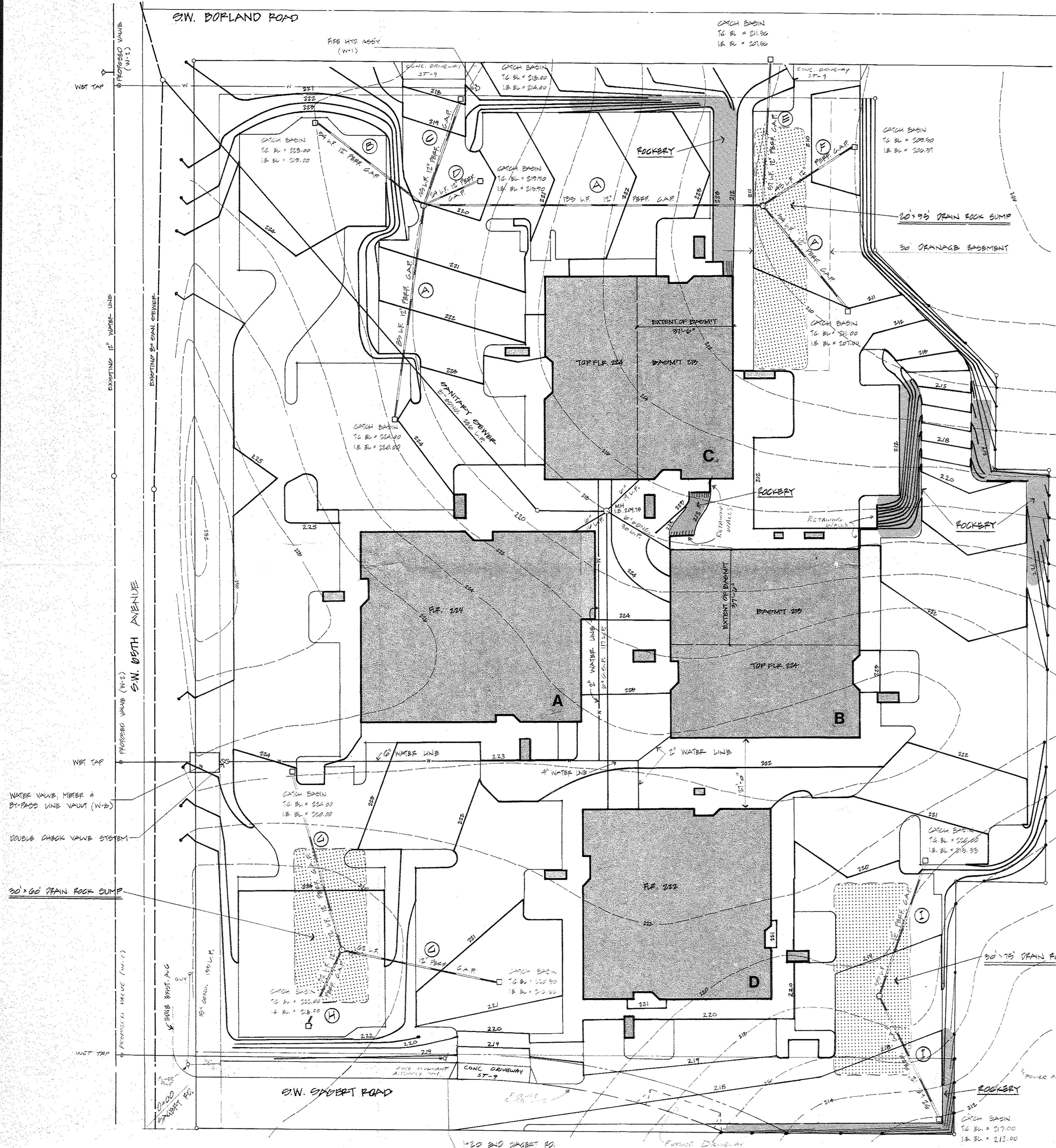
1" = 10'-0"

NOTES:
AN IRRIGATION SYSTEM IS TO BE PROVIDED WHERE NECESSARY TO ENSURE PROPER GROWTH & DEVELOPMENT OF ALL PLANTING & LAWN AREAS, & TO PREVENT EROSION DAMAGE DUE TO EXCESSIVE WATERING.

CONSOLIDATED
ASSET GROUP

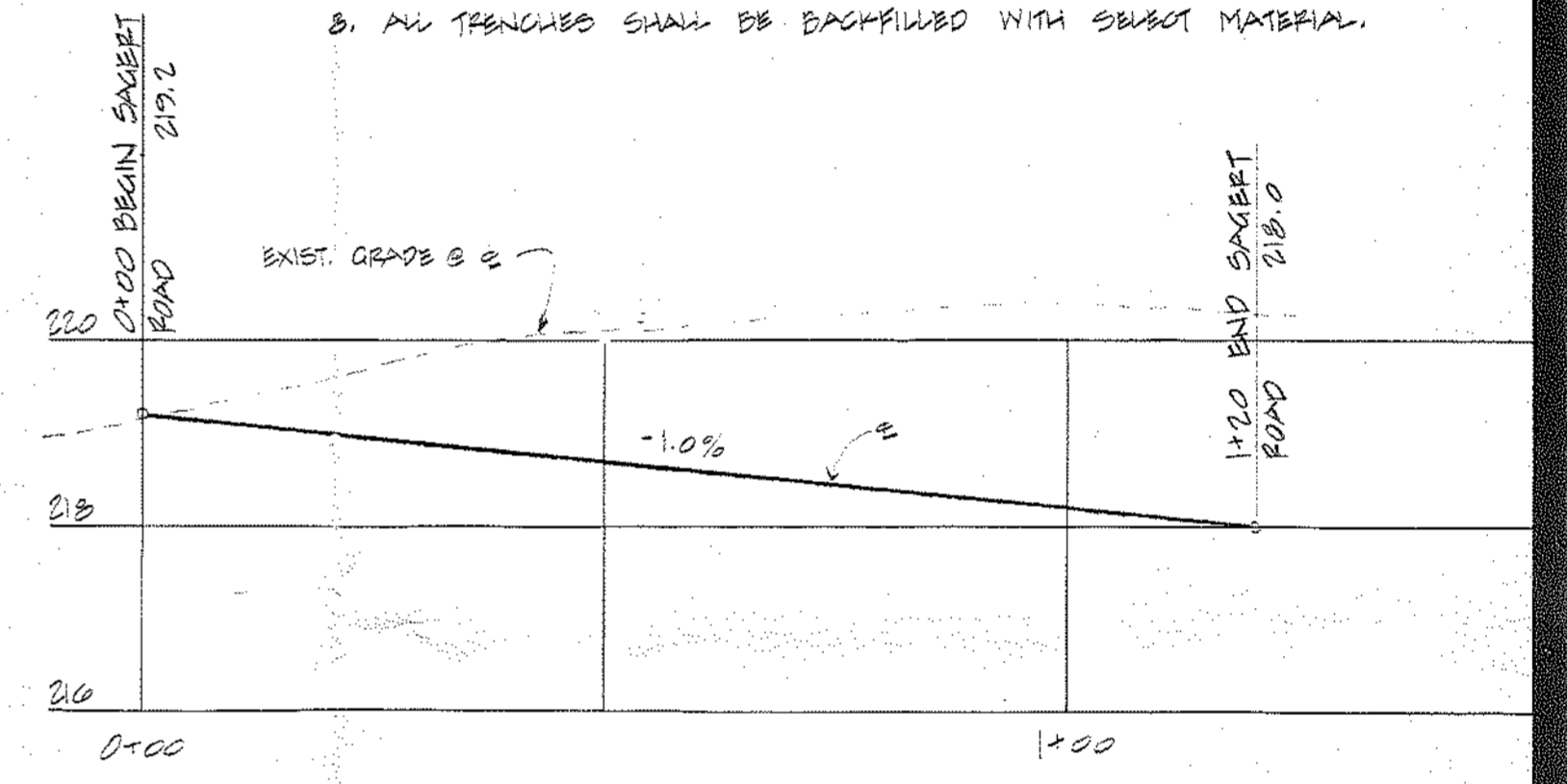
TUALATIN
PROFESSIONAL
CENTER

WRA
WILLIAM
RUTLEDGE
ARCHITECT



NOTES

1. ALL WORK SHALL CONFORM TO THE STANDARD DRAWINGS AND SPECIFICATIONS OF THE CITY OF TUALATIN.
2. ALL VEGETATIVE MATTER SHALL BE REMOVED FROM SITE. TOP LAYER OF SOIL NEED NOT BE REMOVED UNLESS DETERMINED BY ENGINEER TO BE TOPSOIL OR OTHERWISE UNACCEPTABLE.
3. CATCH BASINS NOT IN PUBLIC RIGHT-OF-WAY SHALL BE TRAP-TYPE AS APPROVED BY CITY OF TUALATIN BUILDING OFFICIAL. ALL STEM PIPE SHALL BE 10 GA. PREFORMED CORRUGATED ALUMINUM PIPE (POLYETHYLENE TUBING, ADS PIPE, MAY BE SUBSTITUTED FOR C.A.P.).
4. PRIVATE DRIVING AND PARKING SURFACES SHALL HAVE A STRUCTURAL SECTION OF 2" TYPE 'C' A.G., 2" OF 3/4" O CRUSHED ROCK AND 4" OF 2" O CRUSHED ROCK. CURBS SHALL BE EXTRUDED A.G. OF CONCRETE WITH PROPER PROVISION TO PAVED SURFACES.
5. TELEPHONE CONDUIT ALONG EAST SIDE OF SW 10TH AVE. NOT SHOWN ON PLANS BUT CLEARLY MARKED IN FIELD. RELOCATION BY OTHERS MAY OCCUR PRIOR TO CONSTRUCTION. SPECIAL CARE SHALL BE TAKEN IN THIS AREA.
6. POWER CABLES (DIPLO BURY) 20 FEET NORTH & PARALLEL TO SOUTH PROPERTY LINE NOT SHOWN ON PLANS BUT MARKED IN FIELD. RELOCATION BY OTHERS MAY BE NECESSARY PRIOR TO CONSTRUCTION OF SAGERT ROAD.
7. RETAINING WALLS & ROCKERY AREAS ARE SHOWN ON PLANS. DESIGN DETAILS ARE NOT PROVIDED WITH THESE PLANS. DESIGN DETAILS OF RETAINING WALLS & ROCKERY ARE A CONTRACTOR RESPONSIBILITY. UPON PERMIT, THE ENGINEER SHALL SUPPLY TYPICAL DETAILS FOR INFORMATIONAL PURPOSES ONLY.
8. ALL TRENCHES SHALL BE BACKFILLED WITH SUBOT MATERIAL.



S.W. SAGERT ROAD

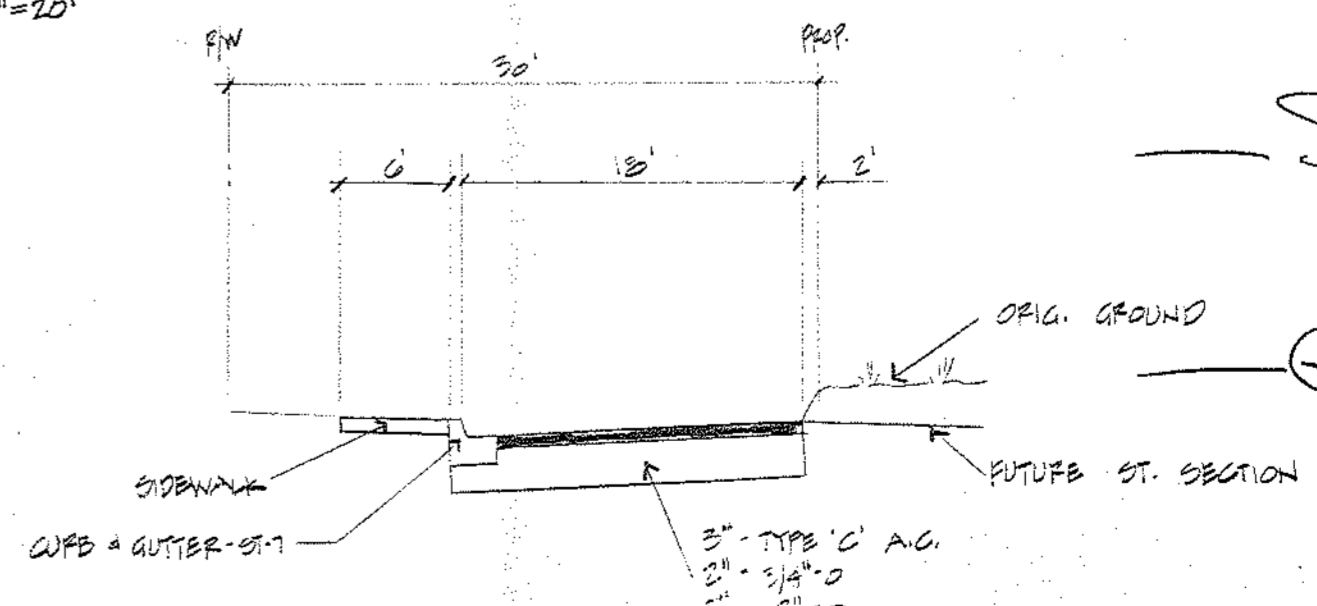
1" = 20' HOR - 1" = 2' VERT.

NOTES (CONT)

9. WATER METER SHALL BE HERBY BRAND METER WITH REMOTE READING DEVICE IN SEPARATE WATER METER BOX OR EQUAL. DOUBLE CHECK VALVE SYSTEM SHALL BE IN A SEPARATE VAULT (BOX) FROM METER/BY-PASS LINE AND SHALL BE FIBCO BRAND OR OTHER STATE OF OREGON APPROVED VALVE.

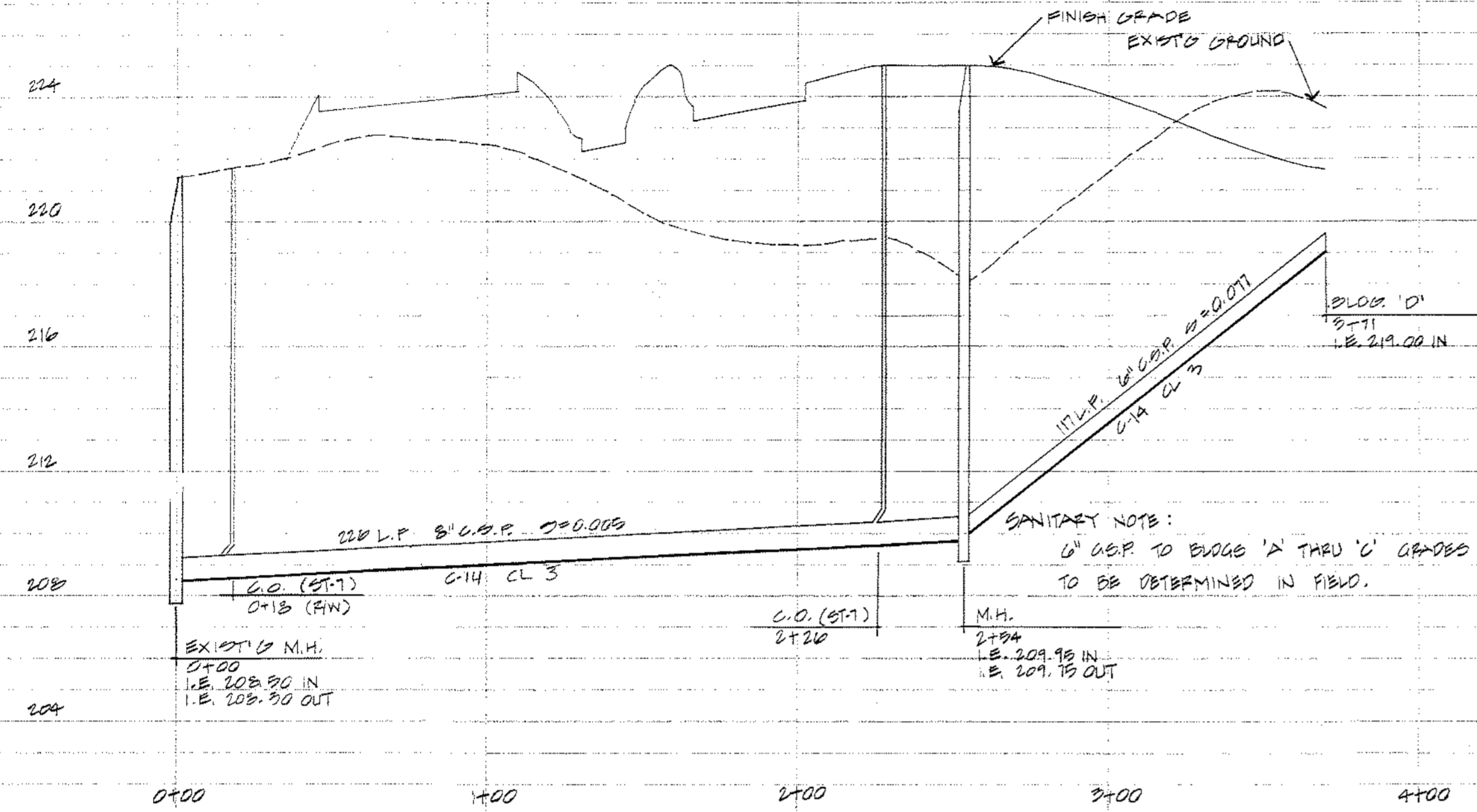


SCALE: 1" = 20'

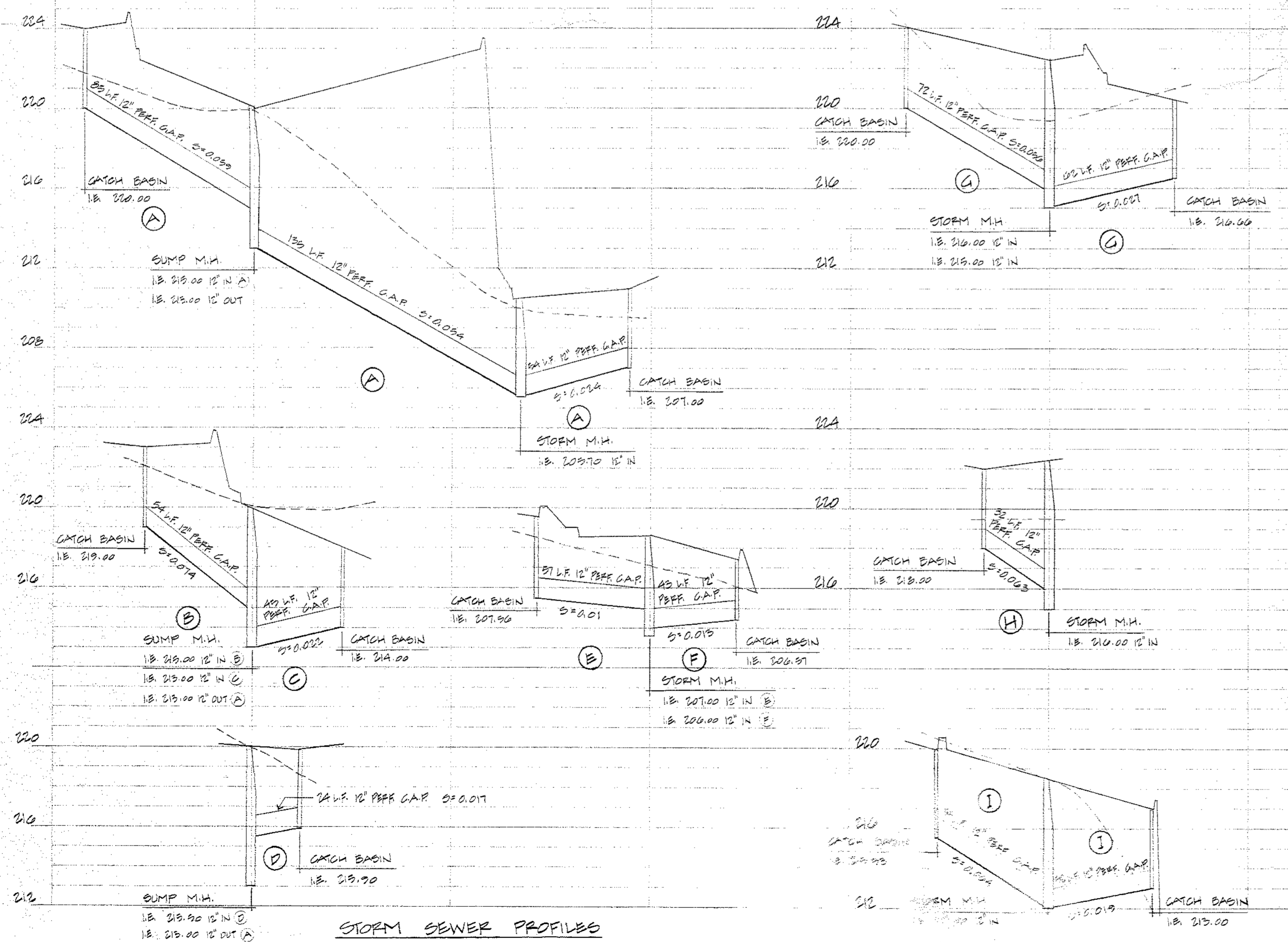


TYP. SECTION
S.W. SAGERT ROAD

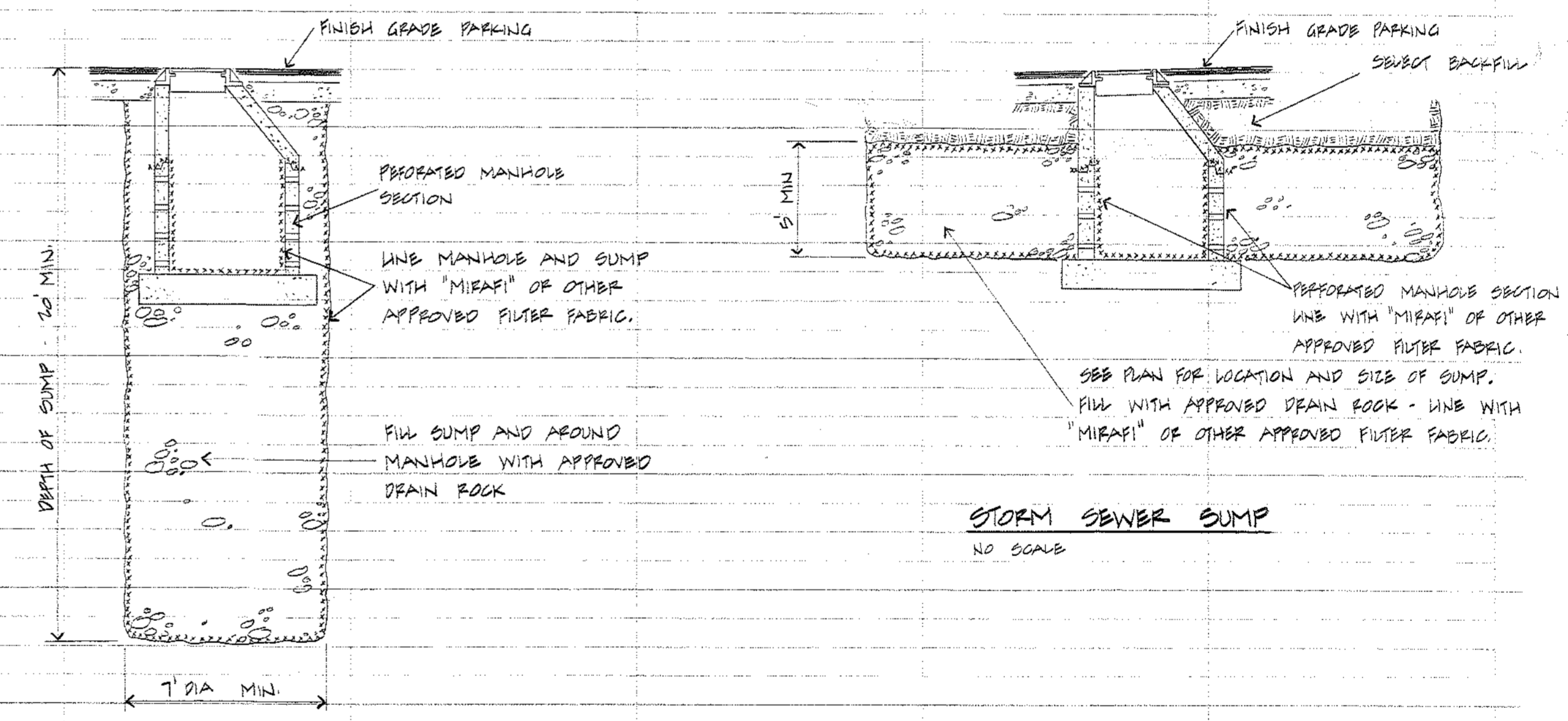
*Sagert Rd
Improvements
Grading Util Plan*



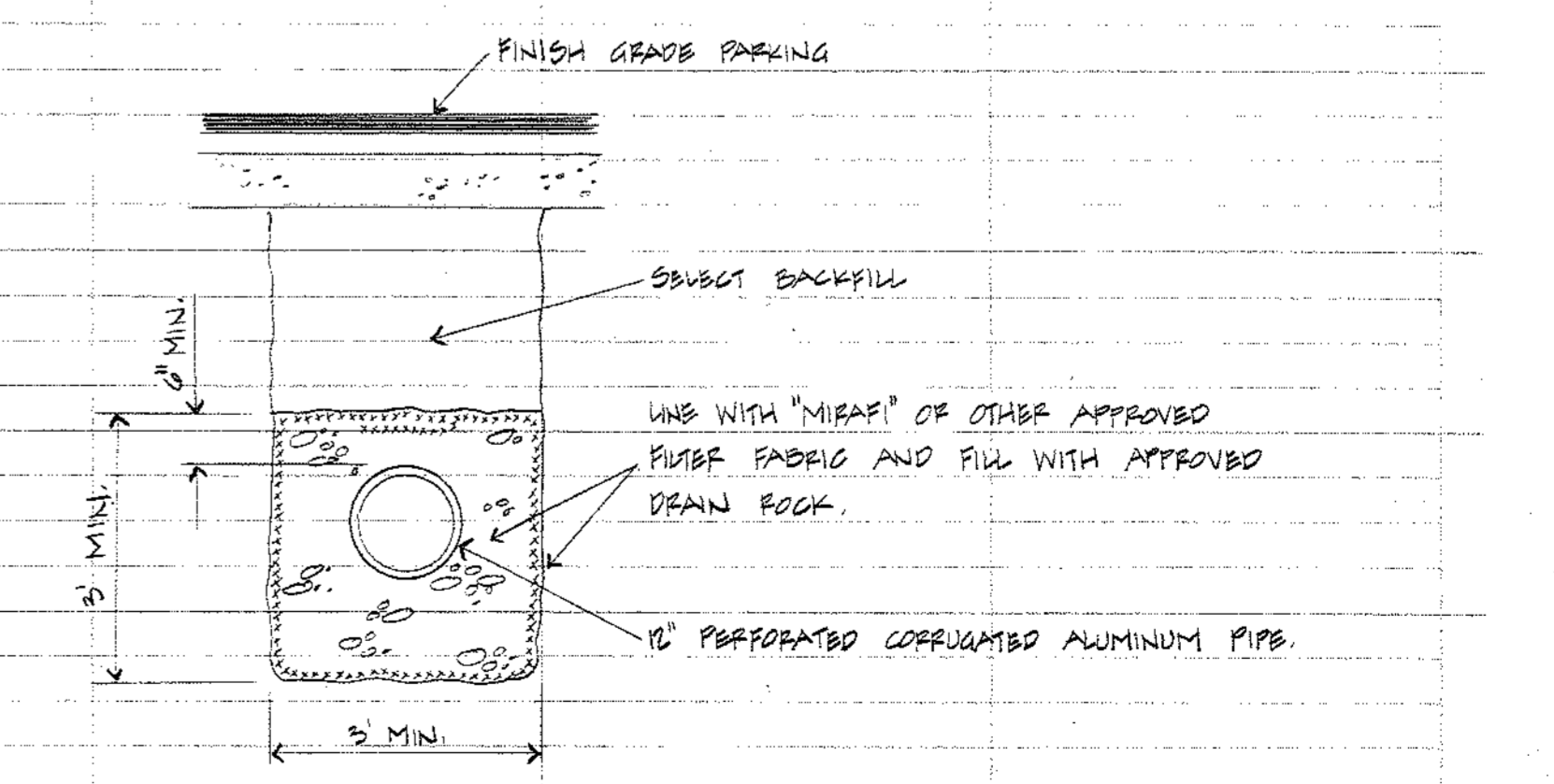
SANITARY SEWER



STORM SEWER PROFILES

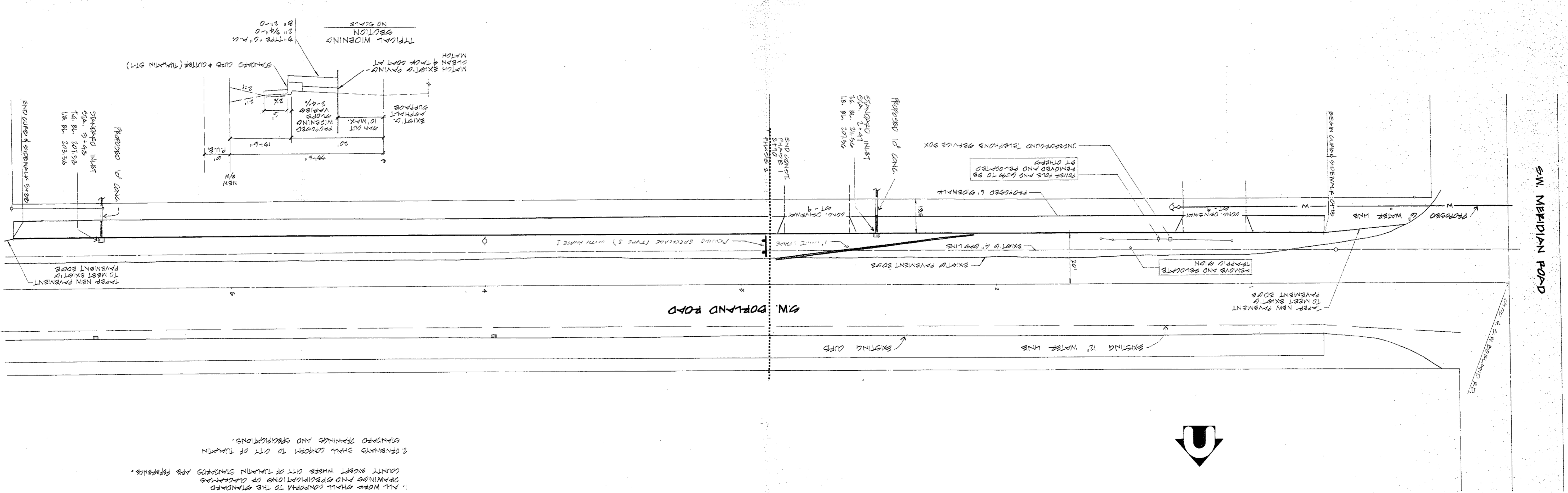
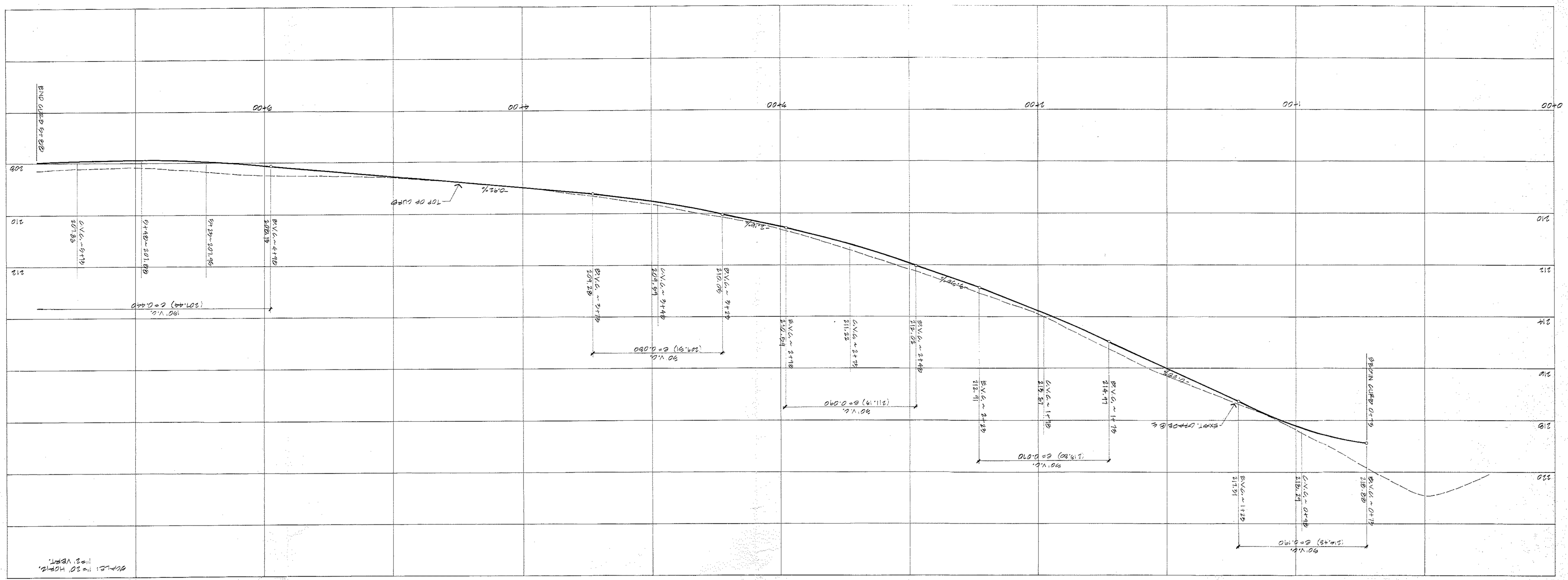


SUMP STORM MANHOLE
 NO SCALE



STORM SEWER PIPE TRENCH
 NO SCALE

- 1. FIN. STORM PROFILES AND DETAILS 9-13-03
- 2. REV. 1-25-03 GROUND LINES, PIPE GRADES
- 3. REV. 4-19-03 PIPE SIZES, MISC.
- 4. FIN. 4-19-03 THE CITY OF TUALATIN

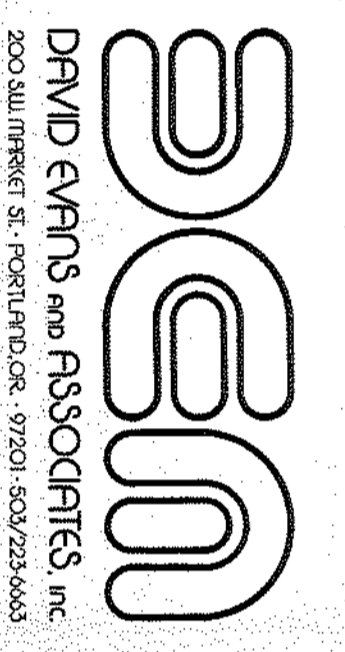


NOTES

1. ALL WORK SHALL CONFORM TO THE STANDARD DRAWINGS AND SPECIFICATIONS OF COURTESY COUNTY WHERE CITY OF TUALATIN STANDARDS ARE PRESENT.
2. STANDARD SHALL CONFORM TO CITY OF TUALATIN.
3. STANDARD SHALL CONFORM TO SPECIFICATIONS.



3 OF 3 SHEETS
 DATE: 11/15/23
 DRAWN: JRM
 CHECKED: JRM
 PROJECT: SW. MERIDIAN ROAD IMPROVEMENTS
 SHEET: 3
 DATE: 11/15/23
 DRAWN: JRM
 CHECKED: JRM



SW. PORTLAND ROAD IMPROVEMENTS
TUALATIN PROFESSIONAL CENTER
 Consolidated Asset Group
 Tualatin, Oregon