CITY OF West Linn

Memorandum

Date: December 13, 2017

To: West Linn Planning Commission

From: Jennifer Arnold, Associate Planner

Subject: Public Testimony for West Linn Planning Commission Public Meeting
SUB-17-04

On December 8, 2017 Staff received a letter addressed to all those who attended the neighborhood meeting for the proposed subdivision at 4096 Cornwall Street (SUB-17-04) from the applicant. This letter clarified some major changes between SUB-17-01 and SUB-17-04 and thanked the participants for attending. Two attachments to the letter included a color map of the proposal and the proposed layout of the subdivision.

On December 8, 2017 Staff received testimony from BHTNA VP Robert Jester, in response to the letter sent by the applicant regarding the neighborhood meeting for the above referenced subdivision. This testimony expressed appreciating to the applicant for meeting with the neighbors and noted that ICON listened to the concerns of neighbors with this new application.

On December 9, 2017 Staff received testimony from Pam Yokubaitis thanking the applicant for clarifying the changes from SUB-17-01 to SUB-17-04 and detailed the frustrations from the process of SUB-17-01. An attachment to this testimony was "The Citizens' Perspective", a proposal presented to the West Linn CCI addressing issues and solutions of the subdivision process.

On December 11, 2017 Staff Received testimony from the applicant's consultant, Rick Givens, suggesting modifications to the Staff recommended conditions of approval number 7. This testimony also clarified a couple aspects of their proposal.

On December 12, 2017 Staff received testimony from Christine Henry. This testimony is a resubmittal of testimony given during the SUB-17-01 process. A video of the stream running was also submitted into the record, and I have attached still shots from that video to this testimony.

On December 12, 2017 Staff received testimony from Edward A. Turkisher. This testimony is a resubmittal of testimony given during the SUB-17-01 process.

On December 12, 2017 Staff received testimony from Jon Gice. This testimony is a resubmittal of testimony given during the SUB-17-01 process.

On December 12, 2017 Staff received testimony from Dan and Jacque Eaton. This testimony discusses concerns with the traffic impact on Landis Street and Stonegate Lane. Also, Mr. and Mrs. Eaton express concerns over the sign posting for the notice. The sign for notice was placed on the frontage of the subject property at 4096 Cornwall Street and not at the end of Landis Street.

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On December 12, 2017 Staff received testimony from Meredith Olmsted as president of the BHTNA on behalf of BHTNA. This testimony applauded ICON's efforts to address concerns expressed by members of the neighborhood association. Also, the BHTNA expressed concerns of landslide potential and requests individual geotechnical reports at the time of construction for each home.

On December 13, 2017 Staff received testimony from Steve Thornton. This testimony expressed concerns of traffic safety on Cornwall Street and Stonegate Lane.

On December 13, 2017 Staff received testimony from Pia Snyder. This testimony is a resubmittal of testimony submitted during the SUB-17-01 hearing process.

On December 13, 2017 Staff received testimony from Pam Yokubaitis on behalf of Jon Gice. This is testimony Pam previously presented and submitted during the SUB-17-01 hearing process.

On December 13, 2017 Staff received testimony from David Corey. Part of this testimony is a resubmittal of testimony submitted during the SUB-17-01 hearing process. The new testimony for SUB-17-04 expresses concerns about infill retention and if retaining walls will be used during the construction process.

On December 13, 2017 Staff received testimony from Patrick Noe. This testimony is a resubmittal of testimony submitted during the SUB-17-01 hearing process.

On December 13, 2017 Staff received testimony from Chelsea Diaz. This testimony is a resubmittal of testimony submitted during the SUB-17-01 hearing process.

On December 13, 2017 Staff received testimony from Pam Yokubaitis. This testimony is a resubmittal of testimony submitted during the SUB-17-01 hearing process. This testimony is a petition signed by neighbors near the proposed subdivision.

On December 13, 2017 Staff received testimony from Pam Yokubaitis. This testimony expresses concerns over the land use process that West Linn follows and references the "Citizens Perspective" letter previously entered into the record. There is also the wetlands information presented during the SUB-17-01 hearing process as a resubmittal including a power point presentation. Included in this testimony is the original application packet submitted by ICON from SUB-17-01. Pam also included an email with a list of individuals who have submitted testimony and which HOA or NA they are affiliated with. Pam also submitted testimony expressing traffic safety concerns.

On December 13, 2017 Staff received testimony from Pia Snyder. This testimony expresses concerns about significant tree removal and root damage to protected significant trees.

On December 13, 2017 Staff received testimony from Karie Oaks. This testimony includes concerns over compliance with the ORS Expedited Land Division standards and the Planning Managers decision to modify the HCA boundary.

Arnold, Jennifer

From:	Darren Gusdorf <darren@iconconstruction.net>
Sent:	Friday, December 08, 2017 12:09 PM
To:	Ed Turkisher; 'Pam Yokubaitis'; 'Patrick Noe'; 'Richard Santee'; 'Pia Snyder'; 'Jon Gice'; 'Robert Jester'; 14.4volts@gmail.com; 'Travis Takano'; 'Steve Thornton'; 'Meredith Olmstead'
Cc:	rickgivens@gmail.com; Mark Handris; Arnold, Jennifer
Subject:	Willow Ridge - Proposed layout/design and how it's different from before...
Attachments:	Willow Ridge ELD Colored Site PLan.pdf; Willow Ridge Storm Sewer Exhibit.pdf

Good afternoon neighbors of Willow Ridge,

I wanted to thank all of you who have been involved in continued discussions with us while we worked through the concerns voiced by our surrounding neighbors. For those of you who were present during the November 2nd pre-app meeting, and/or last evenings neighborhood meeting, I want to thank you for your time, and for allowing us an opportunity to go through our new plan with you in person. I think most of you already know, we have created a new plan, better suited for this site, that addresses the comments and concerns from what was originally proposed. To recap for those of you who could not be present during these meetings, I've highlighted what we've changed, and are now proposing within our new plan:

- The prior plan reflected a road connection through our project that connected Landis Street to Cornwall Street. Many objections were raised during the planning commission meeting with concerns of cut-through traffic, safety, and the poor current condition of Conrwall street that many stated couldn't support more traffic. We addressed this by NOT connecting Landis to Cornwall. Aside from a gated connection at the north corner of our site (for emergency vehicles only, and code required), our new design reflects no connectivity through our project.

- The prior plan had a storm pond placed off-site, on the city's property (tax lot 7100), fronting Fairhaven Way. Many objections were raised during the planning commission meeting with concerns of what the finished pond would look like, and converting a natural landscaped area into a detention pond. We addressed this by NOT placing a pond on this property. Storm is now addressed underground. The street on our project will capture all of it's run-off via catch basins that are hard piped into an existing sub-grade storm system in Landis to the west of our site. This system was oversized during the prior development to accommodate for future development and supports this connection. In addition, all impervious roof and driveway areas, affiliated with the 6 future homesites, will be collected and hard piped into individual rain gardens on site (water quality), with all overflow that is hard piped and conveyed to the existing creek south of Cornwall St. This will have no adverse impact to the park's tax lot 7100. The current aesthetics of it, as seen today, will remain unchanged.

- The concerns from our neighbors to the south, who have been dealing with hillside run-off for years, are being addressed via this design too. Currently (pre-development), all water from our site, and the sites to the north or our site, shed water down the hillside during heavy rain events that lead directly to the homes below us on Fairhaven Dr. Through geotechnical reporting, we know the soil base in this area is clay based, very dense, and doesn't perk well. That compounds the problem by not allowing the water to soak into the soils which currently sheets off the top layer, down the hillside, and to the properties below. With our current plan, we are capturing nearly ALL of the run-off coming down this hillside and across our project, BEFORE it gets to the properties on Fairhaven Dr. As mentioned above, the street on our site will act as a collector capturing everything to the north (including that on our lot #1) and taking it to the underground storm system to the west. The south boundary of the project will possess a new storm line that will collect all impervious water from the homes above, and convey this storm water underground, and out to the creek, south of Cornwall. Once these new storm

improvements are in place (post development), the majority of the hillside water will be captured and carried off to appropriate discharge points. Our neighbors to the south will see a decrease in saturated yards once this development is constructed and per these plans.

- There were concerns voiced about tree removal and impacts to land disturbances and/or added impacts to the water run-off. Per our plans, we are not removing any trees documented as significant by the city arborist. We are preserving trees on lot 1 (large cluster to the west), lot 2 (large cluster to the west), and trees along the southern property line. We like trees too, and are only removing those directly within the construction zones of the roadway and homesites. We will be replanting many new trees on site (as required by city mitigation code) and will be conscientious about planting them in areas to assist in providing continued privacy to both our exiting neighbors and future home owners. The removal of all trees will be mitigated for and replanted.

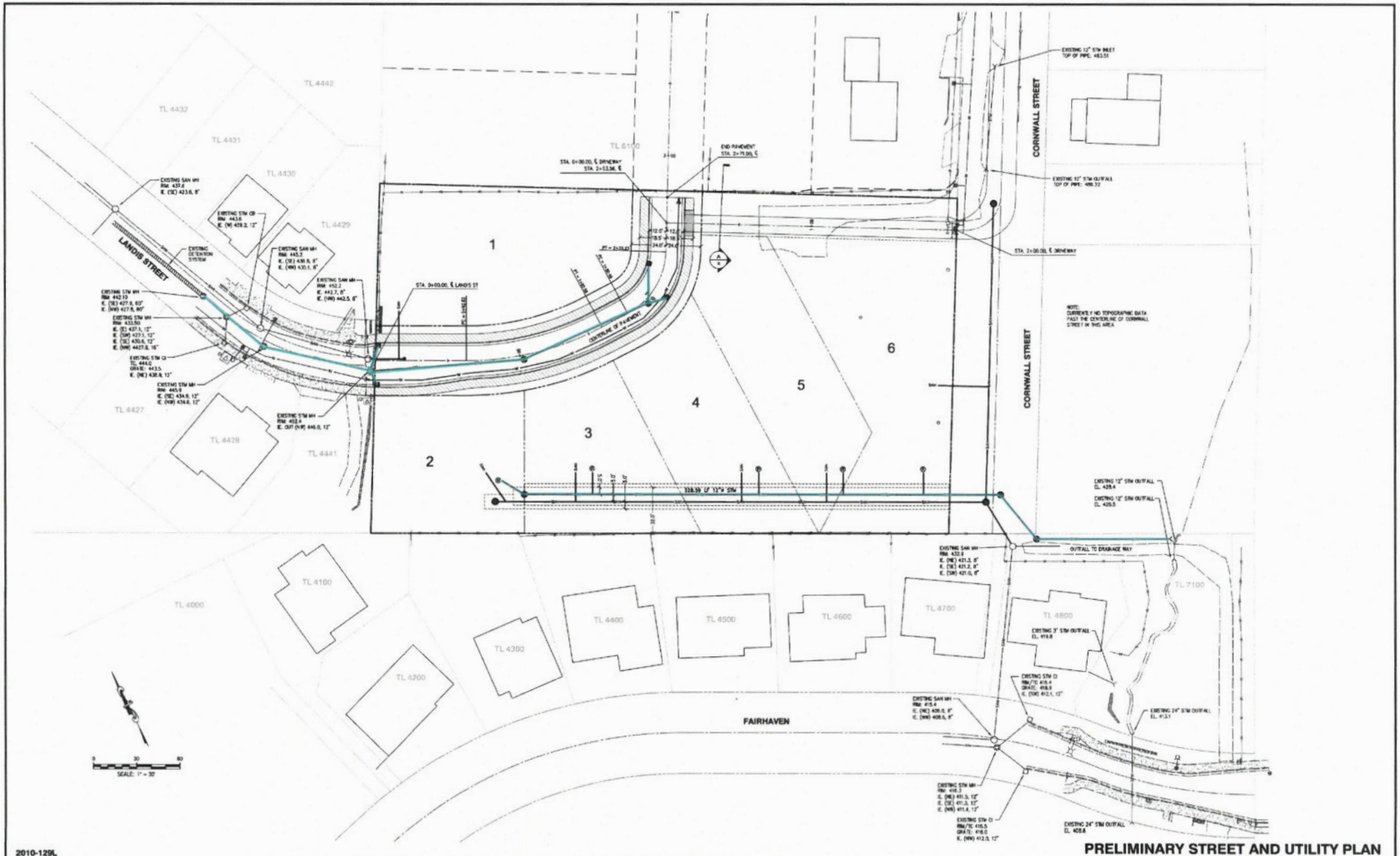
These were the main concerns voiced during the prior planning commission meeting and in other meetings from members of your neighborhood. I do apologize that we were not more proactive in organizing more community involvement with ALL of the neighboring communities during the first design and prior to our last planning commission hearing. Although we did meet with some of the neighborhoods, we should have reached out further and included others that we didn't realize would be impacted by this site. Working together during these recent lines of communication has been very helpful. We have listened, and have done our very best to address all concerns within our new design. We would be grateful for your support, in writing, and addressed to Jennifer Arnold at jarnold@westlinnoregon.gov before this Wednesday (December 13th) so it can be added to the record and presented to the planning commission before they meet on December 20th. Even a quick follow-up to this e-mail, that simply states you support this new design, would be greatly appreciated.

I've attached two exhibits reflecting the new layout and the items that I've mentioned within this e-mail. If you have any further questions, please feel free to contact me at 503-657-0406 or darren@iconconstruction.net. Thank you for all of your time and involvement with this project!

Darren Gusdorf

General Manager - Commercial & Residential Division
ICON Construction & Development, LLC #150499
1980 Willamette Falls Drive, Suite 200 | West Linn, OR 97068
503.657.0406 office | 503.655.5991 fax
darren@iconconstruction.net
www.iconconstruction.net


1
15,435 S.F.
2
10,019 S.F.
3
10,246 S.F.
4
11,023 S.F.
5
12,169 S.F.
6
18,040 S.F.
Landis Street
Alleyway
Cornwall St.
CORNWALL STREET
Fairhaven Dr.
S 62°24'41" E
399.50'
174.7'
176.0'
133.4'
S 27°41'44" W
S 27°34'28" W
400.14'
106.0'
98.8'
134.1'
177.1'
159.2'
78.8'
81.2'
NORTH
Willow Ridge
Site Plan
Scale: 1" = 20'-0"
0 10 20 40
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406



2010-129L

PRELIMINARY STREET AND UTILITY PLAN

DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 30'			
DATE:	July, 2017	11/02/2017	1	APPLICATION
FILE:	Cornwall Street Prelim1	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-9822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET: 1/3

Arnold, Jennifer

From: jjtjester <jjtjester@comcast.net>
Sent: Friday, December 08, 2017 2:19 PM
To: Darren Gusdorf; Arnold, Jennifer; eileenstein@westlinnoregon.gov
Subject: Re: Willow Ridge - Proposed layout/design and how it's different from before...

Darren,
On behalf of BHTNA, I want to express my sincere appreciation for going above and beyond in addressing issues raised by residents and for your exceptional communication accompanying the new development plan for Willow Creek.

Based on the positive tenor, I believe everyone at last night's meeting would agree that ICON listened to the issues expressed during the first planning process and went back to the drawing board attempting to resolve them.

I also appreciate your willingness to stay until 9pm last night.

Happy holiday season to you and your family,

Robert
BHTNA VP

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: Darren Gusdorf <darren@iconconstruction.net>
Date: 12/8/17 12:08 PM (GMT-08:00)
To: Ed Turkisher <castle-wing@comcast.net>, 'Pam Yokubaitis' <pam@yokubaitis.com>, 'Patrick Noe' <art2noe@yahoo.com>, 'Richard Santee' <richardsantee@gmail.com>, 'Pia Snyder' <piasnyder@comcast.net>, 'Jon Gice' <jon_gice@sbcglobal.net>, 'Robert Jester' <jjtjester@comcast.net>, 14.4volts@gmail.com, 'Travis Takano' <travis_wp@yahoo.com>, 'Steve Thornton' <steve.thornton@localfresh.com>, 'Meredith Olmstead' <clubolmstead@comcast.net>
Cc: rickgivens@gmail.com, Mark Handris <handris@aol.com>, "Arnold, Jennifer" <jarnold@westlinnoregon.gov>
Subject: Willow Ridge - Proposed layout/design and how it's different from before...

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darren@iconconstruction.net
www.iconconstruction.net

Arnold, Jennifer

From: Pam Yokubaitis <pam@yokubaitis.com>
Sent: Saturday, December 09, 2017 12:26 PM
To: Darren Gusdorf
Cc: Ed Turkisher; Patrick Noe; Richard Santee; Pia Snyder; Jon Gice; Robert Jester; Scott Laroche; Travis Takano; Meredith Olmstead; rickgivens@gmail.com; Mark Handris; Arnold, Jennifer; Thomas Elin; Steve Thornton; Gary Eppelsheimer; Chelsea Diaz
Subject: Re: Willow Ridge - Proposed layout/design and how it's different from before...
Attachments: THE CITIZENS' PERSPECTIVE (CCI Proposal).pdf; ATT00001.htm

Hello, Darren (and everyone),

Thank you very much for summarizing the changes made between your first set of Willow Ridge plans and the second set more recently submitted. This is very helpful to inform those individuals who had schedule conflicts and couldn't attend your pre-app meeting and/or BHT's NA meeting this week. We really do appreciate you reaching out to us with your correspondence below, as well as having both you and Mark attend our BHTNA meeting on exceptionally short notice because of this expedited process.

We accept your apology for not meeting with BHTNA much earlier in this process. As I explained at the NA meeting to you and Mark this week, the tremendous amount of effort and time that has been invested by Icon in preparing two sets of proposed developments, in addition to the tremendous amount of time and effort spent by numerous residents to write testimony, supply evidence and testify has been nothing but exceptional. BHTNA residents were FORCED to communicate with you in a hearing because the city didn't mandate you meet with BHTNA before any hearings occurred. Additionally, there were problems experienced with BHTNA's leadership receiving notification from the city, and when BHT asked for a meeting with you (through Sunset leadership who already had an Icon contact), Icon demanded we supply a list of our questions within 5 hours to to determine if you would meet with us. So Meredith, Ed and myself went into emergency overdrive to each draft a list of questions, and the next day, our Sunset contact told us Icon chose not to meet with BHTNA. So the door was slammed shut on all communications with our neighborhood residents, with no other way to be heard except to testify.

I must add that I did attend the second of the two Sunset meetings held because Sunset's President invited me, but the sketchy diagram that was presented there wasn't at all helpful, and we were told a retention facility was going to address the water issues, with *no mention of using the creek* as a detention pond. Needless to say, when we finally saw your detailed plans online turning Cornwall Creek (new name approved by City Council) into a detention pond, this major departure again FORCED us to testify about something that was never discussed with the residents. Such changes after meetings with NAs is a significant problem for the citizens of West Linn in general.

As a Past President of BHTNA, and having testified in the past, I fully understood the magnitude that BHTNA now faced to address the numerous concerns of surrounding residents, and the amount of work we now had to do. Because of Sunset School's nightmare to local residents that resulted in flooded basements of surrounding residents and LUBA's ruling not being honored by West Linn's City Council, many Sunset residents are left in deep debt or can't afford remediation and thus have lost their property value….all due to no fault of their own. BHTNA was not going to experience this same nightmare, so we united with Sunset NA to have an even louder voice. Additionally, Dogami pictures of the slope on this property is worrisome for landslide. If this hillside slides, Willow Creek, Hidden Creek Estates, Tanner Woods and Barrington Heights subdivisions all could get wiped out. Since homeowners insurance doesn't cover damage from acts of nature, and we know this

land is very wet with springs under all our homes, we are admittedly hypersensitive to the consequences that Sunset residents have already experienced. Who of many parties are liable if problems arise in any of the surrounding homes? It is therefore imperative that all parties (city staff and commissioners, residents and developer) be fully aware of what we're dealing with and question if building 6 homes at the expense of 60 homes below is worth this risk. If it is worth the risk, all necessary safety measures, optimum construction, special inspections, etc. must be incorporated in your proposed development.

I was angry BHT couldn't have an NA meeting with Icon because you forced us into doing a tremendous amount of work just to communicate. I then emailed Mayor Axelrod about my complaints with the process and provided solutions to improve the planning process. Russ replied by inviting me to attend the CCI (Committee for Citizen Involvement) to share my solutions, so I did. I thought this committee was charged to identify and solve land use problems, so I wrote the document below for the committee to consider the many concerns experienced by West Linn residents. This document was also distributed to all the Neighborhood Association Presidents to generate community discussion directly with their citizens. It was only *after* I submitted this 3 page document that I learned the CCI was created to identify the land use problems, and another *new group of people* would identify the solutions to the problems CCI identified. I am sharing this with you not only because you and Mark are West Linn citizens, but as a developer, your input on this topic is equally as important as it gains more traction. This document serves only as a starting point for discussion on this topic, but it is my hope that CCI's *new group of people* will include developers, citizens and city staff to solve the many issues experienced by each party, and done with a collaborative spirit.

THE CITIZENS' PERSPECTIVE

Prepared for the West Linn CCI Committee;
respectfully submitted by Pam Yokubaitis, MPH, RHIA, FAHIMA

EXECUTIVE SUMMARY

West Linn's land use planning process is currently under review to determine how to improve citizens' involvement in the land use process. Citizens have expressed deep frustration during public meetings which has necessitated the use of airport security screening equipment, and citizens are angered when damage occurs to their property as a result of new development nearby. These two examples demonstrate the necessity to improve citizens' involvement in the land use process. Review of the current planning process has revealed pitfalls, so suggested solutions have been provided herein. The citizens want to:

1) Have Mission Statements written to ensure the city's aims and values remain steadfast for the benefit of all citizens, city staff, city leaders and volunteers.
2) Be included in reviewing the plan drawings (formerly known as blueprints) of proposed developments with both the city and developer present, with all parties collaborating to resolve issues when identified, early in the development process.
3) Make the Neighborhood Association meetings more meaningful by reviewing the developer's plan drawings of a proposed development, instead of discussing concepts
4) Minimize the necessity and burden placed upon citizens to testify at Planning Commission hearings, often to be heard for the first time.
5) Not be required to identify code violations at Planning Commission hearings because city staff is most familiar with the codes.
6) Have city staff advocate for the citizens by putting CITIZENS FIRST always doing what is in the best interests of the city of West Linn and it citizens

PURPOSE AND CONTENT OF THIS DOCUMENT

The purpose of this document is to offer solutions to the CCI committee regarding how to fix identified problems. The Neighborhood Association presidents have also been sent this document for their input because a task has been suggested for their group. The content of this document presents a new approach to the planning process that would work significantly better for the community, from the citizen's perspective.

THE WEST LINN CITIZENS REPRESENTED

Serving on West Linn's CCI committee as an invited citizen by the mayor, this author has served as Past President of BHT Neighborhood Association, testified at least 4 times on land use development issues, is an 18 years West Linn resident, and has administrative experience in identifying solutions to existing problems. The information is a shared perception by numerous West Linn residents, not just the author's perception.

PROBLEMS WITH OUR CURRENT PLANNING PROCESS

West Linn's organization chart rightfully shows the citizens at the top of the chart with city staff below, but frustration mounts when the citizens can't effectively contribute to a process that affects them. Regrettably, tumultuous Planning Commission hearings and City Council meetings have occurred because there is a perception of "us versus them", citizens versus the city and developer. This is understandable because both parties are interested in generating revenue for themselves, but perception is everything. The use of airport security screening equipment to enter meetings is an unfriendly greeting to citizens. When damage occurs to private property by a developer, who advocates for the citizens? When routine turnover of elected positions, city staff, and volunteers occurs, this weakens the continuity of understanding and knowledge of the land use process. Perception can be changed, so solutions follow.

THE CITIZENS' PERSPECTIVE

RECOMMENDED SOLUTIONS

Write Mission Statements: It is necessary to agree on the overarching goals and intentions, or "big picture" so everyone has the same understanding. Writing a Planning Department Mission Statement would be very helpful because it includes: an organization's purpose; scope of its operations; what kind of product/service it provides, its primary customers or market; its geographical region of operation; the department's values and philosophies; and a business's main competitive advantages, or a desired future state (the vision). West Linn's Finance Department and the West Linn Library have mission statements posted online, but there isn't one posted for the Planning Department, nor is there a mission statement for the City of West Linn posted on the home page for the citizens to read. The Planning Department should consider drafting their mission statement, and the West Linn Neighborhood Association Presidents should also be drafting a mission statement for the City of West Linn because they represent their neighbors and have more time to dedicate to this project on behalf of West Linn's City Council. Once written, mission statements are rarely changed, so even with personnel changes over time, these mission statements afford a continuity of understanding for all community members.

Create a Development Team: The planning process of a development should be a collaborative effort; its participants being a developer, city staff, and West Linn citizens. For ease in communication, this group shall henceforth be referred to as the Development Team. Any citizen may participate on the Development Team. The Development Team determines how often, when and where meetings shall be held. If no citizens show up to participate in a meeting, then those present do their business and adjourn. Formal meeting minutes are not taken; a form is completed and posted online which reflects in bullet form: the names of the attendees; topics discussed; actions taken; revision date of plan drawing reviewed; and date of the meeting. A minimum of two meetings for citizen input on a proposed development should be scheduled for the citizens' convenience. Every updated plan drawing requires a new meeting for review.

The roles of each development team group is: the citizens inform and educate city staff and the developer of the neighborhoods issues that need to be addressed; the city advocates for the citizens, ensures code compliance, always keeping what is in the best interests of the community top priority, and the developer is to be accountable for high quality construction, legal compliance, and enhancing our community's livability.

RECOMMENDED PLANNING PROCESS

Knowing what the citizens want (see the Executive Summary on Page 1) requires process changes. Three phases of progression are suggested for consideration. In each of these phases, the Development Team should convene at *least* once to resolve issues and concerns. A timeline for each step below can be designated to keep momentum moving forward.

A. *Planning Phase:* During this phase, several changes to the plan drawings may occur
   1. *Pre- Application*: The developer's submission of the application, checklist compliance and concept documentation starts the Planning Phase process.
   2. *Call for Blue Prints:* When the pre-application material is considered acceptable, the developer will provide plan drawings for the Development Team to review. Each problem and concern identified by the Development Team will be discussed and resolved during Development Team meetings. Determining what testing is needed will also be determined (e.g. traffic study, hydrogeologist, etc.).
   3. *Call for NA Meeting(s):* After the Development Team agrees that the plan drawings are fully understood and issues and concerns are resolved, the date for NA meeting(s) is agreed upon and notices are mailed by the developer
   4. *Summary:* Plan drawings are needed early in the planning phase; without them, the staff and citizens have nothing meaningful to address.

B. *The NA Refinement Phase:* During this phase only one plan drawing revision *may* be necessary.
   1. *NA Meeting Review:* Updated plan drawings are presented and explained by the developer to the citizens. This meeting shall be informational because due diligence has already been given to the plan drawings by the Development Team.
   2. *NA Meeting Feedback:* To ensure the citizens' concerns are addressed by the Development Team, the NA President shall complete an online form that summarizes the issues and concerns needing consideration. The documented information is orally read to the meeting attendees before the close of the meeting to ensure all issues and concerns have been accurately represented. The form is completed, then sent electronically to the planning department after the NA meeting. The Development Team convenes to address the NA(s) feedback and writes a response to each items on the form, before posting it online for all citizens to read the actions taken and explanations given. With the final approval of the plans by the Development Team, the application can now be approved, and Administrative Review Phase begins.
   3. *Summary:* Currently, only conceptual ideas are presented at NA meetings; no official plans are presented. This creates problems for citizens because discussing concepts is not equivalent to discussing the actual plans drawings on the plot of land proposed for development.

C. *The Administrative Review Phase:*
   1. *Testimonies:* The Planning Commissioners quasi-judicial hearing process is a good forum for resolving differences between the citizens, city and developer on unresolved matters of concern. But West Linn's hearings are really the only forum for citizens to express their concerns and issues, because plan drawings are currently released *after* NA meetings have been held. Preparing testimony, providing evidence, identifying unmet criteria, and attending the hearing is too burdensome on our citizens, when oral discussion would be far more effective and efficient. The current process demonstrates Citizens Last. By including citizens as part of the Development Team meetings early in the review process, then having the neighborhood association meetings would reduce both the need for and number of pubic testimonies given.
   2. *Identifying Code Violations:* Developers are required by law to meet building code standards, but expecting the citizens to identify code violations at a hearing is unrealistic because: city staff is very knowledgeable about code criteria; citizens pay taxes for city services, this being one of the services that staff is best at; and citizens do not understand code enough to challenge a developer's attorney about code compliance in a hearing. Therefore it is suggested that this expectation of the citizen be removed.

CONCLUSION

Making these changes is contingent upon acknowledging that the citizens' problems are real, perceived or not. Real change occurs from the top down in an organization, starting with the leadership. West Linn's Mayor Axelrod ran on a platform of Citizens First, which he is thankfully pursuing in this matter.

Since our government has elected officials, city employees and volunteer positions that experience routine personnel turnover, having Mission Statements are very important because they remain steadfast and provide a continuity of purpose through time and during leadership changes. Let it never be forgotten that the Citizens of West Linn come first because the primary role of government is to service its citizens in just and fair manner.

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, Oregon 97045

December 11, 2017

Ms. Jennifer Arnold, Associate Planner
City of West Linn
PO Box 29
West Linn, OR 97068

RE: SUB-17-04 Staff Report

Dear Jennifer:

We have reviewed the staff report for Willow Ridge and would like to enter the following comments regarding proposed Condition 7 into the record:

- As you know, there has been much concern by the neighborhood regarding wanting to avoid cut-through traffic from Landis Street to Cornwall Street due to the poor condition of Cornwall Street. This is the reason why the Tentative Plan shows an emergency vehicle gate at the point of connection of the 12' paved drive with Cornwall Street. It is our understanding that Public Works has taken the position that CDC 48.030I precludes having a gate on a public alley. We disagree with this interpretation as that section specifically prohibits "gated accessways" to residential subdivisions. An alley is not an accessway in the context of this section. Access to the subdivision is provided via Landis Street, not the alley.

- Should the Planning Commission determine that the Public Works interpretation of CDC 48.030I is correct, in order to continue with our objective of satisfying neighborhood concerns about cut-through traffic from Landis to Cornwall Street, our response would be to revise Condition 7 as follows:

  7. The driveway from Landis Street to Cornwall Street shall be placed in a 25'-wide easement identified on the final plat for emergency vehicle and pedestrian access, as well as driveway access for Lot 6. An emergency vehicle gate shall be provided at the point of connection of the drive with Cornwall Street. The proposed property line between Lots 5 and lot 6 shall be extended to the north boundary line of the subdivision. Access to Lots 5 and 6 shall be from Landis Street. Lot 6 shall be accessed from Landis Street via the access easement. Lot 5 may have its own driveway onto Landis Street or may make use of the easement driveway.

- As a point of clarification, the staff version of Condition 7 incorrectly notes that there is a 25 foot strip north of the alley. The 25' dimension shown on the Tentative Plan is for the full width of what is identified as an alleyway, including the paved driveway. We apologize that the drawing is unclear with respect to the dimension.

Thank you for your assistance in this matter. Please let me know if you need anything further.

Sincerely yours,

Rick Givens

Rick Givens

Cc: Mark Handris, Mike Robinson

phone: 503-479-0097 | fax: 503-479-0097 | e-mail: rickgivens@gmail.com

My name is Christine Henry and I live at 3795 Fairhaven Drive in West Linn. I am adding more information to my first testimony, on a topic that I touched on but didn't respond to as thoroughly as I would have liked. Today I am focusing on the many reasons why the Unnamed creek next to my house should not be used as a detention pond, which all my neighbors on Fairhaven Drive in Hidden Creek Estates subdivision agree with, along with Barrington Heights neighbors.

OBJECTIONS TO A DETENTION POND IN THE UNNAMED CREEK TESTIMONY

1. **The developer needs to manage their water problems on their own property**, not in someone else's existing subdivision. This is like dumping your trash in another person's yard.

2. The proposed **detention pond needs to be out of the line of sight because they are not attractive.** They are an eyesore, so they should customarily be hidden because they detract from the beauty of our community.

3. Using the Unnamed Creek for **a detention pond would kill the trees and vegetation from being smothered with unhealthy, stagnant water.**

4. **This creek feeds into Tanner Woods known wetlands**, so it doesn't make sense to dam up this creek with crystal clear running water, and turn it into a stagnant, discolored pond.

5. Most detention ponds have an **eyesore chain link fence around the pond,** like Sunset school. A fence alone is an eyesore, and such a large, unsightly and noticeable fence would ruin the esthetics of this beautiful creek.

6. Stagnant water in a **detention pond can attract croaking frogs, mosquitos, heavy metals, and discolored, smelly water.** Having such undesirable water right next to a home, and the creek bridge where pedestrians walk pets, is a very bad idea. Passersby don't want to smell, hear or focus on a discolored body of water when strolling through our suburban neighborhood.

7. **Detention ponds devalue property because no one wants to look at an eyesore.** The best properties have lovely views, so taking a charming asset and turning it into an eyesore negatively impacts the entire neighborhood, and the West Linn community. Three realtors verified this, as evidence submitted with my first testimony.

8. The 2 creeks on both sides of Hidden Creek Estates (HCE) subdivision are our **most charming assets** because 11 out of 30 HCE homes are on the 2 creeks, which both lead to known wetlands in Tanner Woods subdivision below ours. These crystal clear creeks are a big attraction for living in our subdivision.

9. This **creek serves as a lovely entrance** into Barrington Heights and Hidden Creek Estates subdivisions. It gives both subdivisions a charming transition, unlike other neighborhoods where just a monument sign is the landmark.

These are many compelling reasons why the idea of turning this year round running creek into a detention pond is a horrible plan. Nothing good would come from destroying this beautiful asset in West Linn, which currently is a selling point for moving into the Barrington Heights Neighborhood Association. Photos below show the beauty of this creek and the amount of vegetation and trees that are *so worthy* of protecting. The truth is this detention pond needs to be placed where it is out of sight and out of mind so the least number of people have to look at it. Thus, the developer needs to address this issue on his own land where he can access his detention pond, rain gardens and his sewer from his own property.

Creek is on the right side at the bend as you enter Hidden Creek Estates.

My home with the Unnamed creek on the right side

Note the perimeter size of the proposed detention pond, from right next to the sidewalk at the creek bridge to almost half way to the back of the creek.

The creek from the middle of Fairhaven Drive, facing North East

The front half of the creek, facing the bridge on Fairhaven Drive

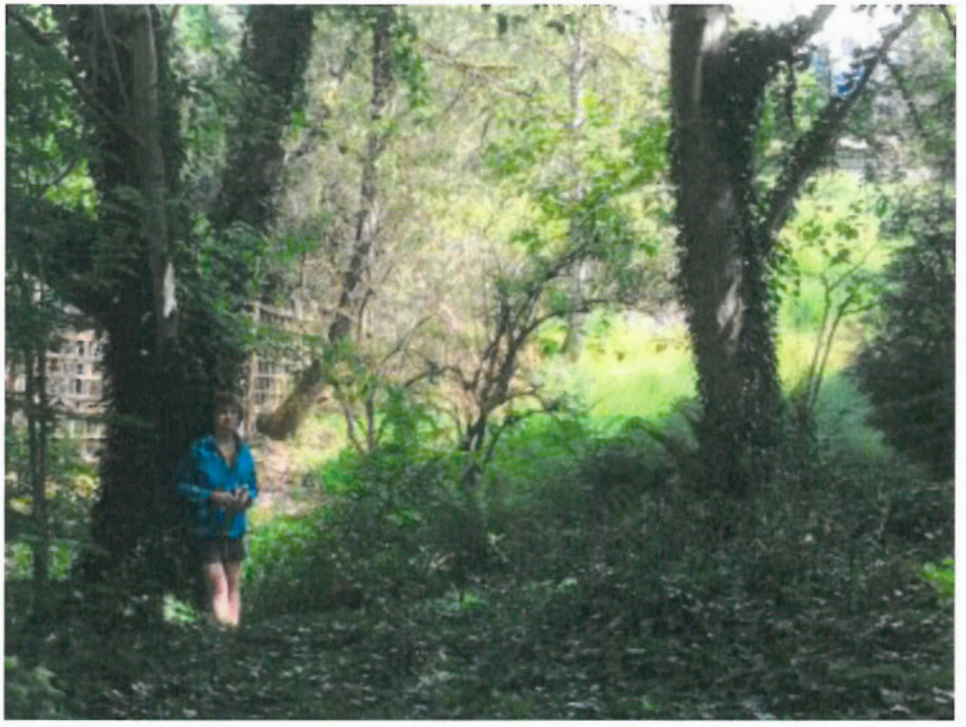
The middle of the creek, facing West towards my house.

The back of the Unnamed Creek, facing North West toward 4096 Cornwall.

Pia is measuring 7' between my fence and the midpoint of the creek; where the tape measure is indicates how far back the pond would be.

Pia is measuring 24' across, whereas 42' across is planned for the width of the pond. All ground vegetation and most if not all trees roots, would die from sitting in stagnant water perpetually.

These are just a few of the large trees on this property that would die in standing water. Look at the amount of trees and vegetation in photos 4-7 that would drown if this creek became a pond.



The detention pond below is on the corner of Bland and Salamo. Note the multi-color dead looking appearance. This is an eyesore, nothing can grow in this space, and it smelled terrible when this photo was taken.

Testimony to the Planning Commission

Resident Christine Henry 3795 Fairhaven Drive, West Linn, OR 97068

Water is a huge issue on my property. When I purchased this house almost three years ago, I learned upon inspection that there was standing water in the crawl space. This was mitigated at the time and haven't had issues in that part of the home since. My yard is very muddy throughout the rainy season, even with a substantial drainage system installed.

Diverting the water coming from the proposed sub division that is not even behind my house and putting it into a holding pond/eyesore in a neighboring subdivision isn't appropriate. Managing the water flow from the new development should be managed through infrastructure and water management that takes place on the developer's property. A detention pond is an eyesore, it can be smelly, attract mosquitos and ponding water will kill many of the trees in this beautiful creek because they can't thrive in standing water. This is a 365 days a year running creek. To dam it up as a holding pond would be tragic and destroy the natural beauty that draws people to purchase property In Hidden Creek Estates. Our 2 creeks bring charm to this subdivision with 11 properties out of 30 homes in our subdivision located on the creeks. The creeks beauty, rolling water, sounds, trees and colors will all be destroyed if this asset to our community is dammed up, including the value of my property. As you can see from the photos attached, my side fence is in close proximity to this Unnamed creek.

When walking through the neighborhood you see quite a few holding ponds, but they are generally not right on the street but behind homes. The holding ponds I have seen are an eyesore, and don't contribute to the aesthetic beauty of the neighborhood. Currently the stream and open space next to my home is beautiful and definitely weighed into my decision to buy this house. The impacts of putting in a holding pond in the middle of a running creek that leads to wetlands in Tanner Woods subdivision doesn't make any sense.

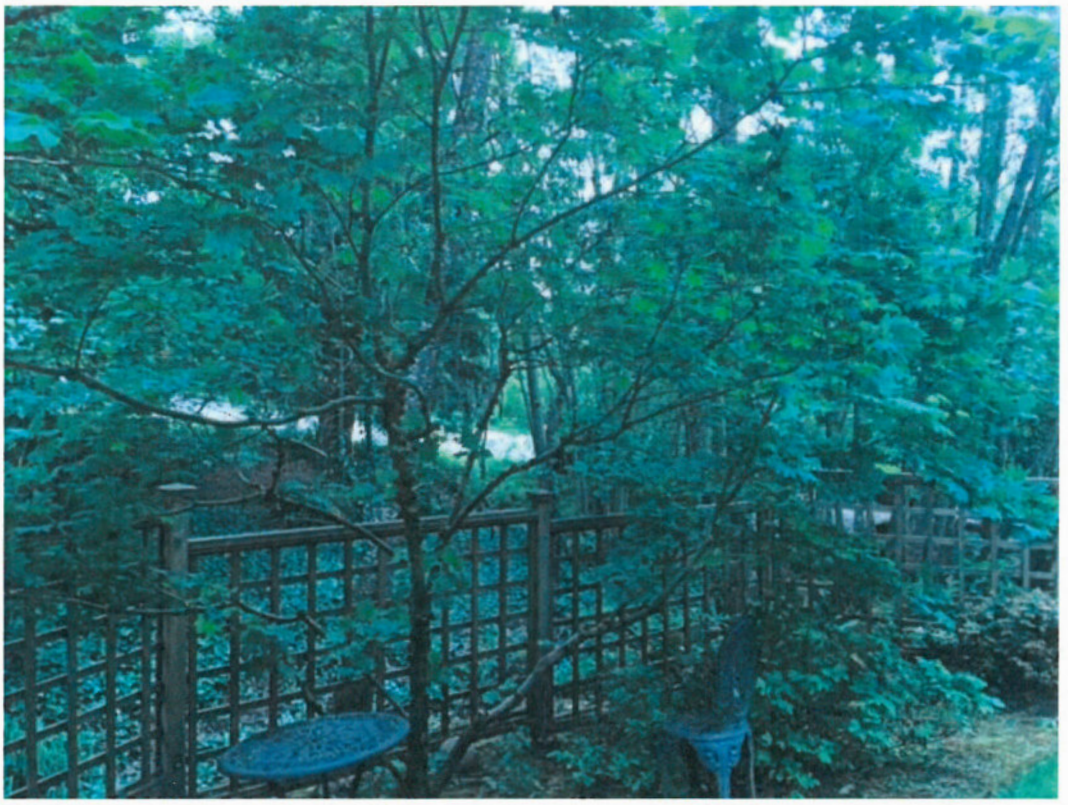
The stream is currently no more than 40 feet from my front porch. My daughter and her friends play in this area and the stream is very close to my front yard and back yard fence. I also received e-mails (attached) from three different West Linn real estate agents stating that putting a detention pond right next to my home will diminish the value of my home and the surrounding homes. They know that no one wants property with a detention pond on it unless it can be camouflaged, there would be no way to mitigate the impact of a detention pond where it is currently proposed. You would be eliminating a creek and open area that are currently community assets!

I don't have any issues with the property behind my home being developed. The people who own the property have every right to develop it, as long as the property can be safely developed and the development doesn't have any negative impact on the existing homes or their property values. We need this land to be validated as safe to build on because this steep, very wet land raises more questions of concern to area residents than flat land does. Too many homes are beneath this proposed development, so these major issues can't be casually ignored with so many homes that could be negatively affected. Only a professional who does water and soil analysis can determine how the surrounding subdivisions will be spared water or foundation damages so that this development is properly engineered for both the short and long term. This is a complex issue that requires a thorough investigation because jeopardizing 3 subdivisions for the sake of 6 new homes doesn't make sense. If a holding pond is necessary, it needs to be on the developer's property, camouflaged as best as possible

to make an eyesore unnoticeable. While 6 new residents are a benefit to the neighborhood, those living here have priority right to be protected.

Above: Unnamed Creek in Hidden Creek Estates Subdivision where a detention pond is proposed; located next to a home at 3795 Fairhaven Dr.

Below: Unnamed Creek in Hidden Creek Estates Subdivision. Shows proximity of creek to adjacent home's property at 3795 Fairhaven Dr.



Unnamed Creek in Hidden Creek Estates Subdivision. Shows view from backyard toward proposed detention pond adjacent home's property at 3795 Fairhaven Dr.

Unnamed Creek in Hidden Creek Estates Subdivision. Shows view from front yard toward the bridge, proposed detention pond would be in this area adjacent to home's property at 3795 Fairhaven Dr.

Unnamed Creek in Hidden Creek Estates Subdivision. Shows proximity of creek to adjacent home's property at 3795 Fairhaven Dr. from the bridge on Fairhaven Dr.

Unnamed Creek in Hidden Creek Estates Subdivision. Shows open space, street, and proximity of creek to adjacent home's property at 3795 Fairhaven Dr.

Unnamed Creek in Hidden Creek Estates Subdivision. View from street shows open space and proposed detention pond site proximity of creek to adjacent home's property at 3795 Fairhaven Dr.

Gmail Rebel Steirer <rebel4realestate@gmail.com>

Fwd: Fairhaven Drive Water Shed Collection

1 message

Rebel Steirer <rebel4realestate@gmail.com> Tue, May 16, 2017 at 12:30 PM
To: Rebel Steirer <rebel4realestate@gmail.com>

Dear Icon Development and City of West Linn,

I feel that placing a watershed collection pond adjacent to the street and the front of any property on Fairhaven drive will negatively impact the market value of those homes and the neighborhood.

The home at 3795 Fairhaven Drive is adjacent to the Hidden Creek Estates neighborhood Entry. It is currently a pleasing entry, with a view of trees and the creek as you cross the bridge to enter.

Adding a retention pond with a chain link fence to this area would be unsightly and will dimish the value of the homes nearby.

I've viewed many of the rentention ponds in the area and the developers have been very considerate of placing these behind properties.

–
REBEL STEIRER
M REALTY / LICENSED OREGON BROKER
17040 PILKINGTON RD. #200
LAKE OSWEGO, OR 97035

Gmail

Rebel Steirer <rebelsteirer@gmail.com>

Proposed Retaining Pond

1 message

Marty Wells <martywells@kw.com>
To: rebelsteirer@gmail.com

Tue, May 16, 2017 at 11:02 AM

Hi Rebel,

I just learned that there is a proposed retaining pond at the entrance to your neighborhood, adjacent to the home by the bridge. Why can't the developer build the pond further back, away from the street like the three retaining ponds on the path between Summit and Beacon Hill? These ponds are usually unsightly since the city rarely maintains them, the black chain link fence creates an eyesore (and I'm sure would not be allowed by the HOA in the front of a dwelling) and in my view, will have a negative effect on the values of the homes adjacent to the pond.

What do you think?

Marty Wells

Principal Broker

Licensed in Oregon

Water Shed Run Off Fairhaven Drive

1 message

Kerri Miller <millerks@windermere.com>
To: Rebel Steirer <rebel4realestate@gmail.com>

Tue, May 16, 2017 at 11:24 AM

Hi,

I feel that any ground water retention pond off that is visible from Fairhaven Drive will diminish the value of the properties in that area.

The placement should be thoughtful of the surrounding property values.

Kerri Miller

Windermere Stellar

503-705-8386

220 A Avenue, Suite 200

Lake Oswego, OR 97034

Edward A. Turkisher, 4099 Cornwall Street, West Linn 6/7/2017

Testimony regarding the proposed six home development at 4096 Cornwall Street being planned by ICON Development and Construction.

A very short history: This proposed development has been officially recognized by the City of West Linn for approximately a year and a half...at least since the fall of 2015.

In that time, the plan has undergone a number of significant modifications and changes that reflect not only engineering and feasibility issues, but the dissemination of incomplete or even misinformation that impact this proposal. To date, most of the issues have yet to be resolved and it is with the formidable participation and objections raised by the residents of this greater area that we find ourselves at the impasse we have arrived at today.

These issues include a never conducted "wetland" assessment, the falling of nearly two dozen "heritage oaks" supposedly protected by city code, the construction of a "detention pond" on the unnamed creek, significant grading and filling of steep terrain exceeding 30% on much of the property for home foundation and road construction, the connection of Landis Street and Cornwall Street, and the impact of traffic changes on Cornwall Street and the surrounding neighborhoods. I intend to focus primarily on one small part of this entire equation (if this plan somehow gets approved) and that is the inattention to the intersection of Sunset Avenue and Cornwall Streets directly above the planned development at the top of Cornwall Street.

Sunset and Cornwall intersection

Why are we at this impasse at all? Why have many of the residents of these neighborhoods spent many many hours and months questioning the development of this land in the first place? Attaching blame may not bring satisfactory results for questions being asked, but perhaps investigating this process will avoid similar development issues in the future.

There are two major contributors to this discord and both share culpability for what amounts to a poorly conceptualized development. By far however, The City of West Linn is directly responsible for a plan that ignores much of city code, ignores county mandates, and ignores state regulation on different aspects of this multi-faceted development. Trying to muscle through an increase in city revenue by cutting corners, glossing over code parameters, excluding public participation and disregarding the long time residents; especially those on Cornwall Street, has created a clamor that the city could simply not ignore...try as they may. This seems to have been the modus-operandi of City planners for the last twenty years or so. (May I remind you of the recent Sunset School issues, the pipeline through Wilderness Park, the Salamo "vineyard", high school remodel cost overruns, diversion of voted funds from baseball field to football field, and even blatant theft of thousands of City dollars by unscrupulous employees)

By ignoring oversight intended to avoid such issues, the City has created a climate for developers to get "as much as they can for as little as they can" before the bubble bursts and accountability forces more responsible and feasible development. In that respect, it is no wonder that ICON Development has attempted to take advantage of a lax system that encourages misinformation and loopholes at the expense of residents. Had the City not exercised the policy of "don't ask don't tell" then ICON would not be in the position they are in today.

That being said, ICON is certainly not innocent in providing an incomplete and inaccurate analysis of a development that is full of holes. It has been the assumption of ICON, with the blessing of the City, that those holes can be "filled in later" as they kick the can down the street – Cornwall Street in this instance.

The City of West Linn continually defends decisions as part of the "MASTER PLAN"....which curiously enough has never been seen. When was it written? Who wrote it? Designating an area for future development without input from the local residents is wrong. Designating an area for development that exceeds a slope of 35% is wrong. Designating an area for development that is rife with springs without hydro geologic analysis is wrong. Drawing a plat on a flat piece of paper with no contours or site analysis is wrong. Designating an area for development without a traffic study is wrong. And assuming that aging residents will die and forfeit their properties to future development is unequivocally and disgustingly wrong! At NO time were any of the impacted residents of this area asked or informed of the City policy to designate their homes as UNDERDEVELOPED. Underdeveloped according to whom?

Should this plan be accepted and a connection is made between Landis and Cornwall, what will be the impact of traffic on the intersection of Cornwall and Sunset?

Currently, this intersection is a remedial 4-way stop with traffic driving up Sunset allowed to make a right turn onto Cornwall towards the Little Store away from the development at the bottom of Cornwall. There are no sidewalks on any of the 4 intersecting streets. School Bus stops are on both corners of Cornwall Street east of Sunset. The pavement on lower Cornwall has failed. A large patch has been recently placed at the corner of the intersection on upper Cornwall. Upper Sunset was completely refurbished last year from the corner past Reed Street – an area of 8 to 10 homes. The pavement was dug up, refilled with new substrate, regraded and repaved. Why not Cornwall?

With an increase of approximately 500 auto trips a day (ICON's own traffic figures) on a street that sees about 20 auto trips a day a present, how is that minimal intersection going to accommodate the 1000% increase in traffic with NO sidewalks, NO school bus sheds, NO turn lanes, and NO way to avoid congestion to both vehicles and pedestrians. At present, everyone walks right down the middle of Cornwall Street because that is the only place to walk. All the neighbors respect our quiet street and we all observe a speed of about ten to fifteen miles an hour. We don't have auto accidents, speeding, bicycle collisions or other close encounters that an uncontrolled substandard intersection and street are certainly going to create. The same may be said for the residents of Landis Street as well (though at least they have sidewalks).

It may sound reactionary, and it may be too late, but the most equitable solution to this ill conceived development would be for the City of West Linn to admit that our foolhardy "Master Plan" needs a fresh look and serious modification. The City should refund the considerable capital ICON has invested and buy the property for future City use NEVER to be developed in such a haphazard manner until ALL the affected residents can be included in any new proposals – not that the properties, and indeed all of Cornwall, might be developed in the future.... But not like this, and not now.

Sincerely, Ed Turkisher, 4099 Cornwall. "The WatchDog of Cornwall"

ICON - CORNWALL Development

HISTORY :

The 2.17 acre plot located at the dead end of the south end of Cornwall Street in West Linn was purchased by ICON Construction (started and owned by Mark Handris of Handris Realty) sometime in 2015. The property has one single two story home that has been connected to the West Linn sewer system shortly after purchase by ICON as the existing septic system had failed beyond repair.

On November 24th, 2015 ICON submitted a pre-application proposal for a 7 lot development at the Cornwall site.

On April 26th, 2016 an informational meeting was held by the ICON consultant Rick Givens at Sunset Elementary Library regarding the Cornwall site. More than 50 residents attended this meeting and almost all of the questions being asked at present were put forth at this same meeting. Motioning for a vote on the feasibility of approving the development as presented, 50 out of 51 residents present rejected the proposed plan and asked for answers to the many questions and concerns.

On January 24th, 2017 another informational meeting was held by ICON at the Sunset Elementary Library regarding a new plan for the Cornwall site. No materials were distributed regarding the new plan but a presentation was held and basically the same questions asked in April 2016 were reiterated again by concerned residents.

On February 21st, 2017 ICON submitted a new proposal for development of the Cornwall site which modified the original plan. Basically, the new plan adjusted the plan from 7 lots to 6 lots and realigned the road connection between Landis Street and Cornwall Street.

To date, ***NONE*** OF THE MANY QUESTIONS ASKED BY RESIDENTS IMPACTED BY THE PROPOSED DEVELOPMENT HAVE BEEN ADDRESSED OR ANSWERED BY EITHER ICON Development ***OR*** THE CITY OF WEST LINN.

THE QUESTIONS: these questions are intended for both ICON ***and*** the CITY of West Linn as considerable overlap occurs deciding who has responsibility and accountability for meeting code or feasibility.

WATER; many many residents are concerned about the considerable presence of water on the site. The area is rife with UNDERGROUND springs as well as surface water and drainage to the two nearby creeks.

Is it possible that the site may be considered a designated "Wet Land"?

How will a Wet Land designation affect development?

Why has no qualified Hydro-Geologist or Hydrologist ever visited the site?

In fact, why has ***NO*** city representative ever visited the site? (ICON hired an engineering firm to visit the site and that firm produced a lengthy document germane to the site but made no reference to possible Wet Land designation)

Why have the presence of numerous underground springs been ignored in every proposal?

Why has ICON's engineering report identified the creek east of the site as seasonal when in fact it is a YEAR ROUND tributary of Tanner Creek and is NEVER dry?

How will the bulldozing of land for a road and the removal of some 25 significant trees going to affect runoff and the underground springs? (see page 91 of the current ICON proposal) Icon identifies 25% of the site as in excess of a 25 degree slope and 12 ½ % of the site in excess of 35% slope – some even 40%! 4 of the six homes are right in the middle of the 35% slopes and the proposed road also crosses to 35% slope. (reference page 91 of the ICON plan)

How is the proposed catchment basin proposed on the YEAR ROUND creek east of the site going to connect to the site?

What might be the result of either a substantial increase or decrease of water flow to the numerous homes downhill from the site along Fairhaven and into Barrington Heights neighborhoods?

FLORA and FAUNA:

What is going to be the effect of removing some 25 significant trees from the site? (see water question above and reference page 91 of the ICON report)

Turtles have been found on the site. How are these protected species going to be impacted by this development?

What is being done to address erosion on the site? The City Master Plan suggests that disturbed soils (bulldozing and land fill) and removal of trees and brush increase the potential for soil erosion by more than 1,000%! (see City of West Linn Master Plan erosion control)

TRAFFIC:

Why has every question regarding a possible cul-de-sac on Cornwall been ignored? It is legal and has many benefits for a development.

How is the bulldozing and modification of the steep slope for a through road to Landis going to affect the issues of water, possible land movement (see Map 11 Potential Landslides PDF) and new home foundations? Icon identifies 25% of the site as in excess of a 25 degree slope and 12 ½ % of the site in excess of 35% slope – some even 40%! 4 of the six homes are right in the middle of the 35% slopes and the proposed road also crosses to 35% slope. (reference page 91 of the ICON plan)

Why is the following being ignored? A through route connection between Landis and Cornwall has many unanswered conflicts. If permitted, the through route opens Cornwall Street as an arterial that cannot handle the increased traffic. ICON identifies the increased traffic of the 6 proposed new homes using Cornwall Street, but disregards the existing homes which would now have more direct access to I205 Northbound and Oregon City. These homes include Landis Street (20 homes), Willow Street (6 homes), existing Cornwall Street (9 homes), upper Beacon Hill (18 homes), Sabo Lane (32 homes) and other nearby residences which account for nearly one hundred homes that would now have shorter access to their destinations via Cornwall and Sunset . More residences would undoubtedly make use of the new connection as well. If we use ICON's estimate of 5 trips per day per household to various destinations, the approximate increase of traffic would go from about 30 or so car trips on the street today, to **500** additional trips on Cornwall – an increase of over a thousand percent?

New roads are required to be a minimum of 24' wide with two sidewalks 6' wide on either side. Why is this new road being connected to an obsolete Cornwall Street that is less than 18' wide with NO sidewalks?

Cornwall is rated with a PCI of 8 (Pavement Condition Index- Pavement Management Report for 2015). The average PCI in West Linn is 69. The report rates Cornwall with a "remaining life" estimate of ZERO! Why is this road condition being ignored? An overlay is being planned on Cornwall to widen the street to 20' – still woefully short of standard code.

Where is the formidable increase in pedestrian traffic going to walk with NO planned sidewalks?

What safety concerns are going to be proposed for our children with no sidewalks and no bus stops?

How is traffic going to enter Sunset Street at the uncontrolled intersection of Cornwall and Sunset with NO plans for improvement? (and Sunset is a substandard street as well)

Cornwall is going to be dug up to increase potable water infrastructure with a new "looped" water supply of greater diameter to feed the new homes. Six existing homes on Cornwall Street are still on septic systems. There is NO sewer line on Cornwall. If the street is going to be dug up to install new potable water service, why isn't a new sewer line being put in place at the same time? It is only too obvious that it would be much much less expensive to do the upgrade NOW than to wait and dig up the street at least three times again and again to try and save what?

Why isn't upgrading Cornwall Street being considered?

BUILDABLE LAND:

Why has the City ignored the existing residents on Cornwall Street and identified their homes as open for development when we all live here? (see Residential Buildable Lands chart PDF). In some cases the buildable lands chart completely ignores the existing homes on some of these lots or conveniently moves them out of the way on paper.

Other Questions:

Why does the city repeatedly ignore requests for information regarding this development? Too often I have gone up to city hall and requested information only to be told a file doesn't exist when in fact I can show them it does. This "lack of information" dates back to early 2016 when I was told no file existed regarding the plan even though the first proposal was marked "received": on 11/24/2015?

Why, when I went to City Hall on March 1st of this year, if the new plan was submitted on 2/21/17, was I told City Hall had not received it? I would not leave until City Hall located the plan even though it was posted on the city website.

Why did Jennifer Arnold (associate planner)sign the plan submitted on 2/21/17 when she never even saw it before March 1st when she was formally put in charge of reviewing the plan (which I was told didn't exist).

ICON submitted the new plan with charts from the old 7 lot plan (see page 77 of the ICON plan). I'm sure this must have been an oversight. Is this just another example of the city and developer not reading their own paperwork?

CONCLUSION:

Finally, there are many glaring examples of under-performance, stonewalling, denial, and misinformation regarding this proposed development. It is completely reasonable to expect answers to our many questions before accepting development that effects us ALL and we respectfully ask that ICON and the City of West Linn (and future developers) step up and accept responsibility for managing new projects in a transparent, inclusive, and responsible manner. Development is inevitable. We all accept that. But development needs to be done in the best interests of the greater public – not an arbitrary privileged few who have more interest in tax base or profits than the citizens at large.

My name is Jon Gice and I live at 2030 Tanner Creek Lane. I appreciate the opportunity to voice my concerns about the Cornwall/Landis Street development. My concerns are twofold:

1. Tanner Creek runs through my property and I can assure you that the creek is filled to capacity as well as the detention pond across the street. I have spoken with our neighbors who are very concerned about the quantity and quality of water that flows via Tanner Creek. People have lost trees, had to self-fund retaining walls and find their yard unusable due to the flow of water during the rainy season. Because water always seeks the lowest point, Tanner Woods will be the recipient of more water than we have now which raises increased flooding concerns that will result from the complete disruption of the natural absorption of the land on the site.

2. The development site appears to have many of the 13 conditions that designate a wetland. I have been in contact with the State of Oregon Wetlands and Waterways Division. They make it

clear that local governments are responsible to inventory wetlands. There is no record at the state that this has ever been done on this site. The developer submitted a report that ruled out 3 of the 13 conditions. I shared this report with the State as it is public record. Their reply, which I have in writing, upon reading the report was "... **you are right to suggest that the attached memo isn't a wetland delineation report. Delineation reports require considerably more background material and sampling point data."**

We have photos to prove that the vegetation meets wetlands criteria the state provided. We ask that the City of West Linn engage an impartial qualified hydrogeological expert to conduct the thorough sampling necessary determine if the development site is a wetland and to formally determine the impact on Tanner Creek. West Linn must properly evaluate this property to protect its existing citizens' safety, security and property values affected by this proposed development.
Thank you very much for your time and anticipated agreement.

If you are asking about the background for a wetland consultant, that can be all over the board (including soil scientists, botanists, biologists, hydrologists, etc.).

If you are looking for someone to determine how water is moving down that hillside, a hydrogeologist may be a better choice. They tend to focus more on the movement of groundwater as opposed to surface water.

Peter Ryan, PWS
Jurisdiction Coordinator - Metro Region
Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday
Work Days: Monday-Thursday | Out of Office: Fridays

Arnold, Jennifer

From: Dan & Jacque Eaton <djeaton4849@comcast.net>
Sent: Tuesday, December 12, 2017 9:16 PM
To: Arnold, Jennifer
Subject: File NO. SUB-17-04

Greetings Jennifer;

With respect to the subject file (6-lot subdivision off Cornwall street), I object to the design of the traffic flow.

With respect to traffic patterns, the issue is still, six more lots, six more houses, maybe 12-24 more cars per day going around the existing blind curve on Landis Street (just after the intersection of Landis and Stone Gate Lane), six more houses trying to get out of Landis Street in case of an extraordinary event like a fire, earthquake etc. Landis Street already has 20 houses on it and only one way out. Not sure we need to increase the flow by 30%. If the project is going to be developed one needs an alternative route out of Landis street and not thought an alley connecting Cornwall to Landis Street.

The staff report states that, "The property was posted with a notice sign on November 29, 2017. The notice requirements of ORS 197.365 have been met." There is no posting at the end of Landis Street. One would think that would be a requirement since six more houses are going to be running down that road.

Please submit this e-mail to planning commission for insight on their December 20th meeting.

Sincerely,

Dan Eaton

BHTNA

December 12, 2017

Jennifer Arnold, Planning Department
City of West Linn, OR
Jarnold@westlinnoregon.gov

Re: ICON Development: Cornwall Street

Good Afternoon;
I write as President of BHTNA in response to the expedited application for development by ICON at the Cornwall site.

We applaud ICON's efforts to address concerns expressed by residents in BHTNA and Sunset NA's about the previously proposed subdivision. The revised plan shows considerable effort expended in addressing those concerns.

The largest remaining issue is that of the soil hydrology. While this plan states that no water runoff will feed into Tanner Creek, and also addresses water runoff along the upper side of Fairhaven Drive via rain gardens, residents still have ongoing fears that construction caused displacement of earth and vegetation on the hillside WILL negatively impact their homes and properties.

The only way to definitively determine the potential impact of construction on this hillside is with a qualified, independent hydrologist's evaluation. This must be done prior to approval of ANY home site on this plan. We ask that the City word any approval for this plan to include such requirements.

It is not unusual for a City or County to require individual geotech inspections prior to construction permits approvals. In this case, we implore you protect our residents' properties by including a required hydrogeologist's inspection as well for each lot prior to the inception of construction.

Adjoining residents, such as those along Fairhaven Drive, must have forewarning of potential impact on their homes. A hydrologist can determine, for example, whether the proposed construction could trigger landslides or a flooding of damaging water to those homes. The homeowners could, then, be prepared to obtain appropriate homeowners insurance to protect their investments against such occurrences.

We, at BHTNA, strongly urge the City to require the proper vetting of this property prior to granting building permits on ANY lot contained in this subdivision.

Sincerely,
Meredith Olmsted, President,
BHTNA
tronagirl@me.com
503.724.6259

Cc: Robert Jester, Larry Meese, Amy Reece, Pam Yokobaitis, Patrick Noe

I'm Steve Thornton and I live on Landis Street, in the Tanner Stonegate HOA. I am concerned about traffic safety should the proposed Willow Ridge development be approved. The city and developer have stated that no additional traffic will result because only 6 homes are being built. However, it is illogical to think that connecting Landis and Cornwall streets will not have an impact on traffic; it will increase without any doubt.

I have measured the width of Cornwall Street where it will connect with the extension to Landis Street. In most places it is only 15 feet wide and in one area where blackberry has taken over one side it is only 12 feet wide. There are no sidewalks on either side. In general, Cornwall is a one-one way street and I have heard of no plan to widen or improve the street.

Further, where Landis intersects with Stonegate Lane, the corner is blind. Even with Landis being a dead end street now it is unsafe. Once you turn onto Landis there is another blind corner.

I would respectively ask the city to propose how these traffic safety issues will be mitigated before approving the Willow Ridge development. Thank you.

My name is Pia Snyder and I live at 3817 Fairhaven Drive, on the East side of the unnamed creek. I am elaborating on my first testimony by providing additional information in four areas about the land proposed for development:

1) Where are wetlands found? (note the red information)
2) How to identify wetlands & how this land meets wetlands criteria showing photographic evidence; (our responses are noted in red)
3) Photos of 4096 Cornwall, the slope and the number of oak trees
4) Water concerns on this property
5) Summary

I. WHERE ARE WETLANDS FOUND?

https://www.oregon.gov/DSL/WW/Documents/DSL_wetlands_fact_march_2015_web.pdf (Page 2)

Wetlands are typically, but not exclusively, found in depressions or in the lowest part of the landscape. Expect to find wetlands in:

- Abandoned stream channels along river systems
- Valleys or other low areas with a high water table in winter and early spring
- Flat valleys or depressions where impervious soil layers create a "perched" water table
- Low areas on slopes where ground water emerges as springs or seeps
- Mountain meadows watered by gradual snow melt

What characteristics do wetlands share? (Same website source as above, on page 2)

Although there are many types of wetlands in Oregon, they share three essential characteristics: an abundance of water, hydric (wetland) soils, and plants that grow in wetland conditions. Prolonged saturation is what creates a wetland, no matter the source. A high water table, rain water "perched" over impenetrable layers in the soil, and frequent ooding are common examples. Wetland – or hydric – soils have distinctive, visible characteristics, such as brownish-red veining and rusty-colored splotches. Saturated conditions support plants that have adapted to life in permanently or seasonally wet soils.

Some plant species are better indicators of wetlands than others. The US Army Corps of Engineers has compiled a list of thousands of plants that grow in wetlands, and assigned an "indicator status" to each plant based on the frequency with which they occur in wetlands. Skunk cabbage, for example, only occurs in wetlands. Other plants occur in wetlands sometimes, and still others occur in wetlands and in other soil types. Therefore, plants may or may not be a good indicator of the presence of wetlands. Wetland scientists use the plant indicator status to help determine if a site is a wetland.

Low area on slope where ground water emerges as springs or seeps; prolonged saturation is what creates a wetland, no matter the source.

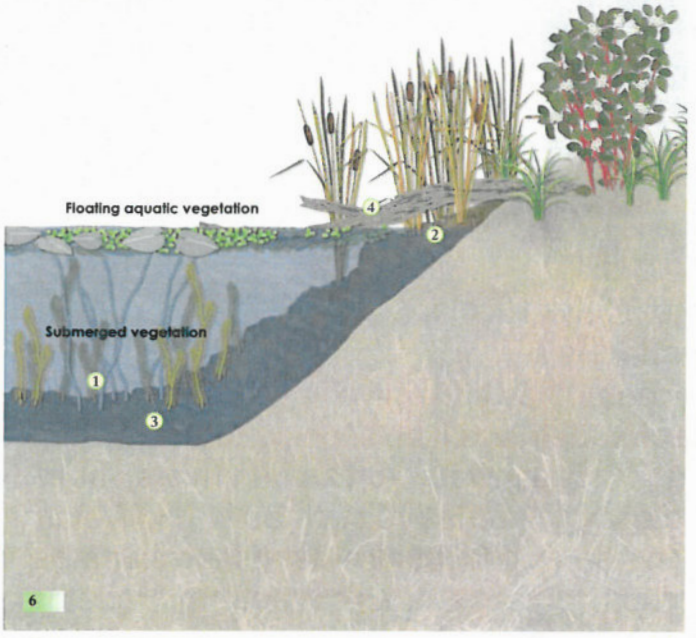
Saturated conditions support plants that have adapted to life in permanently or seasonally wet soils.

Skunk Cabbage, which occurs only in wetlands, was found by the Unnamed creek in a back yard uphill from the proposed development.

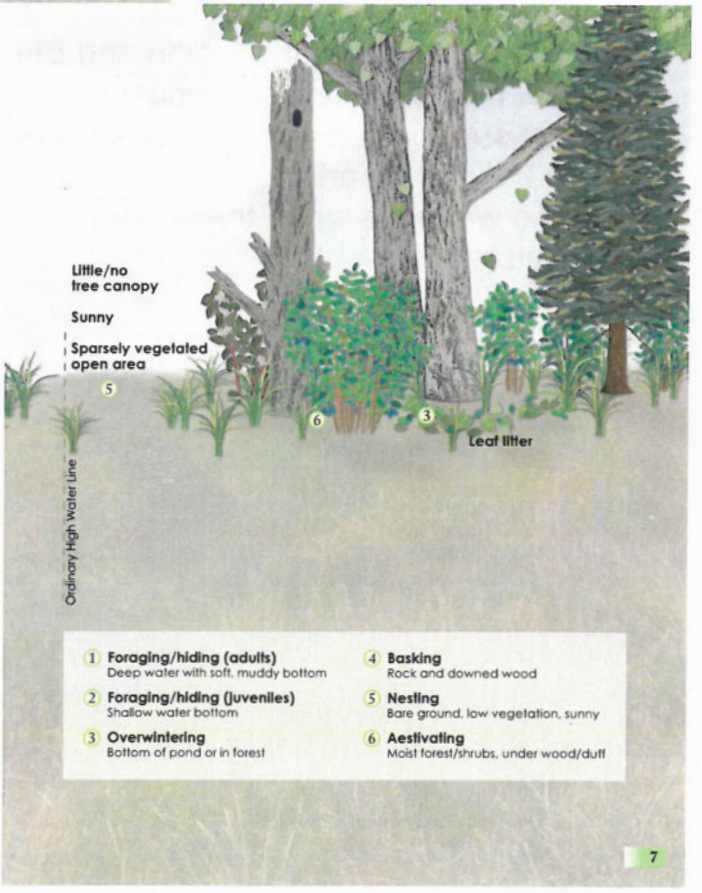
Five different turtles on 3 separate occasions were found in the back yard pond at 3745 Fairhaven Drive. As many as 6 have been present at the same time, per Chuck Nokes.

Figure 3.

Where Turtles are Found



http://www.dfw.state.or.us/wildlife/living_with/docs/ODFW_Turtle_BMPs_March_2015.pdf



http://www.environment.nsw.gov.au/wetlands/WetlandReptiles.htm

Reptiles in wetlands

Eastern long-necked turtle. Photo: Rosie Nicolai, OEH

Why do some reptiles need wetlands?

Some reptiles need wetlands because they either live in water for much of their lives or largely rely on water for their survival, such as turtles, water skinks and the eastern water dragon. Freshwater turtles use rivers, lakes and billabongs for feeding and to escape predators such as birds. Water skinks have also adapted to relying on wetlands such as upland swamps for their food sources (insects, grubs, larvae) and as cover from predators.

Some species such as the alpine and Blue Mountains water skink can survive at high altitudes – an unusual feat for cold-blooded animals. Wetlands support a range of animals that provide plentiful food sources for reptiles. It is not surprising that some snakes spend a lot of time around rivers and wetlands when there are edibles such as frogs and eggs laid by nesting waterbirds.

II. HOW TO IDENTIFY WETLANDS &

HOW THIS LAND MEETS WETLAND CRITERIA

The State of Oregon has a check list (below) to identify if property meets wetlands criteria. This list can be found at: https://www.oregon.gov/DSL/WW/Documents/DSL_wetlands_fact_march_2015_web.pdf (Page 4) The State of Oregon checklist (below) was used to determine if we had grounds for submitting a wetlands determination request to the State of Oregon. Upon completing the check list, with our responses noted in red, we believe we have more than adequate evidence that this land qualifies as wetlands, especially since we know all the underground ground springs in this land also drains under Hidden Creek Estates and Tanner Woods subdivisions, then directly into known wetlands in Tanner Woods, located below and adjacent to Hidden Creek Estates. Jon Gice in Tanner Woods was our liaison with the State of Oregon. (Photographic evidence is provided below that corresponds with the numbered criteria.)

How to identify wetlands

A "yes" answer to any of the questions below may indicate that the area is a wetland. A site inspection by a wetland scientist is the only way to verify whether an area is a wetland or not.

1. Does the National Wetlands Inventory or Local Wetlands Inventory map show a wetland on the property? **Not sure, but maps can be wrong, and are never changed until their is a reason to indicate a change. They can be altered at any point in time by anyone authorized or unauthorized so they aren't reliable evidence, as compared to photographic evidence. Since this land hasn't been tested, per the State of Oregon, the current map is only based on broad generalities and assumptions.**

2. Does the county soil survey map show hydric soils within the site? **Again, maps can be wrong, and are never changed until their is a reason to indicate a change. They can be altered at any point in time by anyone authorized or unauthorized, so they aren't reliable evidence, as compared to photographic evidence. Since this land hasn't been tested, per the State of Oregon, the current map is only based on broad generalities and assumptions.**

3. Are there natural drainage channels or Swales? **Yes; natural drainage channels travel down the slope, through Fairhaven Drive yards below in Hidden Creek Estates subdivision, then into the sewer system.** Is the ground soggy underfoot in the spring? **Yes, due to natural springs all over this property, and as evidenced by the multiple wetland grass patches.**

4. Are there depressions where water pools for a week or more in the spring? **Yes**

5. Do you avoid the area with heavy equipment in the spring to keep from getting bogged down? **Yes (a back hoe "sunk" on adjacent property on this same hillside in the past; it stayed there for weeks until the land dried out enough for it to drive off, per Ed Turkisher, neighbor at the end of Cornwall.**

6. Would you need to ditch the site to dry it out for planting or building? **Most definitely! Photos of runoff water coming through Fairhaven Drive resident's properties shows water draining from this hill into Fairhaven Drive gutters.**

7. Are seeps or springs present? **Yes, ALL OVER THIS PROPERTY there are surface springs and underground springs.**

8. Dig an 18-inch deep hole and remove a clump of soil. Are there rusty red "veins" on a gray background? **To be determined.**

9. Is there evidence of surface scour from water flowing over the site? **Yes. This is also evident on the many properties directly below this land on Fairhaven Drive (see photos under #6).** Is there a drift line of leaves or debris caught in the stems of shrubs or lodged along an elevation contour? **Yes, water channels are visible under the brush from the surface springs draining.**

10. Do you see many clumps of grass-like rushes (round stems) or sedges (angular stems), skunk cabbage, willows or Oregon ash? (These are just a few of the many plants that grow in wetlands.) **Yes; willow trees grow on this property, skunk cabbage is present uphill from this property, and grass-like rushes (round stems) are present.**

11. If farmed, must you work the soil later than other areas because soils are poorly drained? **This land is not farmed.**

12. Did the area fail a septic system test and/or require a special system due to poorly draining soils? **Unknown; only the previous land owner would know this since they lived in the only home on this property.**

Photographic evidence that matches the wetlands criteria above is provided below.

#3, #6 & #9: Natural Drainage Channels through Fairhaven Drive residents yards; Need to ditch the site to dry it out; Evidence of surface scour from water flowing over this site

Note water erosion to the left of 3795 garage draining from Cornwall's land, ponding on the edge of the grass (1st photo), then traveling down the top of the neighbor's cement wall at 3785 Fairhaven Drive. (2nd photo) and onto Fairhaven Drive to enter the gutter.

#3, #6 & #9: Natural Drainage Channels through Fairhaven Drive residents yards; Need to ditch the site to dry it out; evidence of surface scour from water flowing over this site

Note water erosion from the Cornwall land draining down the property line of 3755 Fairhaven Drive, to the left of the white tree root (1st photo). This water then drains down the soil and cement divider to the stacked rocks below and ***water falls*** *onto the neighbors property at 3745 Fairhaven Drive (2nd photo). The 3rd photo reveals that the volume and pace of the water draining is sufficient enough to not only clog the drain by the sidewalk, but* ***erode the gravel side yard into the street and gutter****.*

#3, #6 & #9: Natural Drainage Channels through Fairhaven Drive residents yards; Need to ditch the site to dry it out; evidence of surface scour from water flowing over this site

Note water erosion between 3775 and 3765 Fairhaven Drive homes. Top photo shows water draining from the Cornwall slope down between these properties; bottom photo shows continued erosion to the retaining wall at 3755 Fairhaven Drive, which eventually drains into the gutter.

#3, #6 & #9: Natural Drainage Channels through Fairhaven Drive residents yards; Need to ditch the site to dry it out; evidence of surface scour from water flowing over this site

Note soil erosion between 3765 and 3775 Fairhaven Drive homes.

#4 Wetland criteria: Depressions where water pools at the bottom of the slope on the East corner behind 3795 Fairhaven Drive

***#7, #10 Wetland Criteria: Seeps and Springs are Present where rush grasses grow and other types of wetland vegetation:* evidence of clumps of grass-like rushes (round stems) or sedges (angular stems), skunk cabbage, willows or Oregon ash**

Skunk grass, known to grow only in wetlands.

Rush grasses found in different locations on this property

Willow tree that has toppled over; more exist on this property

Ponding of spring water, very near where the sewer was installed after this photo was taken.

Photo reveals just how wet this land can get, and validates how a back hoe could get stuck!

III. PHOTOS OF 4096 CORNWALL, THE SLOPE AND NUMBER OF OAK TREES

Note wetlands rush grass (green) growing on this land at the end of Cornwall Street, and note the elevation difference between the grasslands and Cornwall Street above it.

How much landfill can safely be used given the steepness of this slope, and how will all the landfill will be secured from slipping and washing down hill?.

Note the drop in this land / cliff in the center of the right side of this picture.

View looking up the steep slope from the midpoint of the slope.

Note the gravel dumped at the end of Cornwall street by the Fairhaven fence for an unknown purpose

Trees have uprooted due to the wet lands; note they are leaning UPHILL.

More downed trees on the property due to uprooting.

The stand pipe for the sewer is in the middle of a spring with tall green grass rushes.

The vegetation and steepness of this property.

The presence of more than a dozen and a half very large Oak trees is at stake. The proposed removal of the Oaks is deemed necessary for the plan as several of them are in the proposed road extension and most of the others would fall into proposed home foundations. This is directly in conflict with City of West Linn policy identifying “significant” historic or valuable trees.

From Landis Street, looking down hill at oak trees Southeast towards Fairhaven Drive

From Landis Street, looking uphill at oak trees toward blue house.

Oak trees along the Fairhaven Drive fence.

IV. WATER CONCERNS ON THIS PROPERTY

The proposed development intends to collect and re-direct almost all the water from 4096 Cornwall Street into the Unnamed creek. While this may alleviate some erosion on the Fairhaven Drive properties, this capture and re-route plan presents several problems.

1) The old trees removed from this property has great significance:

1a. With so many large trees being removed from this property, ***more*** *water will run off this land* due to the removal of so many old trees which use to absorb significant amounts of water.

1b. The *run off on this property will drain even* ***faster*** because water that use to drain through soil will now flow quickly off of the smoother concrete street, sidewalks, driveways, and roof tops.

1c. The presence of *more than a dozen and a half very large Oak trees is planned for removal*. This is directly in conflict with the City of West Linn policy identifying "significant" historic or valuable trees.

1d. The Schott & Associates report makes no mention of the presence of Willows on the property. Two large old willows are already laying down. Other smaller willows remain on this property.

2) Due to the land being convex and thus draining most of the water to the East and West corners of this property, consideration should be given to draining this lands water into both the creeks on either side of this property because the water in both of these creeks empties into the same Tanner Woods wetlands pond. This is suggested only if deemed worthy, because both residents at 3745 and 3795 Fairhaven Drive have already testified about water problems they have on their properties, and because each corner of this property is low lands. It doesn't make sense not to do this if gravity can drain the water naturally on both corners of the land.

3) Tanner Woods wetlands in the Tanner Woods subdivision will be the recipient of almost all the water from this land when rerouted through the Unnamed creek. Currently, the majority of water that runs off this slope erodes *through* Fairhaven resident's yards adjacent to this property, emptying into the sewer, and doesn't drain into the Unnamed creek. The developer claims by rerouting the water they are doing a favor to dry up yards on Fairhaven Drive (yes), BUT they haven't considered the impact that all this additional re-routed water will have on the Tanner Woods wetlands, with potential overflow into their street.

4) The "reeds" identified by the *Schott & Associates report (also representative of* wetlands) are downplayed as "one small patch" when in fact there are several substantial "patches" of reeds on the property, all of which are associated with a free flowing spring at the base of each. These reeds are in the middle of the property closer to the Landis connection, directly below the vacant blue house where the sewer connection was established, and next to and into the Cornwall right of way on the steep slope beneath the dead end of Cornwall Street. Additionally, the State of Oregon stated the Schott & Associates report "isn't a wetland delineation report" and "it requires considerably more background material and sampling point data."

5) The root system of the trees along the Fairhaven fence line is a concern, in relation to the disturbance of the land and proximity to the water collection pipe. These old growth oak trees need a lot of water, yet the collection of most of the slope water could now be routed to the creek. So how will a balance of these needs be met? It has been discussed that rainwater gardens may also be placed at the bottom of the slope near the fence, which would be maintained by the city. If this is so, then *a detention pond can also be placed on this land to be maintained by the city, with access via the Cornwall road easement that runs down to the Fairhaven fence line, with access to the sewer recently installed. Disturbance of the oak trees root system is of great concern at the fence line because many changes are being proposed where their roots are already established.*

6) On the West corner, water drainage has been so heavy and prolonged in the street that city staff stopped to tell the homeowner at 3745 Fairhaven Drive that if he didn't stop wasting water he would be fined, only to be told by the homeowner that the water was draining from the Cornwall/Landis property above. This homeowner has also had a very wet crawl space under his home, managing the water on both the East and West corners is very necessary.

V. SUMMARY

Given all of the above evidence, it is very plausible to conclude this land is wetlands for the multitude of reasons presented here. Regrettably the wetlands report produced for the city omitted 3 critical tests: hydrophytic vegetation, hydric soils, and wetland hydrology. This is a very misleading "wetlands report" is since key data was omitted. In fairness to all parties, and *most importantly for the sake of the 50+ surrounding homes whose homeowners insurance won't cover water or landslide damage once the soil has been disturbed on this property*, we again request that a thorough and complete wetlands investigational report be completed by a neutral 3rd party to protect the existing homeowners and the known Tanner Woods wetlands beneath this property in question. Altering this land without an experienced hydrogeologist investigating this property is not just a financial decision, but a moral responsibility to ensure wetlands and the existing ~50 homes are protected from unforeseen water damage, like that which has occurred recently at Sunset school.

DEPARTMENT OF STATE LANDS FACT SHEET

Wetlands in Oregon

How to identify wetlands

Not all wetlands fit the "cattails and standing water" image. Oregon's wetlands are as varied as its landscapes. They range from tidal salt marshes along the coast to seasonal prairie wetlands in the valleys to mossy mountain fens. Because wetlands are so varied, their identification is sometimes tricky. In fact seasonal wetlands – the most common – are very dry by mid-summer. Many wetlands also have been altered by activities such as farming, and no longer "look like" wetlands.

Because wetlands perform so many important natural functions, such as controlling floodwater, cleaning and storing water, and providing natural habitat for plants and animals, it's best to avoid wetlands when planning a project. If avoidance is not possible, use the information here to help evaluate your site and plan your next steps.

Be sure to contact the Department of State Lands (DSL) before doing work in an area that might be a wetland. DSL administers the state's removal-fill permit program to protect wetlands and their ecological functions. Many activities in or adjacent to wetlands are regulated by other local, state and federal laws, so a variety of permits may be required before any earth-moving activities may take place.

Additional information is available on the DSL website: www.oregonstatelands.us

What characteristics do wetlands share?

Although there are many types of wetlands in Oregon, they share three essential characteristics: an abundance of water, hydric (wetland) soils, and plants that grow in wetland conditions.

Prolonged saturation is what creates a wetland, no matter the source. A high water table, rain water "perched" over impenetrable layers in the soil, and frequent flooding are common examples. Wetland – or hydric – soils have distinctive, visible characteristics, such as brownish-red veining and rusty-colored splotches. Saturated conditions support plants that have adapted to life in permanently or seasonally wet soils.

Some plant species are better indicators of wetlands than others. The US Army Corps of Engineers has compiled a list of thousands of plants that grow in wetlands, and assigned an "indicator status" to each plant based on the frequency with which they occur in wetlands. Skunk cabbage, for example, only occurs in wetlands. Other plants occur in wetlands sometimes, and still others occur in wetlands and in other soil types. Therefore, plants may or may not be a good indicator of the presence of wetlands. Wetland scientists use the plant indicator status to help determine if a site is a wetland.

Where are wetlands found?

Wetlands are typically, but not exclusively, found in depressions or in the lowest part of the landscape. Expect to find wetlands in:

- Abandoned stream channels along river systems
- Valleys or other low areas with a high water table in winter and early spring
- Flat valleys or depressions where impervious soil layers create a "perched" water table
- Low areas on slopes where groundwater emerges as springs or seeps
- Mountain meadows watered by gradual snow melt

How to identify wetlands

A "yes" answer to any of the questions below may indicate that the area is a wetland. A site inspection by a wetland scientist is the only way to verify whether an area is a wetland or not.

YES	NO	QUESTION
☐	☐	Does the National Wetlands Inventory or Local Wetlands Inventory map show a wetland on the property?
☐	☐	Does the county soil survey map show hydric soils within the site?
☐	☐	Are there natural drainage channels or swales?
☐	☐	Is the ground soggy underfoot in the spring?
☐	☐	Are there depressions where water pools for a week or more in the spring?
☐	☐	Do you avoid the area with heavy equipment in the spring to keep from getting bogged down?
☐	☐	Would you need to ditch the site to dry it out for planting or building?
☐	☐	Are seeps or springs present?
☐	☐	Dig an 18-inch deep hole and remove a clump of soil. Are there rusty red "veins" on a gray background?
☐	☐	Is there evidence of surface scour from water flowing over the site? Is there a drift line of leaves or debris caught in the stems of shrubs or lodged along an elevation contour?
☐	☐	Do you see many clumps of grass-like rushes (round stems) or sedges (angular stems), skunk cabbage, willows or Oregon ash? (These are just a few of the many plants that grow in wetlands.)
☐	☐	If farmed, must you work the soil later than other areas because soils are poorly drained?
☐	☐	Did the area fail a septic system test and/or require a special system due to poorly draining soils?

Working with DSL

Wetlands staff provides **off-site wetland determinations** at no cost. By using existing wetland maps, aerial photographs, and other mapped information, it may be possible for the wetlands specialist to determine if there are wetlands on your property. This starts as a desk audit and may not involve a trip to the site. A form is available on the DSL website to get this process started.

Wetland consultants

It may be necessary to hire a consultant to evaluate your site and prepare a **wetland delineation** for DSL review and concurrence. Delineations are detailed maps of wetland boundaries that require specialized training to produce. They are an important part of the removal-fill permit application. Wetland scientists use the U.S. Army Corps of Engineers Wetlands Delineation Manual and Regional Supplements, the wetland plant list, and other state and federal agency guidance and rules for delineating wetlands.

Continued

Working with consultants

A wetland consultant should have:

- An educational background in science or ecology, with wetland-specific training, including wetland delineations
- A thorough knowledge of local, state and federal permit requirements and processes
- An understanding of development standards and options
- The ability to help develop workable solutions for challenging sites
- Good communication skills and professional ethics
- Good working relationships with DSL permit staff

An experienced consultant can facilitate the wetland permit process with minimal delays. DSL cannot provide specific recommendations, but the Society of Wetland Scientists keeps a current list of members on their website: **www.sws.org/Pacific-Northwest-Chapter/pacific-northwest-resources.html**.

Professional Certification

The Society of Wetland Scientists administers the Professional Wetland Scientist (PWS) certification program for individuals who meet specific educational and experience requirements. The certification does not guarantee that an individual is qualified to provide a specific service; for example, a "wetland delineator" certification. Likewise, certification does not guarantee the quality of work, but it does identify those individuals who have the necessary academic background and wetland-specific experience to provide good service. Wetland specialists come from a variety of academic disciplines including botany, soil science, environmental studies, and wildlife management. Some may have additional professional certification, such as Professional Soil Scientist.

We suggest you contact at least three firms for a cost estimate, and ask for a Statement of Qualifications in the bid process. Ask for and check references, and inquire about the firm's professional certifications. If it's a larger firm, ask who will be doing your work, and about the consultant's experience in such areas as wetland delineations, permit applications, and mitigation design and construction. Ask if the consultant has any specialized experience that would apply to your project, such as agricultural wetland delineation.

Things to keep in mind

- Keep communication lines open. Provide all pertinent information about the site, including legal description, any previous studies and land uses, and your development objectives.
- Plan well in advance of when you want to start your project. Wetland delineations typically take several months from initiation to DSL approval, and permit applications can take up to 120 days for the most complex projects.
- The landowner or applicant is the legally responsible party for meeting permit requirements and conditions. The consultant often is the primary contact with DSL staff. Make sure you receive regular updates from your consultant on the permit process and timeline.

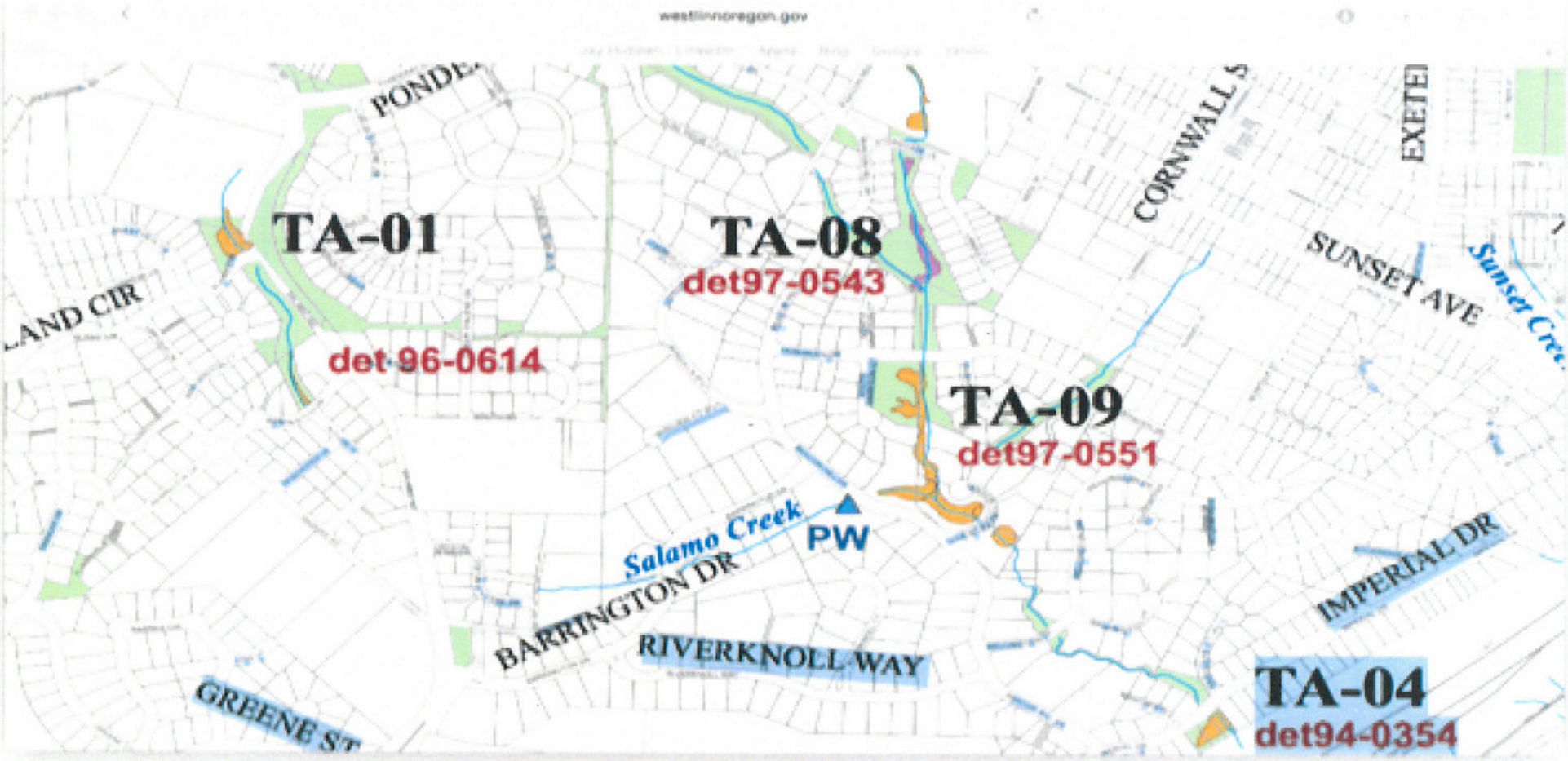
Obtaining a removal-fill permit

Oregon's removal-fill law (ORS 196.795-990) requires people who plan to remove or fill material in waters of the state to obtain a permit from the Department of State Lands.

The purpose of the law, enacted in 1967, is to protect public navigation, fisheries and recreational uses of the waters. "Waters of the state" include wetlands on private and public land.

The Oregon Department of State Lands administers the removal-fill permit program, and has developed many resources for property owners and consultants. The Removal-Fill Guide (RFG), as well as forms and other resources, are available on the DSL website: **www.oregon.gov/DSL/WW/Documents/Removal_Fill_Guide.pdf**.

Oregon Department of State Lands
Aquatic Resource Management Program
775 Summer St. NE, Suite 100
Salem, Oregon 97301-1279
(503) 986-5200 | www.oregonstatelands.us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Sunset Cree
Salamo Creek
PW
BARRINGTON DR
RIVERKNOLL WAY
IMPERIAL DR
GREENE ST

Arnold, Jennifer

From: dcorey00@gmail.com
Sent: Wednesday, December 13, 2017 9:46 AM
To: Arnold, Jennifer
Cc: Pam Yokubaitis
Subject: David Corey Testimony about Cornwall Development
Attachments: David Corey - Cornwall Testimony, May 17 2017.pdf

Hi Jennifer:

Please find the attached Testimony I submitted during the last Cornwall Development review process. Conditions haven't changed nor do I believe that my concerns have been addressed.

One other item I'd like the developer to address is how the infill will be retained? The Cornwall property directly behind my house at 3775 Fairhaven Drive appears to be about a 40% angle. Obviously fill will be required to build on that portion of the property. I did not see any mention of retaining walls or other methods of in fill retention. It would be disappointing to say the least if the fill ended up in my back yard since there is no physical stopping point on the slope.

Unfortunately I am traveling and cannot attend the meeting. It would be great to get the minutes to ensure that my concerns have been voiced.

Thank you for your attention to this matter,

David

David Corey 日美都 幸利
801.232.5579

May 17, 2017

David Corey
3775 Fairhaven Drive
West Linn, Oregon 97068

Attn: Planning Commission
c/o West Linn City
22500 Salamo Drive
West Linn, Oregon 97068

Subject: Testimony Submission for the 4096 Cornwall Street 6 Lot Subdivision Proposal

Dear Planning Commission:

My property at 3775 Fairhaven Drive boarders the proposed subdivision. I have reviewed the Preliminary Storm Drainage Report for the proposed subdivision, found on pages 65 through 73 of the Staff Report and object to the proposed development of a Detention Pond on Fairhaven Drive. I request that all surface water and spring drainage be collected in a ditch behind the affected Fairhaven Drive properties routed into the city storm drain system on Fairhaven Drive.

The basis of my objection is as follows:

- Today, most of the drainage from the proposed subdivision flows through the Fairhaven Drive downhill properties and is collected by the city storm sewer system. While not the optimal solution, it has been that way for 20 years.
- The proposed subdivision has slopes up to 20+% has stated in the Report and produces a significant amount of runoff from rain as well as exposed and hidden springs on the property.
- The Report states that there is natural drainage way to the East. This is not accurate.
- The majority of the current runoff flows South and West. It flows south and West as it runs on the surface through Fairhaven Drive properties 3735 through 3775. These properties have curtain drains that attempt to collect the surface/spring water and route it to the storm sewer system on Fairhaven Drive. What is not collected by the curtain drains runs along the surface around the houses and down to the street where it is collected by the storm sewer system.
    - Included photograph #1, Concrete curb erosion in front of 3745 Fairhaven Drive resulting from West side surface water runoff from the proposed subdivision.
    - Included photograph #2, 3735 Fairhaven Drive, the West side storm drain that collects proposed subdivision runoff from properties 3745, 3755, 3765 and 3775 Fairhaven Drive.
- My property, 3775 Fairhaven Drive is the dividing line for the East/West flow due it's position at the crest of the hill for the affected properties. In my case surface and spring water flow both East and West from my property as evidenced by the attached photos.
    - Included photograph #3, 3775 Fairhaven Drive, West side yard erosion from surface water flow.

    - Included photograph #4, 3775 Fairhaven Drive, South side back yard erosion from surface water flow.
    - Included photograph #5, 3775 Fairhaven Drive, Southeast side back yard curtain drain with running surface water on May 17, 2017.
    - Included photograph #6, 3775 Fairhaven Drive, Southeast side front yard 6" trench erosion from surface water flow.
    - Included photograph #7, 3775 Fairhaven Drive, retaining wall 1 course height addition to stop the surface water and soil free flow over the original 7 course block wall.
    - Included photograph #8, 3775 Fairhaven Drive, curtain residual drain discharge from yesterday afternoon's rain. During significant rain events this drain flows to capacity with surface water overflow, as do all of the drains from properties #3745 through #3795.
- Additional runoff flows South and Southeast through Fairhaven Drive properties #3785 and #3795 and is also collected by the storm sewer system.
    - Included photograph #9, 3795 Fairhaven Drive, the East side storm drain that collects proposed subdivision runoff from properties 3775, 3785 and 3795 Fairhaven Drive.
- The proposed retention pond will decrease the value of the Fairhaven Drive properties in the immediate vicinity. Letters from local real estate agents attesting to this fact are attached to this email.
    - Letters from Real Estate Agents can be found on pages 8, 9 and 10 of this testimony.

The evidence provided in this testimony shows that the current runoff from the proposed subdivision is in fact collected by the city's storm drains at 3735 and 3795 Fairhaven Drive. While not the optimal solution, it has been that way for 20 years. Creating a detention pond to accommodate the proposed Cornwall subdivision that devaluates all of the homes in the Hidden Creek Estates subdivision as well as additional homes in the Barrington Heights Subdivision is unfair to the affected parties and unacceptable.

Feel free to contact me at 801.232.5579.

Thank you for considering my input.

David Corey

The following pages 3 through 10 include the described photographs as well as the realtor statements with regards to property devaluation.

	
Photo #1 – Picture taken May 17, 2017 3745 Fairhaven Drive, concrete curb trench cut by erosion from West side runoff.	Photo #2– Picture taken May 17. 2017 3735 Fairhaven Drive, West side storm drain that collects proposed subdivision runoff from 3745, 3755, 3765 and 3775 Fairhaven Drive.

	
Photo #3 – Picture taken May 17, 2017 3775 Fairhaven Drive, West side yard erosion from surface water flow.	Photo #4– Picture taken May 17. 2017 3775 Fairhaven Drive, South side back yard erosion from surface water flow.

	
Photo #5 – Picture taken May 17, 2017 3775 Fairhaven Drive, Southeast side back yard curtain drain with running surface water.	Photo #6 – Picture taken May 17, 2017 3775 Fairhaven Drive, Southeast side front yard 6" trench erosion from surface water flow.

Photo #7 – Picture taken May 17, 2017

3775 Fairhaven Drive, retaining wall 1 course height addition to stop the surface water and soil free flow over the original 7 course block wall.

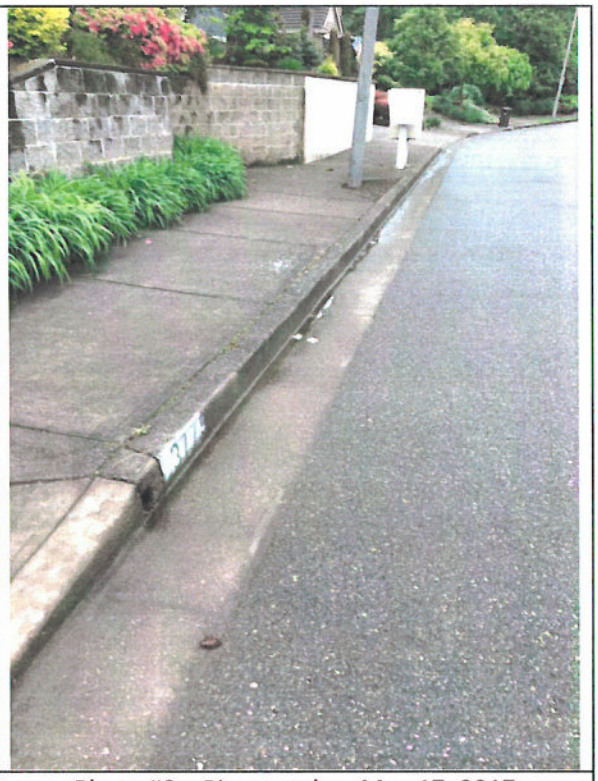


Photo #8 – Picture taken May 17, 2017

3775 Fairhaven Drive, curtain residual drain discharge from afternoon rain on May 16. During significant rain events this drain flows to capacity and water is collected by the wall where it seeps through to the street.

Photo #9 – Picture taken May 17, 2017

3795 Fairhaven Drive, city storm sewer drain that collects proposed subdivision Southeast side runoff from 3775, 3785 and 3795 Fairhaven Drive.

Water Shed Run Off Fairhaven Drive
1 message

Kerri Miller <millerks@windermere.com> Tue, May 16, 2017 at 11:24 AM
To: Rebel Steirer <rebel4realestate@gmail.com>

Hi,

I feel that any ground water retention pond off that is visible from Fairhaven Drive will diminish the value of the properties in that area.

The placement should be thoughtful of the surrounding property values.

Kerri Miller

Windermere Stellar

503-705-8386

220 A Avenue, Suite 200

Lake Oswego, OR 97034

eFax 971-230-7819

KerriMiller.mywindermere.com

Dear Icon Development and City of West Linn,

I feel that placing a watershed collection pond adjacent to the street and the front of any property on Fairhaven drive will negatively impact the market value of those homes and the neighborhood.

The home at 3795 Fairhaven Drive is adjacent to the Hidden Creek Estates neighborhood Entry. It is currently a pleasing entry, with a view of trees and the creek as you cross the bridge to enter.

Adding a retention pond with a chain link fence to this area would be unsightly and will dimish the value of the homes nearby.

I've viewed many of the rentention ponds in the area and the developers have been very considerate of placing these behind properties.

–
REBEL STEIRER
M REALTY / LICENSED OREGON BROKER
17040 PILKINGTON RD. #200
LAKE OSWEGO, OR 97035

503-320-2233

Rebel4RealEstate.com

West Linn - Wilsonville- Lake Oswego - Oregon City - Tualatin - Tigard
and the Portland Metro Area

http://oregonrealtors.org/resources/membership-resources/buyer-seller-advisories
Click above links for Buyer & Seller Advisory and OREA Disclosure pamphlet
amphlet

Marty Wells <martywells@kw.com> Tue, May 16, 2017 at 11:02 AM
To: rebelsteirer@gmail.com

Hi Rebel,

I just learned that there is a proposed retaining pond at the entrance to your neighborhood, adjacent to the home by the bridge. Why can't the developer build the pond further back, away from the street like the three retaining ponds on the path between Summit and Beacon Hill? These ponds are usually unsightly since the city rarely maintains them, the black chain link fence creates an eyesore (and I'm sure would not be allowed by the HOA in the front of a dwelling) and in my view, will have a negative effect on the values of the homes adjacent to the pond.

What do you think?

Marty Wells

Principal Broker

Licensed in Oregon

Check Your Home's Value

www.MartyWellsSells.SmartHomePrice.com

Direct: 503.699.6999

Fax: 503.924.3552

martywells@kw.com

www.MartyWellsSells.com

Keller Williams Realty, Portland Premiere

16365 Boones Ferry Road

Lake Oswego, OR 97035

INTRODUCTION TESTIMONY
(Patrick Noe, Sunset NA President)

HISTORY: The developer has a plan to construct a 6 home subdivision on a 2.17 acre site at the end of Cornwall Street, which the developer is calling "Willow Ridge". This property is situated on a ridge with significant water perpetually draining off its steep slope onto residents' property below along Fairhaven Drive, in Hidden Creek Estates subdivision.

The developer met with Sunset Neighborhood Association (NA) twice. It has not met with any other NA. Each of our meetings were held in the library of Sunset Primary School on Oxford Street in West Linn. The developer's planning consultant, Rick Givens addressed the first Sunset NA on April 26, 2016. From the minutes of that meeting there were (QUOTE) "concerns centered around water runoff to Fairhaven Drive. A few crawl spaces have already been flooded. To compensate for this, a bio swale is being proposed as part of the West Linn Storm Water Management Plan." (END QUOTE)

The second meeting with the Sunset NA took place on Jan. 24, 2017. Mr. Bruce Goldson, a design engineer for the developer addressed the group. Residents present were from Cornwall Street, Landis Street and residents from Fairhaven Drive. Many questions were raised regarding specific areas of concern not only from Sunset residents, but from other neighborhoods located in proximity of the site. This development will significantly affect the residents of Sunset, Stonegate, Barrington Heights, Hidden Creek Estates, and Tanner Woods subdivisions - Each subdivision has a representative who will testify tonight about issues that concern their own neighbors, but all subdivisions are united in their concerns. In brief some of these concerns are:

TRAFFIC: This development will connect Landis and Cornwall streets and result in easier access to and from Sunset Street for all residents to the West of Stonegate subdivision.

The developer's study only identifies the increased traffic of the 6 proposed new homes using Cornwall Street, but disregards other nearby residences which account for over one hundred homes that would now have shorter access to their destinations via Cornwall and Sunset and a more direct access to I-205 Northbound and Oregon City.

The developer's own engineering report claims that NO traffic study is required because the six new homes would have minimal impact on existing traffic. This completely ignores the new access to Cornwall and Sunset Streets by more than a hundred homes.

There is also additional concerns for traffic management at the intersection of Cornwall and Sunset due to the increased volume of traffic.

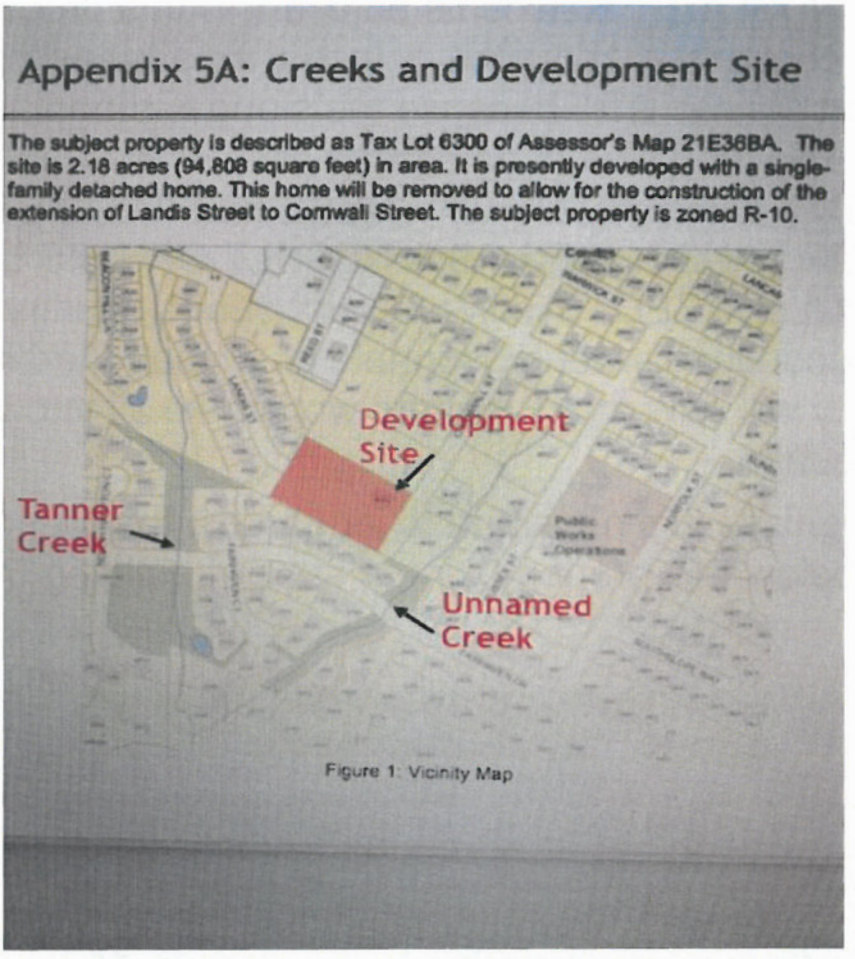
CORNWALL STREET: is a minimal, narrow road in need of serious repair and infrastructure improvements. No section of Cornwall is without serious patches, pot holes, and cracked pavement. Heavy construction trucks will make this road even worse. It is proposed that Cornwall be widened to the minimal standard of 20 feet and topped with an asphalt overlay. This is inadequate considering the much higher percentage of road use by cars and now pedestrians. Sidewalks, curbs, upgrading water and sewer pipes, school children using this new shortcut, and school bus stops must all be taken into consideration.

Additionally, Cornwall is going to be dug up to increase potable water infrastructure with a new "looped" water supply of greater diameter to feed the new homes. There is no sewer line currently on Cornwall. If the street is going to be dug up to install new potable water service, why not upgrade the road foundation of Cornwall and put a sewer and stormwater line in place at the same time? This would prevent future upgrades from digging up the street at least three times again.

If the developer is not going to be held responsible for these improvements then the city should be held accountable and responsible to its existing citizens for improving our city streets.

WATER MANAGEMENT: Barrington Heights residents are very concerned about water issues. Since the land for this proposed development continuously sheds large volumes of water which runs downhill and collects in Tanner Woods wetlands, the 3 BHT subdivisions below this property have serious concerns about the management of the surface water and many underground springs.

What will the ramifications be from bulldozing this land with the numerous surface and underground springs already draining from it? The ~50 homes beneath this proposed development all sit on top of the same underground springs that run through this land. These springs run from this property all the way down to Beacon Hill Drive in Tanner Woods subdivision. When altering or redirecting these underground springs, the soil upon which these many homes already sit upon may shift due to underground water changes, thus causing house settling and cracking over the longer term.



The developer's engineering report identifies the springs as seasonal, yet NEITHER of the creeks on either side of this proposed development are ever dry. Both Tanner Creek on the West side and an Unnamed Creek on the East side of this land continuously drain water directly into a wetlands pond below in the Tanner Woods subdivision.

<u>TREES:</u> The removal of 25 significant, and water absorbing, trees will only *increase* water runoff on this property. Will the same number of trees removed from this land also be replaced with smaller trees in an effort to compensate for this water absorption loss?

STEEP SLOPES/LANDSLIDE: Residents adjacent to this property on Fairhaven Drive are concerned about the potential for a landslide. This is a serious issue that concerns all because the slope is steep and threatening. Should this land shift in an earthquake, HOMEOWNERS INSURANCE DOESN'T COVER ANY OF THESE RESIDENTS FOR WATER DAMAGE OR LANDSLIDES AS A RESULT OF THIS LAND BEING ALTERED/BULLDOZED. We live in earthquake country, so to casually dismiss this concern is not reasonable or ethical. Adding landfill to this property will only make matters worse; we all know landfill liquefies in an earthquake.

Our community recognizes it is not smart to jeopardize the foundations of ~50 BHT homes below this property for the sake of building 6 new homes.

Picturesque Unnamed Creek at Entrance into Hidden Creek Estates

A thorough vetting of this land's integrity is necessary to ensure it can be safely built upon to protect the surrounding established residences from water or structural damage.

DETENTION POND: A detention pond is planned in the middle of the unnamed creek *outside of the developers' property.* Many BHT residents oppose the intrusion of this pond in their beautiful neighborhood creek because this picturesque landmark with natural beauty serves as an attractive entrance into the Hidden Creek Estates subdivision.

IN CLOSING: We would like professionals with specific expertise and credentials to be hired to provide the developer, city and residents with in depth examination of this land. We need this land to be thoroughly evaluated by a hydrogeologist to determine if it is appropriate to safely build on, and a complete wetlands determination. Homeowners below this property need guarantees that their homes won't be damaged by rerouted water or cracking foundations due to soil changes that originate from the movement of land and underground springs on this property.

We all agree this development has significant, complex challenges to overcome because this property is surrounded by established homes. Traffic, Cornwall's poor road condition, sewer, water management of surface and underground springs, steep slopes, landslide potential, land fill instability, and a detention pond that affects neighborhood real estate values, all concern the surrounding residents.

As Neighborhood Association presidents we welcome 6 new neighbors to West Linn, however it is also our job to protect our existing residents, their property, and property values. We put our existing citizens first.

This project shows serious omissions in planning and potential hazards to our neighbors.

I urge this commission to acknowledge the seriousness of these concerns in your deliberations as explained with evidence in the following testimonials.

Thank you,

Patrick Noe

I'm Chelsea Diaz, I live within the Tanners Stonegate HOA, on Landis Street, here in West Linn. The concerns that come to mind regarding this preposed development is the lack of a hydrogeologist study, of the water runoff on the existing slope on the Cornwall / Landis Proposed Development.

After two homes behind and above us began construction located at 4191 Reed Street and 4197 Reed Street, I noticed water streaming between the boulders in my 25 foot retaining wall into my back yard. I then began an lengthy process of trying to find where the water was coming from. After a landscape developer investigated the issue, he determined that a new spring had formed in the upper tier of my back yard. I then had to hire a excavator to evaluate and install an extensive water management system. It involved 5 hand-dug, three foot deep french drains, plus replacement of existing drainage pipes with new larger gage pipes connected to a industrial grade sump and additional drainage lines. Parts of the property also had to be regraded due to erosion and the hydraulic pressure caused by the excess water.

It is my belief that the construction of just two homes on previously undeveloped land above my street was the cause of these issues. It is not hard to imagine the potential impact of a new subdivision on the same hill with the significant water runoff we experience in the neighborhood and the steep slope where the proposed development would occur. The hillside the proposed development is located on needs to be evaluated by a hydrogeologist to determine the impact of runoff, both above and below ground, on the homes located below.

3687 Landis Street, Stonegate Subdivision. This is taken at the second house

from the end of Landis Street, close to the proposed development.
Continuous water drains from this property, coming through the back yard rock wall as a result of 2 homes built above it.
Note the cars parked on each side of the street; is there enough room for through traffic on both sides at the level of 500 cars/day?

June 1, 2017

To: West Linn Planning Commissioners: Jim Farrell, Lamont King, Charles Mathews, Joel Metlen, Carrie Pellett, Bill Relyea, and Gary Walvatne
City of West Linn, Planning Department
22500 Salamo Road, #1000
West Linn, OR 97068

From: Patrick Noe, Sunset Neighborhood Association President
Meredith Olmsted, BHT Neighborhood Association President

Subject: Petition regarding any future development at 4096 Cornwall Street, West Linn, OR

The Sunset Neighborhood Association and Barrington Heights Neighborhood Association residents are united in our desire to have the land at 4096 Cornwall Street professionally evaluated, prior to any construction now or in the future. It is a moral and ethical responsibility of the city and developer to prevent all surrounding property from being negatively impacted by new construction. Preventing damage from water, landslide, landfill liquefaction, decreased real estate values, or jeopardizing structural integrity and our wetlands are the many issues which must be mitigated in this case, prior to any construction.

We must ensure that water and structural damage to the surrounding 50+ existing homes won't occur from altering this steep, spring infested property, and it is vital to determine if this land is wetlands. There is wetland vegetation present, and this water drains into known wetlands so this makes it incumbent upon this Planning Commission and city government to fully understand the designation of this land.

West Linn must "Put Citizens First" by requiring complex issues be professionally evaluated by a neutral, third party expert when there is sufficient cause to warrant it. As our city representatives, we ask you to be our advocate, always protecting the interests of *your neighbors* and West Linn's quality of life for generations to come.

We therefore request that the City of West Linn require 4096 Cornwall Street land be thoroughly vetted before any construction begins by requiring:

1) An independent hydrogeologist examination of the surface and underground springs to prevent water damage and structural damage to all surrounding homes where water may surface anew, or where underground springs may dry up.
2) A wetlands determination of this land that includes hydrophytic vegetation, hydric soils, and wetland hydrology sampling across the entire property to determine if this site meets wetland criteria.

Petition Regarding Development at 4096 Cornwall Street, West Linn, OR

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:

1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) A wetland determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

In addition, no detention pond to collect the surface waters of the proposed site and road should be built between Barrington Heights and Hidden Creek Estates.

DATE	SIGNATURE	ADDRESS	EMAIL	PHONE
6/5/17	[signature]	3822 Fairhaven Dr.	bradley.carter@gmail.com	503.974.9766
6/5/17	[signature]	3822 Fairhaven Drive	sarahtcarter@gmail.com	503.974.9766
6/6/17	Peggy Eurman	3828 Fairhaven Dr W.L.	peggyeurman@comcast.net	503650-0052
6/5/17	[signature]	3829 Fairhaven Dr. W.L. OR		503 657 6788
6/5/17	Neal Schmidt	3825 FAIRHAVEN DR		(503) 557-5172
6-5-17	[signature]	3824 Fairhaven Dr.	West Linn	503-799-29[illegible]
6-6-17	[signature]	3828 Fairhaven Dr.	West Linn	503-709-5606.
6/6/17	Connie Cermak	3837 Fairhaven Dr.	West Linn	503-957-7802
6/6/17	Cheryl Fath	3832 Fairhaven Dr	West Linn	503-998-8954
6/6/17	[signature]	3817 Fairhaven Dr	West Linn	503 655 3429
6/6/17	Pam Yokubaitis	3760 Fairhaven Dr.	West Linn	pam@yokubaitis.com 503-656-5881
6/6/17	[signature]	3760 Fairhaven Dr. 97068		503-720-7645
6/6/17	[signature]	3760 Fairhaven Dr. 97068	" " "	503 367 9603
6/6/17	[signature]			

Petition Regarding Development at 4096 Cornwall Street, West Linn, OR

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3) a traffic study conducted to estimate additional traffic caused by connecting Cornwall and Landis streets. Address safety issues due to blind corner at intersection of Stonegate Lane and Landis Street as well as substandard paving, lack of sidewalks and 16 foot non-standard width of Cornwall Street.
4) a proposed change to the City Master Plan to keep Landis St. a dead end street and have Icon develop the proposed new homes as part of a Cornwall cul-de-sac. This will reduce traffic and congestion on either street, and improve Cornwall.

DATE	SIGNATURE	ADDRESS	EMAIL	PHONE
6/5/17	[signature]	362 Landis st	Queenobuzz@yahoo.com	5037566953
6/5/17	S.B. [signature]	3612 Landis St	stevo64@gmail.com	503-686-1503
6/5/17	[signature]	3606 Landis St	gmckiver@yahoo.com	
6/5/17	[signature]	3600 Landis ST	duran_paulina@hotmail.com	
6/5/17	[signature]	3624 Landis St.	[illegible]@gmail.com	3038197034
6/5/17	[signature]	3624 Landis St.	[illegible]@yahoo.com	3038155434
6/5/17	[signature]	3648 Landis St.	[illegible]@yahoo	503-557-2992
6/5/17	Kelly [signature]	3636 Landis St	kellyandshiloh@msn.com	503 737 7308
6/5/17	[signature]	3648 landis st	ellianat88@gmail.com	503557 2992
6/5/17	[signature]	3648 Landis st.	Trans_wp@yahoo.com	97068
6/5/17	[signature]	3676 Landis St.,	glenther@aol.com	
6/5/17	[signature]	3692 Landis St	[illegible]@comcast.net	503-650-5800
6/4/17	[signature]	3612 Landis St	[illegible]@gmail.com	503-707999
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Petition Regarding Development at 4096 Cornwall Street, West Linn, OR

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:

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DATE	SIGNATURE	ADDRESS	EMAIL	PHONE
6/16/17		3637 Landis	gillingham.joshua@gmail	341 40 7244
6/16/17		3649 Landis	ashley.crann@gmail.com	603 752 5737
6/16/17		3669 LANDIS	DANRILEY@COMCAST.NET	360.907.2813
6/16/17		3449 Landis	MelindaRiley@live.com	971.645.1587
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Petition Regarding Development at
4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:

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DATE: June 6, 2017 SIGNATURE: Mary L. Dark

ADDRESS: 2145 Fairhaven Ct. 97068 PHONE: 503-7440786

EMAIL ADDRESS: maggquintero88@gmail.com

DATE: June 6, 2017 SIGNATURE: [illegible]

ADDRESS: 2145 Fairhaven Ct. 97068 PHONE: 503-7440786

EMAIL ADDRESS: threseenergy@comcast.net.

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE 5/6/17 SIGNATURE [signature] ADDRESS 3765 Fairhaven Dr. West Linn 97068.

EMAIL shermpauly@yahoo.com PHONE 5035024034

May 16 2017 [signature] JEANNIE C. LEE

3765 FAIRHAVEN DRIVE

West Linn. Oregon. 97068

5/16/2017 [signature]

SHERMAN R PAULY

June 1, 2017

To: West Linn Planning Commissioners: Jim Farrell, Lamont King, Charles Mathews, Joel Metlen, Carrie Pellett, Bill Relyea, and Gary Walvatne
City of West Linn, Planning Department
22500 Salamo Road, #1000
West Linn, OR 97068

From: Patrick Noe, Sunset Neighborhood Association President
Meredith Olmsted, BHT Neighborhood Association President

Subject: Petition regarding any future development at 4096 Cornwall Street, West Linn, OR

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6/6/17

Rebel + Joe Steirer 2110 Fairhaven Ct. West Linn 503-723-0382

Rebel Steirer Joseph Steirer

rebelsteirer@gmail.com Joe.x.Steirer@GSK.com

Petition Regarding Development at
4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
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DATE: 6·6·17 SIGNATURE: [signature]

ADDRESS: 2125 Fairhaven Ct PHONE: 503 5168289

EMAIL ADDRESS: MMELINW@AOL.com

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE: SIGNATURE:

ADDRESS: PHONE:

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DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

Petition Regarding Development at 4096 Cornwall Street, West Linn, OR

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2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

DATE	SIGNATURE	ADDRESS	EMAIL	PHONE
6/4/17	[signature]	3818 FAIRHAVEN	sludwigson@LHTS.com	503-329-0716
/ /				
/ /				
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/ /				

6/7/17 Chelsea Diaz 3687 Landis St., West Linn, OR 97068

6/7/17 Chris G. 3687 Landis St, West Linn, OR 97068

Petition Regarding Development at
4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

DATE: 6/6/17 SIGNATURE: Christine B Henry

ADDRESS: 3795 Fairhaven Dr. PHONE: 503-303-
West Linn OR 97068
EMAIL ADDRESS: christinehenry1821@gmail.com

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

ELECTRONIC PETITIONS RECEIVED

RE: The proposed development at 4096 Cornwall Street in West Linn, OR **From:** "Henry,

On Jun 6, 2017, at 8:04 AM, Roger Dillingham <dilly72@icloud.com> wrote:
<Petition About Cornwall Development copy.pages>

Petition Regarding Development at
4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

DATE: 6/6/2017 SIGNATURE: Jana Dillingham

ADDRESS: 3802 Fairhaven Dr, west linn OR 97068 PHONE: 651-245-9880

EMAIL ADDRESS: Dilly72@icloud.com

DATE: 6/6/2017 SIGNATURE: Roger Dillingham

ADDRESS: 3802 Fairhaven Dr, West Linn OR 97068
PHONE: 651-707-3129

EMAIL ADDRESS: Dilly72@icloud.com

From: Darin Stegemoller <Darin.Stegemoller@jedunn.com>
Subject: URGENT PLEASE SIGN THIS HCEN PETITION!.pdf
Date: June 5, 2017 at 8:35:18 PM PDT
To: Pam Yokubaitis <pam@yokubaitis.com>

From: Chuck Nokes <nokeschuck@gmail.com>
Subject: Re: URGENT: The Petition to Sign and Return, PLEASE
Date: June 6, 2017 at 7:25:37 PM PDT
To: Pam Yokubaitis <pam@yokubaitis.com>

Petition Regarding Development at
4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils and wetland hydrology to protect the Tannler Woods wetlands.

DATE: 6/5/17 SIGNATURE: [signature]

ADDRESS: 3745 Parkhaven Dr PHONE: 503 730 7514

EMAIL ADDRESS:

DATE: 6/5/17 SIGNATURE: [signature]

ADDRESS: 3715 Parkhaven Dr PHONE: 360 609 2938

EMAIL ADDRESS: nokeschuck@gmail.com

DATE: SIGNATURE:

ADDRESS: PHONE:

EMAIL ADDRESS:

DATE: SIGNATURE:

From: <tim@timfreeman.com>
Subject: RE: URGENT: PLEASE SIGN THIS HCEN PETITION!
Date: June 1, 2017 at 7:29:23 PM PDT
To: "Pam Yokubaitis" <pam@yokubaitis.com>

Petition Regarding Development at 4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

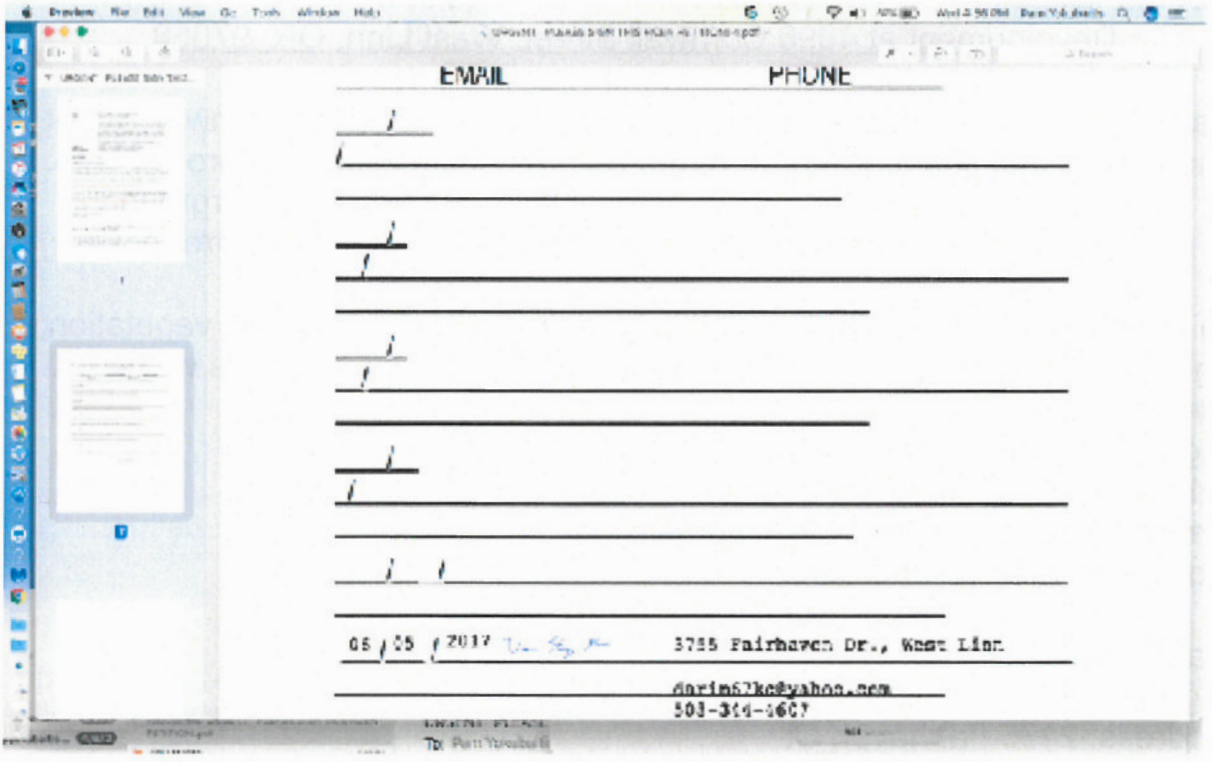
_____ DATE SIGNATURE ADDRESS EMAIL PHONE_____

__6__/__1_ /2017 Tim freeman 3770 Fairhaven drive West Linn OR 97068 tim@timfreeman.com 5036571223

_____

__6__/_ 1__/_2017 ____Jeanne@JeanneFreeman.com 3770 Fairhaven Dr West Linn OR 97068 503 657

On Jun 5, 2017, at 8:35 PM, Darin Stegemoller <darin.stegemoller@jedunn.com> wrote:



From: Misten Daniels <mistendaniels@gmail.com>
Subject: Re: URGENT: The Petition to Sign and Return, PLEASE
Date: June 6, 2017 at 3:49:30 PM PDT
To: Pam Yokubaitis <pam@yokubaitis.com>Petition Regarding
Development at 4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:

1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.

2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

Date: 6/6/17
Signature: Misten Daniels
Address: 2105 Fairhaven Ct
Email Address: mistendaniels@gmail.com
Home Phone: 503-853-3308

Date: 6/6/17
Signature: John I Gill
Address: 2105 Fairhaven Ct
Email Address: j.i.gill@comcast.net
Home Phone: 503-502-8076**From:** So Wong <sohinwong@gmail.com>

From: Leann MacMillan <leann.macmillan@gmail.com>
Subject: Re: URGENT: PLEASE SIGN THIS HCEN PETITION!
Date: June 2, 2017 at 10:55:33 AM PDT
To: Pam Yokubaitis <pam@yokubaitis.com>

____ DATE SIGNATURE ADDRESS EMAIL PHONE

6/2/17 Leann MacMillan 3715 Fairhaven Drive leann.macmillan@gmail.com 503-351-4718
6/2/17 Cameron MacMillan 3715 Fairhaven Drive c.h.macmillan@comcast.net 503-351-4718
6/2/17 Allison MacMillan (same address and phone)
6/2/17 Natalie MacMillan (same address and phone)
Thanks Pam! -Leann, Cam, Alli, Natalie

From: So Wong <sohinwong@gmail.com>
Subject: Re: URGENT: PLEASE SIGN THIS HCEN PETITION!
Date: June 4, 2017 at 3:01:02 PM PDT
To: Pam Yokubaitis <pam@yokubaitis.com>

DATE: 6/4/17 SIGNATURE: So H. Wong
ADDRESS: 2135 Fairhaven Ct, West Linn, OR 97068
EMAIL: sohinwong@gmail.com PHONE:503-957-8082

On Jun 1, 2017, at 7:29 PM, tim@timfreeman.com wrote:

Thanks Pam for investing your time in this.
Jeanne & Tim
Petition Regarding Development at 4096 Cornwall Street, West Linn, OR 97068
I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:
1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.
2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.
_____ DATE SIGNATURE ADDRESS EMAIL PHONE_____

__6__/__1_ /2017 Tim freeman 3770 Fairhaven drive West Linn OR 97068 tim@timfreeman.com 5036571223

__6__/_ 1__/_2017 ____Jeanne@JeanneFreeman.com 3770 Fairhaven Dr West Linn OR 97068 503 657 1223_____

On Jun 2, 2017, at 7:37 AM, Jim Harrop <harropconsulting@comcast.net> wrote:

Petition Regarding Development at 4096 Cornwall Street, West Linn, OR 97068

I agree that any development, now or in the future, at 4096 Cornwall Street must have the land thoroughly vetted before construction is approved with:

1) a hydrogeologist's examination of the surface and underground springs to prevent water or structural damage to the many surrounding homes.

2) a wetlands determination of this land, including hydrophytic vegetation, hydric soils, and wetland hydrology to protect the Tanner Woods wetlands.

DATE	SIGNATURE	ADDRESS	EMAIL	PHONE
7-2-17	Jim Harrop	3730 Fairhaven Dr.	harropconsulting@comacst.net	503-722-5210
7-2-17	Linda Harrop	3730 Fairhaven Dr.	lrharrop@comacst.net	503-722-5210
7-2-17	Emmy Harrop	3730 Fairhaven Dr.		503-722-5210

Arnold, Jennifer

From: Pam Yokubaitis <pam@yokubaitis.com>
Sent: Wednesday, December 13, 2017 10:33 AM
To: Arnold, Jennifer
Subject: PA-17-43 6 lot ELD Subdivision at 4096 Cornwall Street
Attachments: THE CITIZENS' PERSPECTIVE (CCI Proposal).pdf; ATT00001.htm

Jennifer,

Please add this entire email as one part of my newly written testimony. Commissioners, read this email from the bottom up. The correspondence below was generated after less than 10 BHT residents finally met with Icon about this second proposed development. This meeting was an attempt to have an NA meeting with the developer, but due to the expedited review process, there was no time for postcards to be mailed to all residents; only emails were sent to specific neighbors with less the 72 hours notice.

The commissioners, city staff, developer, and residents have all invested an enormous amount of time to read evidence, deliberate on this proposed development in 2 hearings, and now resume this process in a second, expedited review. *All of this could have been avoided* by simply mandating and enforcing the developer meet with all affected NAs *before any hearings were held.*

Has this journey been worth all this effort? In hindsight, yes, because the developer has made changes to address some of our concerns; I have tried to be part of the solution to improve current processes by actively participating in CCI meetings; the residents have shared important information about the land so better planning could occur; and we now have a copious amount of documentation to support our concerns should such be needed in the future by any individual homeowner. However, I do believe that group meetings with the city, developer and residents all collaborating in the planning phase, and when major changes are made, fosters teamwork and goodwill with the citizens.

As a resident who has already identified multiple problems and offered solutions about this process to the CCI, it is apparent from this situation, and many others, that WL's land use process is not citizen friendly. I have tried to make a positive contribution to change this, and only hope that the solutions the CCI recommends are based on "Citizens First". We all live in West Linn, so all our decisions should be based on what is best for our community, long term so that generations to come will treasure West Linn like we all do.

Pam Yokubaitis

Begin forwarded message:

From: Pam Yokubaitis <pam@yokubaitis.com>
Subject: Re: Willow Ridge - Proposed layout/design and how it's different from before...
Date: December 9, 2017 at 12:26:28 PM PST
To: Darren Gusdorf <darren@iconconstruction.net>
Cc: Ed Turkisher <castle-wing@comcast.net>, Patrick Noe <art2noe@yahoo.com>, Richard Santee <richardsantee@gmail.com>, Pia Snyder <piasnyder@comcast.net>, Jon Gice

<jon_gice@sbcglobal.net>, Robert Jester <jjtjester@comcast.net>, Scott Laroche <14.4volts@gmail.com>, Travis Takano <travis_wp@yahoo.com>, Meredith Olmstead <clubolmstead@comcast.net>, "rickgivens@gmail.com" <rickgivens@gmail.com>, Mark Handris <handris@aol.com>, "Arnold, Jennifer" <jarnold@westlinnoregon.gov>, Thomas Elin <elin.thomas.e@gmail.com>, Steve Thornton <stevo64@gmail.com>, Gary Eppelsheimer <garyepp@mac.com>, Chelsea Diaz <chelsead2864@gmail.com>
Reply-To: Pam Yokubaitis <pam@yokubaitis.com>

Hello, Darren (and everyone),

Thank you very much for summarizing the changes made between your first set of Willow Ridge plans and the second set more recently submitted. This is very helpful to inform those individuals who had schedule conflicts and couldn't attend your pre-app meeting and/or BHT's NA meeting this week. We really do appreciate you reaching out to us with your correspondence below, as well as having both you and Mark attend our BHTNA meeting on exceptionally short notice because of this expedited process.

We accept your apology for not meeting with BHTNA much earlier in this process. As I explained at the NA meeting to you and Mark this week, the tremendous amount of effort and time that has been invested by Icon in preparing two sets of proposed developments, in addition to the tremendous amount of time and effort spent by numerous residents to write testimony, supply evidence and testify has been nothing but exceptional. BHTNA residents were FORCED to communicate with you in a hearing because the city didn't mandate you meet with BHTNA before any hearings occurred. Additionally, there were problems experienced with BHTNA's leadership receiving notification from the city, and when BHT asked for a meeting with you (through Sunset leadership who already had an Icon contact), Icon demanded we supply a list of our questions within 5 hours to to determine if you would meet with us. So Meredith, Ed and myself went into emergency overdrive to each draft a list of questions, and the next day, our Sunset contact told us Icon chose not to meet with BHTNA. So the door was slammed shut on all communications with our neighborhood residents, with no other way to be heard except to testify.

I must add that I did attend the second of the two Sunset meetings held because Sunset's President invited me, but the sketchy diagram that was presented there wasn't at all helpful, and we were told a retention facility was going to address the water issues, with *no mention of using the creek* as a detention pond. Needless to say, when we finally saw your detailed plans online turning Cornwall Creek (new name approved by City Council) into a detention pond, this major departure again FORCED us to testify about something that was never discussed with the residents. Such changes after meetings with NAs is a significant problem for the citizens of West Linn in general.

As a Past President of BHTNA, and having testified in the past, I fully understood the magnitude that BHTNA now faced to address the numerous concerns of surrounding residents, and the amount of work we now had to do. Because of Sunset School's nightmare to local residents that resulted in flooded basements of surrounding residents and LUBA's ruling not being honored by West Linn's City Council, many Sunset residents are left in deep debt or can't afford remediation and thus have lost their property value….all due to no fault of their own. BHTNA was not going to experience this same nightmare, so we united with Sunset NA to have an even louder voice. Additionally, Dogami pictures of the slope on this property is worrisome for landslide. If this hillside slides, Willow Creek, Hidden Creek Estates, Tanner Woods and Barrington Heights subdivisions all could get wiped out. Since homeowners insurance doesn't cover damage from acts of nature, and we know this land is very wet with springs under all our homes, we are admittedly hypersensitive to the consequences that Sunset residents have already experienced. Who of many parties are liable if problems arise in any of the surrounding homes? It is therefore imperative that all parties (city staff and commissioners, residents and developer) be fully aware of what we're dealing with and question if building 6 homes at the expense of 60

homes below is worth this risk. If it is worth the risk, all necessary safety measures, optimum construction, special inspections, etc. must be incorporated in your proposed development.

I was angry BHT couldn't have an NA meeting with Icon because you forced us into doing a tremendous amount of work just to communicate. I then emailed Mayor Axelrod about my complaints with the process and provided solutions to improve the planning process. Russ replied by inviting me to attend the CCI (Committee for Citizen Involvement) to share my solutions, so I did. I thought this committee was charged to identify and solve land use problems, so I wrote the document below for the committee to consider the many concerns experienced by West Linn residents. This document was also distributed to all the Neighborhood Association Presidents to generate community discussion directly with their citizens. It was only *after* I submitted this 3 page document that I learned the CCI was created to identify the land use problems, and another *new group of people* would identify the solutions to the problems CCI identified. I am sharing this with you not only because you and Mark are West Linn citizens, but as a developer, your input on this topic is equally as important as it gains more traction. This document serves only as a starting point for discussion on this topic, but it is my hope that CCI's *new group of people* will include developers, citizens and city staff to solve the many issues experienced by each party, and done with a collaborative spirit.

OFFSITE WETLAND DETERMINATION REPORT **BATCH**

OREGON DEPARTMENT OF STATE LANDS **WD#:** 2017-0167

775 Summer Street NE, Suite 100, Salem OR 97301-1279, Phone: (503) 986-5200

At your request, an offsite wetland determination has been conducted on the property described below.

County: Clackamas City: West Linn

Other Address: Jon Gice, BHT Home Owners Association, 2030 Tanner Creek Lane, West Linn, OR 97068

Township: 2S Range: 1E Section: 36 Q/Q: BA Tax Lot: 6300

Project Name: Determination Request for Property at 4096 Cornwall Street

Site Address/Location: Cornwall St., West Linn, OR

☐ The National Wetlands Inventory shows wetland/waterways on or adjacent to the sites.

☐ The county soil survey shows hydric (wet) soils at one of the sites. Hydric soils indicate that there may be wetlands.

☒ It is unlikely that there are jurisdictional wetlands or waterways on the property based upon a review of wetlands maps, the county soil survey and other information. An onsite investigation by a qualified professional is the only way to be certain that there are no wetlands.

☐ There are waterways on or adjacent to some of the properties subject to the state Removal-Fill Law.

- ☐ A state permit is required for ≥ 50 cubic yards of fill, removal, or ground alteration in the wetlands or waterways.
- ☐ A state permit may be required for any amount of fill, removal, or other ground alteration in the Essential Salmonid Habitat and hydrologically associated wetlands.

☐ A state permit will be/will not be required for the project if _____.

☐ The proposed parcel division may create a lot that is largely wetland and thus create future development problems.

☐ A wetland determination or delineation may be needed prior to site development; the wetland delineation report should be submitted to the Department of State Lands for review and approval.

☐ A permit may be required by the Army Corps of Engineers: (503) 808-4373

Note: This report is for the state Removal-Fill Law only. City or County permits may be required for the proposed activity.

Comments: On April 19, 2017, DSL received a request from a representative of the BHT Home Owners Association, Jon Gice, to perform an offsite jurisdictional determination for a proposed residential development site at4096 Cornwall St. Based on the information available in our office, it is unlikely that there are jurisdictional wetlands or waterways present on the property. An onsite inspection by a qualified professional is the only way to be certain whether wetlands are present.

Determination by: Pete Ryan Date: 04/26/2017

☐ This jurisdictional determination is valid for five years from the above date, unless new information necessitates a revision. Circumstances under which the Department may change a determination and procedures for renewal of an expired determination are found in OAR 141-090-0045 (available on our web site or upon request). The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months from the above date.

☒ **This is a preliminary jurisdictional determination and is advisory only.**

Copy To: ☒ Other jon_gice@sbcglobal.net ☐ Enclosures:

☐ _____, Planning Department

☐ , DSL

FOR OFFICE USE ONLY

Entire Lot(s) Checked? ☒ Yes ☐ No **Waters Present** ☐ Yes ☒ No ☐ Maybe **Request Received:** 04/ 19 /2017

LWI Area: West Linn. **LWI Code:** NA **Latitude:** 45.357039 **Longitude:** - -122.633436 **Related DSL File #:** NA

Has Wetlands? ☐Y ☐N ☒Unk **ESH?** ☐Y ☒N **Wild & Scenic?** ☐Y ☒N **State Scenic?** ☐Y ☒N **Coast Zone?** ☐Y ☒N ☐Unk

Adjacent Waterbody: Tanner Creek. **NWI Quad:** Canby ☐ Scanned ☐ Mailings Completed ☒ Data Entry Completed

EMAIL CORRESPONDENCE
WITH THE STATE OF OREGON

On Apr 19, 2017, at 10:40 AM, RYAN Peter <peter.ryan@state.or.us> wrote:
Hi Jon,
I've attached a copy of the Department's Wetland Determination Request Form in two formats.
Choose one, fill it out completely, attach the presentation you mentioned and email it back.
Thanks.
-Pete
Peter Ryan, PWS
Jurisdiction Coordinator – Metro Region
Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday
Work Days: Monday-Thursday | **Out of Office: Fridays**
<wetland_determ_req.pdf><wetland_determ_req.doc>

From: Jon Gice <jon_gice@sbcglobal.net>
Subject: Re: Wetland Determinattion Request Form
Date: April 19, 2017 at 10:57:04 AM PDT
To: RYAN Peter <peter.ryan@state.or.us>
Cc: Jon <jon_gice@sbcglobal.net>

Here is the completed form and the presentation that I talked about. Please let me know if this came thru and if I am on the right track.

Click to Download
wetland_determ_req.pdf
105 KB

Click to Download
Wetland Determination Request - Final.pptx
25.2 MB

-----Original Message-----
From: Jon Gice [mailto:jon_gice@sbcglobal.net]
Sent: Wednesday, April 19, 2017 12:39 PM
To: RYAN Peter
Subject: On line completion of the form
Peter
I have tried to replicate what I ran into yesterday with that $6 per month pdf service vendor and I can't seem to find any link on the State website where I can try and complete the Request on line. I am dumbfounded at this point.

On Apr 19, 2017, at 1:36 PM, RYAN Peter <peter.ryan@state.or.us> wrote:
Thanks for looking Jon.
In the future you can find the form at:
http://www.oregon.gov/dsl/WW/Documents/wetland_determ_req.pdf
-Pete
Peter Ryan, PWS
Jurisdiction Coordinator – Metro Region Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday Work Days: Monday-Thursday | Out of Office: Fridays

-----Original Message-----
From: Jon Gice [mailto:jon_gice@sbcglobal.net]
Sent: Wednesday, April 19, 2017 2:26 PM
To: RYAN Peter
Subject: Re: On line completion of the form
Very good
Any estimate on when I will hear back on my request?
Sent from my iPhone

From: RYAN Peter <peter.ryan@state.or.us>
Subject: RE: On line completion of the form
Date: April 19, 2017 at 3:22:22 PM PDT
To: "'Jon Gice'" <jon_gice@sbcglobal.net>
Needs to be logged in and then it should to take 1 to 2 weeks to works its way up the queue
-Pete
Peter Ryan, PWS
Jurisdiction Coordinator – Metro Region Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday Work Days: Monday-Thursday | Out of Office: Fridays

On Apr 20, 2017, at 7:19 AM, Jon Gice <jon_gice@sbcglobal.net> wrote:
Thank you so much. Please do keep in touch on the progress on this. I would love to be physically present for a site visit so I can assist on the walk thru in any possible. We are truly concerned about the environmental impact of this development.

-----Original Message-----
From: Jon Gice [mailto:jon_gice@sbcglobal.net]
Sent: Friday, April 28, 2017 9:52 AM
To: RYAN Peter
Subject: Re: On line completion of the form
Peter,
Any update on our request?

From: RYAN Peter <peter.ryan@state.or.us>
Subject: RE: On line completion of the form
Date: May 1, 2017 at 6:59:58 AM PDT
To: "'Jon Gice'" <jon_gice@sbcglobal.net>
Hi Jon,
I finished my part last Wednesday...and then it went to my supervisor for her to okay. You should get your copy soon.
-Pete

From: Jon Gice <jon_gice@sbcglobal.net>
Subject: Re: On line completion of the form
Date: May 1, 2017 at 7:20:42 AM PDT
To: RYAN Peter <peter.ryan@state.or.us>
Thank you so much. We just got notice that there will be a public hearing about this land on 5/17 so we feel the pressure to get the Determination done. I appreciate anything that can expedite.

From: Jon Gice <jon_gice@sbcglobal.net>
Subject: Wetlands Request
Date: May 8, 2017 at 8:10:13 AM PDT
To: RYAN Peter <peter.ryan@state.or.us>
Peter
We received the report and I need your guidance on my next step. I was under the impression that the State would send someone out to review the property. The report states that we need to secure a Wetlands expert.
Can you please call me this morning (Monday) at 503 882 2996?
Time is of the essence as we go to hearing next week.
THANK YOU!

From: Jon Gice <jon_gice@sbcglobal.net>
Subject: FINAL questions (I promise)
Date: May 10, 2017 at 7:12:54 AM PDT
To: RYAN Peter <peter.ryan@state.or.us>
Peter
I hate to bother you again but I have 3 more questions, 2 based on the attached report:
1. Is the attached report convincing as it only rules out 3 conditions to determine a wetland and there are many more conditions that need to be addressed?
2. Is Schoot & Associates a qualified firm, known to the State, that did this attached report?
3. How does the County interface with the State in wetland determination - can the County make it's own determination?

From: RYAN Peter <peter.ryan@state.or.us>
Date: May 10, 2017 at 9:16:54 AM PDT
To: "'Jon Gice'" <jon_gice@sbcglobal.net>
Subject: RE: FINAL questions (I promise)

Hi Jon,
No problem with the questions...that's our job. My answers are below:

1) I assume when you ask about the "3 conditions" used by the consultant you are referring to hydrophytic vegetation, hydric soils, and wetland hydrology. These are the 3 parameters that need to be sampled to determine if a site meets wetland criteria. However, you are right to suggest that the attached memo isn't a wetland delineation report. Delineation reports require considerably more background material and sampling point data.

2) Schott & Associates has been doing this work for some time.....you can check out their 2011-2015 summary data at: http://www.oregon.gov/dsl/WW/Documents/ConsultSum2011-15.pdf

3) Normally, a local government will notify the Department if a proposed development site is identified as wetland in a sensitive land overlay (see guidance for our Wetland Land Use Notice process on our Waterway & Wetland Planning page: http://www.oregon.gov/dsl/WW/Pages/WetlandConservation.aspx). However, we wouldn't have received a notice for this site because it wasn't identified in the City's LWI.

Hope this helps.
-Pete
Peter Ryan, PWS
Jurisdiction Coordinator – Metro Region
Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday
Work Days: Monday-Thursday | Out of Office: Fridays

From: Jon Gice <jon_gice@sbcglobal.net>
Subject: Re: FINAL questions (I promise)
Date: May 10, 2017 at 12:55:51 PM PDT
To: RYAN Peter <peter.ryan@state.or.us>
Helps a lot again! Thank you once again!
Sent from my iPhone

-----Original Message-----
From: Jon Gice [mailto:jon_gice@sbcglobal.net]
Sent: Monday, May 15, 2017 9:31 AM
To: RYAN Peter
Subject: I'm back...
Peter
Does the state have a listing of qualified wetlands consultants that you can recommend?

On May 15, 2017, at 10:48 AM, RYAN Peter <peter.ryan@state.or.us> wrote:
Hi Jon,
Sorry but were not allowed to make recommendations. Instead here are three places to look.
1) on our website, we list all current delineation reports by county.
You can open reports and check see who prepared them:
http://www.statelandsonline.com/index.cfm?fuseaction=Wetlands.SelectCounty
2) that same consultant summary I sent last time lists the consultants who have submitted reports to the Department:
http://www.oregon.gov/dsl/WW/Documents/ConsultSum2011-15.pdf
3) the Pacific Northwest Chapter of the Society of Wetland Scientists maintains a list of consultants at:
http://sws.org/images/chapters/pacific_northwest/docs/2017-4-5-Consultant-List.pdf
Good luck
-Pete

-----Original Message-----
From: Jon Gice [mailto:jon_gice@sbcglobal.net]
Sent: Tuesday, May 16, 2017 6:47 AM
To: RYAN Peter
Subject: Re: I'm back...
I keep trying to end this yet another question popped up last night - do we need BOTH a Hydrologist and Hydrogeologist?
Sent from my iPhone

From: RYAN Peter <peter.ryan@state.or.us>
Subject: RE: I'm back...
Date: May 16, 2017 at 7:04:00 AM PDT
To: "'Jon Gice'" <jon_gice@sbcglobal.net>

If you are asking about the background for a wetland consultant, that can be all over the board (including soil scientists, botanists, biologists, hydrologists, etc.).

If you are looking for someone to determine how water is moving down that hillside, a hydrogeologist may be a better choice. They tend to focus more on the movement of groundwater as opposed to surface water.

Peter Ryan, PWS
Jurisdiction Coordinator - Metro Region
Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-4844
503.986.5232 Monday-Wednesday | 503.779.4159 Thursday
Work Days: Monday-Thursday | Out of Office: Fridays

City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT Jennifer Arnold	PROJECT NO(S). SUB-17-01 / WRG-17-01	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S) 5400 / 1700	TOTAL 7100

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP) *
- ☐ Conditional Use (CUP)
- ☐ Design Review (DR)
- ☐ Easement Vacation
- ☐ Extraterritorial Ext. of Utilities
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Hillside Protection & Erosion Control
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA) */**
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Non-Conforming Lots, Uses & Structures
- ☐ Planned Unit Development (PUD)
- ☐ Pre-Application Conference (PA) */**
- ☐ Street Vacation
- ☒ Subdivision (SUB)
- ☐ Temporary Uses *
- ☐ Time Extension *
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☐ Water Resource Area Protection/Wetland (WAP)
- ☒ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:	Assessor's Map No.:	21E36BA
4096 Cornwall St. West Linn, OR	Tax Lot(s):	6300
	Total Land Area:	2.18 acres

Brief Description of Proposal:
Subdivision application to divide the subject property into six lots for construction of single-famiy detached homes. Willamette & Tualatin River Greenway application to adjust HCA boundary.

Applicant Name: (please print)	Icon Construction and Development, LLC	Phone:	(503) 657-0406
Address:	1980 Willamette Falls Drive, Suite 200	Email:	mark@iconconstruction.net
City State Zip:	West Linn, OR 97068		
Owner Name (required): (please print)	Same as applicant.	Phone:	
Address:		Email:	
City State Zip:			
Consultant Name: (please print)	Rick Givens, Planning Consultant	Phone:	503-479-0097
Address:	18680 Sunblaze Dr.	Email:	rickgivens@gmail.com
City State Zip:	Oregon City, OR 97045		

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format. If large sets of plans are required in application please submit only two sets.**

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 2-21-17

Owner's signature *(required)* — Date: 2-21-17

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PLANNING & BUILDING
CITY OF WEST LINN
INT. TIME

WILLOW RIDGE

Six-Lot Subdivision Application

Icon Construction & Development, LLC

Proposal: This application requests approval of a 6-lot subdivision to be developed on property located at 4096 Cornwall St. in West Linn. The property is located on the west side of, and at the terminus of, the Cornwall Street right-of-way. Landis Street is stubbed to the west property line of the subject site.

The subject property is described as Tax Lot 6300 of Assessor's Map 21E36BA. The site is 2.18 acres (94,808 square feet) in area. It is presently developed with a single-family detached home. This home will be removed to allow for the construction of the extension of Landis Street to Cornwall Street. The subject property is zoned R-10.

Figure 1: Vicinity Map

Figure 2: Aerial Photograph

The proposed development conforms to the applicable provisions of the CDC as follows:

DIVISION 8. LAND DIVISION

Chapter 85
GENERAL PROVISIONS

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

Comment: The subject property fronts on Cornwall Street and Landis Street is stubbed to the west property line of the site. The development of the site will provide for the extension of Landis Street through the site to connect with Cornwall Street. Both Landis and Cornwall are local streets intended to serve the immediate neighborhood.

No reserve strips are warranted as there are no stub streets proposed. No stub streets are proposed as the properties to the south and west are already developed. The proposed alignment of Landis Street abuts the property to the north and would allow for a private street to be extended to serve the rear yard of that property. The unbuilt right-of-way of Cornwall Street that extends to the southerly border of the subject property is too steep to allow for construction and existing development precludes its extension to the west.

No cul-de-sac streets are proposed so the provisions of Section 85.200(A)11 are not applicable.

No new street names are proposed. The maximum street grade proposed is 15%, which is consistent with City standards. The minimum centerline curve radius proposed is 100 feet, which exceeds the minimum standard of 50 feet. No alleys are proposed. All proposed streets have sidewalks and planter strips, consistent with City standards. All proposed streets will be dedicated without any reservations or restrictions. All lots in the subdivision have access to a public street, as shown on the Tentative Plan. No gated streets or special entry designs are proposed.

B. *Blocks and lots.*

Comment: No new blocks having a length of more than 800 feet are proposed. The proposed street simply completes the connection of Landis through to Cornwall Street. Due to terrain and surrounding development patterns, it is not practicable to make blocks that are shorter. The proposed lot have property lines that are perpendicular to the street; contain sufficient area to meet the requirements of the R-10 zone, and provide for building envelopes that will meet required setbacks. The lots have buildable depths that do not exceed 2.5 times their width.

The development conforms to the provisions of Chapter 48, as discussed below in this report.

85.200(B) (5). No double frontage lots are proposed. The proposed lot lines within the development are approximately at right angles to the streets on which they front, as required by Section 85.200(B)(6). No flag lots are proposed. The proposed lots are not large enough to allow for future re-division under the provisions of the R-10 zone.

C. *Pedestrian and bicycle trails.*

Comment: No pedestrian or bicycle trails are proposed in this development. No bicycle improvements were listed on the Bicycle Master Plan.

D. *Transit facilities.*

Comment: Not applicable. No transit facilities are proposed or required as there is no TriMet service in this area.

E. *Lot grading*.

Comment: Grading of the proposed building site will conform to City standards. Preliminary grading plans for the street area is shown on the Preliminary Grading Plan submitted with this application. Compliance for individual homes will be reviewed at the time of building permit application.

F. *Water*.

Comment: City water is available in both Landis Street and Cornwall Street. The waterline in Cornwall Street, however, is substandard and will need to be upgraded in conjunction with the proposed development

G. *Sewer*.

Comment: As shown on the Preliminary Utility Plan, there is an existing public sewer line stubbed in Landis Street to the west boundary of the site. This sewer line will be extended through the property to Cornwall Street. Lots 5 through 6 will be served from the south via the extension of a sewer line from an existing sewer manhole located in an easement between Tax Lots 4700 and 4800.

H. Storm.

Comment: As shown on the Preliminary Utility Plan, storm sewer will be installed in the new street and piped to a detention and treatment facility to be developed in the City-owned tract on the north side of Fairhaven Street. Treated storm water will be discharged at pre-development levels, in accordance with City standards.

I. Utility easements. Utility easements are shown on the plans submitted with this application.

J. Supplemental provisions.

1. Wetland and natural drainageways. Comment: There are no wetlands or natural drainageways on or abutting the subject property.

2. Willamette and Tualatin Greenways. Comment: See discussion of Chapter 48, below

3. Street trees. Comment: Street trees will be provided as required, as shown on the Tentative Plan.

4. Lighting. Comment: Prior to final plat approval, an analysis of existing street lighting will be conducted and, if necessary, improvements made to comply with these standards. The preliminary design for streetlight placement within the subdivision is shown on the preliminary utility plan. To reduce ambient light and glare, high or low pressure sodium light bulbs will be provided for all streetlights within the subdivision. The lights will be shielded so that the light is directed downwards rather than omni-directional.

5. Dedications and exactions. Comment: No new dedications or exactions to service off-site properties are anticipated in conjunction with this application.

6. Underground utilities. Comment: All utilities within the development will be placed underground, as required by this section.

7. Density requirement. Comment: The density calculations submitted with this application demonstrate that the maximum density permitted on this site is 6 units. The proposed density of 6 units satisfies the minimum density standard.

8. Mix requirement. Comment: Not applicable. This requirement only applies in the R-2.1 and R-3 zones. The subject property is zoned R-10.

9. Heritage trees/significant tree and tree cluster protection. Comment: No heritage trees, as defined in the Municipal Code, are present on the site. Other existing trees are mapped on the Tree Plan, including those identified by the City Arborist as "significant". Please see discussion of Chapter 55, below.

10. Annexation and street lights. Comment: Not applicable. The subject property is within the city limits.

Chapter 48 - ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

B. Access control standards.

1. Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to

determine access, circulation and other transportation requirements. (See also CDC 55.125, Traffic Impact Analysis.)

Comment: The trip generation rate for single-family homes is approximately 10 vehicle trips per day according to Institute of Transportation Engineers data. One of these trips will occur in the am peak hour and one will occur in the pm peak hour. The proposed subdivision will add five new dwellings (additionally, the existing home on the property will be replaced with a new dwelling, which will generate the same traffic as the existing home would). A total of 50 new trips per day would be expected from this development, with 5 occurring in the am peak hour and 5 occurring in the pm peak hour. Because of the small size and limited amount of traffic to be generated by this development, a Traffic Impact Analysis is not required for this project.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

Comment: Access to the site will be via extension of Landis Street to Cornwall Street. The driveway serving the existing home on the property will be removed when the home is demolished, and the new driveway will be reviewed at the time of building permit application.

3. Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" to the developer/subdivider.

a) Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.

b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

Comment: All lots will take access from Landis/Cornwall Streets system within the subdivision.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

Comment: The site plan provides local street access for all lots. The site does not abut an arterial street.

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

Comment: No double-frontage lots are proposed.

6. Access spacing.

a. The access spacing standards found in Chapter 8 of the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians.

b. Private drives and other access ways are subject to the requirements of CDC 48.060.

Comment: The intersection of Landis with Cornwall Street, both of which are local streets, complies with these standards. There are no other intersections near the subject property.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

Comment: Each proposed lot will have one access point, as specified in this section.

8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with

adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

Comment: Not applicable. No shared accesses are proposed.

C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:

1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.

Comment: No block lengths in excess of 800 feet are proposed. The proposed development simply completes the local street connection between Landis and Cornwall Streets.

2. Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.

Comment: Proposed streets will comply with the public street standards of Chapter 92 (see below).

3. Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC 85.200(C), Pedestrian and Bicycle Trails, or cases where extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations preclude implementation, not just inconveniences or design challenges. (Ord. 1635 § 25, 2014; Ord. 1636 § 33, 2014)

Comment: No exceptions to block length are necessary.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

Comment: All lots will take access from the internal local street system. No arterial streets are located in this area.

B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:

1. One single-family residence, including residences with an accessory dwelling unit as defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dual-track or other driveway designs that minimize the total area of impervious driveway surface are encouraged.

2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all-weather surface. Width shall depend upon adequacy of line of sight and number of homes.

3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.

4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-of-way.

Comment: All lots will have individual driveways that conform to these standards. Driveways will be reviewed at the time of building permit application.

C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.

1. A turnaround may be required as prescribed by the Fire Chief.

2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.

3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.

4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.

Comment: No lots will have portions of the homes located more than 150 feet for the adjacent right-of-way.

D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.

Comment: All proposed streets will be built to full City standards for local streets.

E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:

Comment: Not applicable. No multi-family dwellings are proposed.

F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.

Comment: Not applicable. All lots are for single-family homes and all parking will be provided on the home's driveway.

G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.

Comment: No driveways onto arterial or collector streets are proposed.

H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.

Comment: Not applicable. No multi-family development is proposed.

I. Gated accessways to residential development other than a single-family home are prohibited. (Ord. 1408, 1998; Ord. 1463, 2000; Ord. 1513, 2005; Ord. 1584, 2008; Ord. 1590 § 1, 2009; Ord. 1636 § 34, 2014)

Comment: Not applicable. No gated accesses are proposed.

Chapter 55 - DESIGN REVIEW

As required by this chapter, the applicant retained the services of an arborist (Multnomah Tree Experts) to identify the size, species, and condition of existing trees on the subject property. The trees were surveyed and mapped by Centerline Concepts, Inc., as shown on the Existing Conditions Map submitted with this application. Subsequently, the City Arborist visited the site and determined that 38 of these trees are significant trees. These trees are shown on the Tree Preservation Plan submitted with this application. The following provisions of Chapter 55 relating to tree preservation are applicable to this proposal:

B. Relationship to the natural and physical environment.

1. The buildings and other site elements shall be designed and located so that all heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction.

Comment: No heritage trees are located on the subject property.

2. All heritage trees, as defined in the municipal code, all trees and clusters of trees ("cluster" is defined as three or more trees with overlapping driplines; however, native oaks need not have an overlapping dripline) that are considered significant by the City Arborist, either individually or in consultation with certified arborists or similarly qualified professionals, based on accepted arboricultural standards including consideration of their size, type, location, health, long term survivability, and/or numbers, shall be protected pursuant to the criteria of

subsections (B)(2)(a) through (f) of this section. In cases where there is a difference of opinion on the significance of a tree or tree cluster, the City Arborist's findings shall prevail. It is important to acknowledge that all trees are not significant and, further, that this code section will not necessarily protect all trees deemed significant.

a. *Non-residential and residential projects on Type I and II lands shall protect all heritage trees and all significant trees and tree clusters by either the dedication of these areas or establishing tree conservation easements. Development of Type I and II lands shall require the careful layout of streets, driveways, building pads, lots, and utilities to avoid heritage trees and significant trees and tree clusters, and other natural resources pursuant to this code. The method for delineating the protected trees or tree clusters ("dripline + 10 feet") is explained in subsection (B)(2)(b) of this section. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply.*

Comment: Five of the significant trees identified by the City Arborist are located on Type I or II lands outside of the street right-of-way. These trees are all on Lots 3 and 4 and fall within the fill slope of grading associated with the extension of Landis Street and must be removed. See comment on subsection 55.B.2.f, below.

b. *Non-residential and residential projects on non-Type I and II lands shall set aside up to 20 percent of the area to protect trees and tree clusters that are determined to be significant, plus any heritage trees. Therefore, in the event that the City Arborist determines that a significant tree cluster exists at a development site, then up to 20 percent of the non-Type I and II lands shall be devoted to the protection of those trees, either by dedication or easement. The exact percentage is determined by establishing the driplines of the trees or tree clusters that are to be protected. In order to protect the roots which typically extend further, an additional 10-foot measurement beyond the dripline shall be added. The square footage of the area inside this "dripline plus 10 feet" measurement shall be the basis for calculating the percentage (see figure below). The City Arborist will identify which tree(s) are to be protected. Development of non-Type I and II lands shall also require the careful layout of streets, driveways, building pads, lots, and utilities to avoid significant trees, tree clusters, heritage trees, and other natural resources pursuant to this code. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply. Please note that in the event that more than 20 percent of the non-Type I and II lands comprise significant trees or tree clusters, the developer shall not be required to save the excess trees, but is encouraged to do so.*

Comment: The Tentative Plan shows two areas being protected: the western portion of Lot 1 and the rear yard areas of 2 to 6. A total of 40 significant trees are located on the property. The plan would retain 13 of these trees, or 32.5% of the total significant trees on the site.

c. *Where stubouts of streets occur on abutting properties, and the extension of those streets will mean the loss of significant trees, tree clusters, or heritage trees, it is understood that tree loss may be inevitable. In these cases, the objective shall be to minimize tree loss. These provisions shall also apply in those cases where access, per construction code standards, to a lot or parcel is blocked by a row or screen of significant trees or tree clusters.*

Comment: Landis Street is stubbed to the west property line of the subject property. This street must be extended through the site to connect with Cornwall Street in order to comply with the City's Transportation System Plan. This extension will result in the loss of 13 trees on the property that are located within the street right-of-way or in areas that will be filled to allow for the extension of the street.

d. *For both non-residential and residential development, the layout shall achieve at least 70 percent of maximum density for the developable net area. The developable net area excludes all Type I and II lands and up to 20 percent of the remainder of the site for the purpose of protection of stands or clusters of trees as defined in subsection (B)(2) of this section.*

Comment: The density calculations submitted with this application demonstrate that the project will achieve more than 70% of maximum density.

Density Calculations:	Area in Sq. Ft.
Gross Site Area	94,808
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested	0
Area in street rights-of-way:	19,068
Net Site Area:	75,740
Type 1 & II Slopes Developed: 20,587 sq.ft. /10,000 x .5 =	1.03 Units
Water Resource Area:	None
Open space (Type III and IV lands)	None
Type III & IV lands developed: 55,153 sq. ft./10,000 =	5.51 Units
Total allowable base density:	6 Units

e. *For arterial and collector street projects, including Oregon Department of Transportation street improvements, the roads and graded areas shall*

avoid tree clusters where possible. Significant trees, tree clusters, and heritage tree loss may occur, however, but shall be minimized.

Comment: Not applicable. The site does not abut an arterial or collector street.

f. *If the protection of significant tree(s) or tree clusters is to occur in an area of grading that is necessary for the development of street grades, per City construction codes, which will result in an adjustment in the grade of over or under two feet, which will then threaten the health of the tree(s), the applicant will submit evidence to the Planning Director that all reasonable alternative grading plans have been considered and cannot work. The applicant will then submit a mitigation plan to the City Arborist to compensate for the removal of the tree(s) on an "inch by inch" basis (e.g., a 48-inch Douglas fir could be replaced by 12 trees, each four-inch). The mix of tree sizes and types shall be approved by the City Arborist.*

Comment: Trees located in the protected portions of the site will not be impacted by site grading.

Chapter 92: REQUIRED IMPROVEMENTS

92.010 PUBLIC IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

A. *Streets within subdivisions.*
   1. *All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:*

Comment: As shown on the Tentative Plan, the developer proposes to construct Landis/Cornwall Streets to full City standards.

   2. *When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:*

Comment: Not applicable. This subsection applies only when an applicant is proposing to construct less than full standard streets.

B. *Extension of streets to subdivisions. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.*

Comment: As shown on the Grading Plan submitted with this requirement will be met.

C. *Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need*

for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

Comment: As shown on the Grading Plan submitted with this application, the proposed streets will be graded for the full right-of-way and improved to City standards.

D. *Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.*

Comment: Monumentation will be installed and/or reestablished at street intersections in accordance with this subsection.

E. *Surface drainage and storm sewer system. A registered civil engineer shall prepare a plan and statement which shall be supported by factual data that clearly shows that there will be no adverse impacts from increased intensity of runoff off site of a 100-year storm, or the plan and statement shall identify all off-site impacts and measures to mitigate those impacts commensurate to the particular land use application. Mitigation measures shall maintain pre-existing levels and meet buildout volumes, and meet planning and engineering requirements.*

Comment: The project engineer has prepared a storm drainage plan, as shown on the Utility Plan, and a storm report for this project. Please refer to those documents.

F. *Sanitary sewers. Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.*
   1. *If the area outside the subdivision to be directly served by the sewer line has reached a state of development to justify sewer installation at the time, the Planning Commission may recommend to the City Council construction as an assessment project with such arrangement with the subdivider as is desirable to assure financing his share of the construction.*
   2. *If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.*

Comment: Sanitary sewers are available to this project from an existing line in Landis Street. This sewer will be extended to service all lots within the development, as required by this subsection, and will be stubbed into the Cornwall Street right-of-way to provide for future service to other properties in this area.

G. Water system. *Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City may reimburse the developer an amount estimated to be the proportionate share of the cost for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.*

Comment: Water lines will be installed within the proposed development and will connect to existing lines in Landis St. and Cornwall St. Additionally; the developer will replace and upgrade the existing water line in Cornwall St. to City standards. Tying these lines together will improve the water system in this area by providing looping that will aid in maintaining appropriate flows and will avoid sedimentation associated with dead-end lines.

H. Sidewalks.

1. *Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available. In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.*

   Comment: As required by this subsection, sidewalks will be installed along all street *frontages* in this development.

2. *On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).*

   Comment: Sidewalks will be constructed during home construction on each lot. The required letter of credit will be provided.

3. *The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve*

trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.

Comment: Sidewalks will be installed to City specifications.

4. *Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.*

Comment: Not applicable. The site does not abut an arterial or collector street.

5. *The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:*
   a. *The street has, or is projected to have, very low volume traffic density;*
   b. *The street is a dead-end street;*
   c. *The housing along the street is very low density; or*
   d. *The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.*

Comment: Sidewalks are proposed on both sides of all streets within this subdivision.

I. *Bicycle routes. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.*

Comment: No bicycle routes are called for on the local streets within this subdivision.

J. *Street name signs. All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.*

Comment: The developer will provide all required signs, consistent with City standards.

K. *Dead-end street signs. Signs indicating "future roadway" shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.*

Comment: Not applicable. No dead-end streets are proposed.

L. *Signs indicating future use shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.*

Comment: Not applicable. No public dedications are proposed.

M. *Street lights. Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street*

lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot (sized for intersection width) bronze pole. The developer shall submit to the City Engineer for approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

Comment: Street lights will be installed by the developer, consistent with the requirements of this subsection.

N. *Utilities. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.*

Comment: The developer will coordinate with utility companies for the installation of underground facilities for electrical, cable, natural gas, telephone, and street lighting. As required by this section.

O. *Curb cuts and driveways. Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.*

Comment: Curb cuts will be installed at the time of home construction and will be installed to City standards.

P. *Street trees. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.*

Comment: The developer will coordinate with the City Parks and Recreation Department regarding installation of street trees and will be responsible for paying the appropriate fee.

Q. *Joint mailbox facilities shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.*

Comment: The developer will coordinate with the US Postal Service and the City Engineer regarding the location of joint mailbox clusters and will install them in accordance with this section.

CHAPTER 28 - WILLAMETTE AND TUALATIN RIVER PROTECTION

City Planning staff indicate that they have adopted a new policy determining that the provisions of Chapter 28 are applicable to developments containing Habitat Conservation Areas shown on City mapping. The applicant disagrees with this interpretation. These provisions have never been applied to other developments outside of the Willamette River and Tualatin River Greenways, and we believe that this interpretation is in direct conflict with the plain language of that section.

28.030 APPLICABILITY

A. The Willamette and Tualatin River Protection Area is an overlay zone. The zone boundaries are identified on the City's zoning map, and include:

1. All land within the City of West Linn's Willamette River Greenway Area.

2. All land within 200 feet of the ordinary low water mark of the Tualatin River, and all land within the 100-year floodplain of the Tualatin River.

3. In addition to the Willamette Greenway and Tualatin River Protection Area boundaries, this chapter also relies on the HCA Map to delineate where development should or should not occur. Specifically, the intent is to keep out of, or minimize disturbance of, the habitat conservation areas (HCAs). Therefore, if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries, and there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required unless the development proposal is exempt per CDC 28.040.

Comment: The subject property is not within the identified Willamette River Greenway or within 200 feet of the ordinary low water mark of the Tualatin River. The Planning staff interpretation is based upon subsection 28.030(A)3. The site contains a minor area of HCA outside of the Water Resource Area boundary and staff's opinion is that the language of this subsection makes these provisions applicable to this project. However, we note that the plain language states that "*if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries,* ***and*** *there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required*" (emphasis added). The property must be within one of the river areas and have an HCA before the provisions of subsection 28.030(A)3 apply. This has been the consistent policy of the City of West Linn for years since the adoption of this Chapter. The property is not in either river resource area and, therefore, this chapter is not applicable despite there being Habitat Conservation Area on the property.

28.040 EXEMPTIONS/USES PERMITTED OUTRIGHT

The use of Habitat Conservation Areas for residential purposes is not listed as a use that is exempt or permitted outright. However CDC 28.040AA does apply to this proposal:

AA. Lands that are designated as an HCA only due to a forested canopy shall be exempted since trees are already protected in the municipal code and Chapters 55 and 85 CDC. Development of lands that are designated as HCA due to other variables such as wetlands, flood areas and steep slopes shall still be regulated by the provisions of this chapter and not exempted.

Please see discussion of this provision under section 28.070, below.

28.050 PROHIBITED USES

The following are prohibited:

1. *Residential floating structures, also known as floating homes or houseboats.*
2. *Permanent ski jumps.*
3. *More than one dock with or without a boat house per riverfront lot of record, except City-owned tax lots 100, 200, 300, 400, and 500 of Assessor's Map 21 East 24.*
4. *The location of any dock under any water condition that prevents what would otherwise be historic, safe, uninterrupted water passage.*
5. *Any new lawn area or garden area consisting primarily of non-native vegetation within HCA lands. A lawn area in the "Allowed Development" area is permitted.*
6. *Planting of any species identified as nuisance or prohibited plants on the Metro Native Plant List.*
7. *Non-permitted storage of hazardous materials as defined by the Oregon Department of Environmental Quality and dumping of any materials of any kind.*
8. *Excessive trimming or removal of existing native vegetation within the HCA unless it is to reestablish native vegetation in place of non-native or invasive vegetation. (Ord. 1576, 2008)*

Comment: None of the uses listed in this section are proposed within the Habitat Conservation Area.

28.060 ADMINISTRATION AND APPROVAL PROCESS

An application for a protection area permit shall be processed pursuant to the provisions of Chapter 99 CDC, Procedures for Decision-Making: Quasi-Judicial.

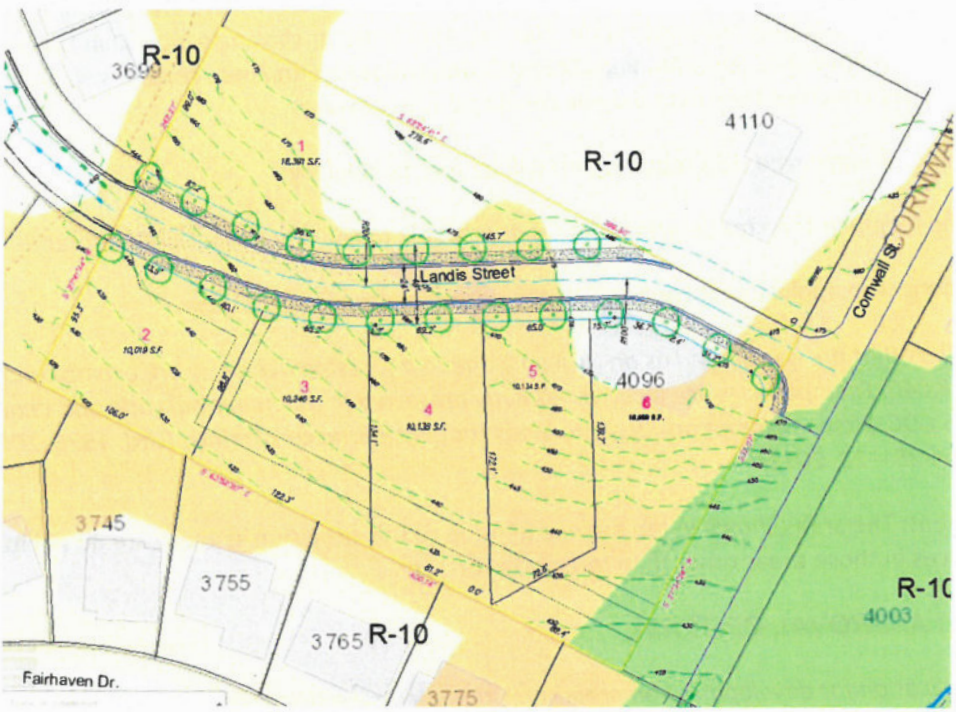
Comment: The application is being processed quasi-judicially, in accordance with the provisions of Chapter 99 of the CDC.

28.070 PLANNING DIRECTOR VERIFICATION OF METRO HABITAT PROTECTION MAP BOUNDARIES

A. The HCA Map is the basis for identifying and designating the habitat conservation areas in the City. A copy of the latest, updated HCA Map is on file at the City and is adopted by reference for use with this chapter.

It is inevitable, given the large area that Metro's HCA Map covers, that there may be some errors. In cases where, for example, three properties share the same contours and the same natural features but the map shows the middle lot with an HCA designation on it, it is reasonable to question the accuracy of that HCA designation. Using tree overstory as the sole basis for HCA designation will also allow a change in designation since trees are already protected in the municipal code and Chapters 55 and 85 CDC.

The map below shows the location of the HCA per the City of West Linn GIS mapping system.



The areas that are designated HCA due strictly to forested tree canopy are shown in tan. As noted in section 28.070(F) "Lands that are designated as an HCA only due to a forested overstory are exempt under CDC 28.040, Exemptions, since trees are already protected in the municipal code and Chapters 55 and 85 CDC." Therefore, the areas mapped in tan are not subject to the provisions of Chapter 28.

The HCA area mapped in green is a moderate value HCA associated with a seasonal drainageway on property to the east of Cornwall Street.

B. The Planning Director shall verify the appropriate HCA or non-HCA designation by site visits or consultations with Metro or by other means. Determination is based on whether the Metro criteria are met or whether the Metro designation was based solely on tree overstory in which case a redesignation is appropriate. In cases where the determination is that the map is incorrect, the Planning Director will make a written finding of this as well as the site conditions that led to that conclusion.

Comment: We do not believe that there are any HCA resources on the subject property and are submitting a letter from Schott and Associates confirming that this area should not be designated as HCA.

C. Class B public notice, per Chapter 99 CDC, shall be required prior to issuance of the redesignation decision if it involves redesignation of the HCA boundary to allow the construction of, or addition to, a house.

Comment: The required notice will be provided.

D. This determination and findings shall become part of the City record and part of the record for any associated land use application. The Planning Director shall also include in the record the revised map boundary. The Planning Director's determination and map revisions shall also be sent to Metro so that their map may be corrected as necessary.

Comment: If approved, this requirement will be met by the City.

E. The Planning Director determination is appealable to the City Council per Chapter 99 CDC.

Comment: The applicant recognizes that the determination is appealable.

F. Lands that are designated as an HCA only due to a forested overstory are exempt under CDC 28.040, Exemptions, since trees are already protected in the municipal code and Chapters 55 and 85 CDC. Similar exemptions apply to lands that exhibit no constraints. (Ord. 1576, 2008; Ord. 1604 §§ 25 – 28, 2011)

Comment: The areas shown in tan are exempt due to this provision as there are no habitat resources in those areas other than forested overstory.

28.110 APPROVAL CRITERIA

No application for development on property within the protection area shall be approved unless the decision-making authority finds that the following standards have been met or can be met by conditions of approval. The development shall comply with the following criteria as applicable:

Comment: Upon approval of the change in designation, these provisions will no longer apply.

Theta, llc
ENGINEERING - SURVEYING - PLANNING

503/481-8822

4260 Country Woods Ct.
Lake Oswego, Oregon 97035

e-mail: thetaeng@comcast.net

Memorandum

To: file

From: Bruce Goldson

Date: January 24, 2017

Subject: **Neighborhood Meeting for Willow Ridge (Cornwall) 2014-129L**

MEETING HGIHLIGHTS:

- Approximately 25 in attendance for the Sunset and Barrington groups
- Storm water, neighborhood flooding and springs in yards
  - Home owners on Fairhaven Drive with backyards have complaints about springs and surface water. All have collections systems in the backyards with connections to the storm sewer in the street
  - Has Icon conducted a geotechnical investigation? Unknown
  - Concerned about runoff from Cornwall. Even with getting a regional facility next to Fairhaven Drive
  - Some fear of settlement on houses on Fairhaven if underground flow is stopped.
  - Some feel that there is a wetlands on the property.
- Concerns about through traffic on Landis, would prefer cul-de-sacs
- Concerns about intersection at Cornwall and Sunset.
- Vote to have the City do a presentation about the possible stormwater facility.
- Handout from Barrington Neighborhood with concerns.

Sunset Neighborhood Association Quarterly Meeting
Sunset Primary, 2351 Oxford Street, West Linn, OR 97068
Tuesday, January 24, 2017
Agenda

1. Call to order
2. Approval of Minutes from September 2016
3. Old Business
    a. Election of new Officers
    b. Disaster Preparedness discussion
4. New Business
    a. West Linn Refuse and Recycling PCD notice
    b. Rick Givens to present about new neighborhood on Cornwall proposal
        i. To give input on the application of the new neighborhood contact the City of West Linn
        ii. City of West Linn, Planning Dept and/or City Council
            22500 Salamo Road
            West Linn, OR 97068
            503-656-4211
    c. David Dodds to present about Land Use Board Association (LUBA) decisions
        i. to give input on the redrawing of the storm water plans contact City of West Linn Planning Dept and/or City Council
    d. Carrie Hansen to speak about cost for Save Our Sunset specialist
        i. http://www.save-our-sunset.org/
    e. Doug Vokes to present about Disaster Preparedness for Sunset
        i. Map your neighborhood
            (http://westlinnoregon.gov/MapYourNeighborhood)
        ii. MYN Youtube educational videos
            (https://www.youtube.com/playlist?list=PLA218D92E24E04C53)
5. Adjourn

www.facebook.com/sunsetneighborhoodwestlinn

https://westlinnoregon.gov/sunset

Proposed development at 4096 Cornwall Street, West Linn, Oregon

People

Robert Jester <jjtjester@comcast.net> Today at 4:40 PM
To rickgivens@gmail.com
CC Jere McLaurin, art2noe@yahoo.com

Dear mr Givens,

I appreciate your outreach regarding the above proposed 6 lot subdivision. I unfortunately will be unable the attend the Sunset Neighborhood Association meeting tonight as we also are scheduled for our annual homeowner association meeting at the same time. Therefore I am submitting our NA concerns in writing.

1. We have concerns about the construction traffic using Barrington Heights as access to the development. Barrington Drive is a road in dire need of paving and we believe it will further deteriorate under the stress of construction trucks. To my knowledge, there is not a current plan to repave this road.

2. We have experienced damage from trucks entering the neighborhood as the is no way into the neighborhood without an island to navigate around. The cost of repair to the islands owned by the HOA is our responsibility unless we "catch" a truck doing the damage.

3. We have grave concerns about the unsafe condition at the intersection of Barrington Drive and Salamo Road. The speeding traffic going downhill has a blind spot prior to the intersection of Barrington Drive which makes turning left a heart pounding experience. The city has been made aware of our concerns but is yet to act.

4. Salamo Road is a heavily traveled Road that cannot manage the amount of existing traffic. There seems to be no fix in sight from the city or ODOT to better manage this ever increasing safety issue.

5. There are currently no through sidewalks connecting Salamo Rd. to 10th St./ Blankenship Rd. nor are there through sidewalks on Sunset from Willamette Falls Drive up the hill. Therefore foot traffic must walk in or on the edge of the roadways which is unsafe in both locations.

6. We have had homeowners on Fairhaven Drive express concern about run off water as the property is sloping down hill behind their houses. This is currently mitigated to some extent by foliage and trees on the undeveloped portion of the property.

We thank you in advance for having these concerns addressed as part of the public input phase of this process.

Robert Jester
Barrington on NA Vice President

503-557-7575
3475 Riverknoll Way,
West Linn, Or. 97068

Sent from my iPad

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☐ Return Receipt (electronic)	$0.00	Postmark Here
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Total Postage and Fees	$6.47	
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$		
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$		

Sent To: Patrick Noe
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City, State, ZIP+4®: West Linn OR 97068

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Postage	$0.47	01/04/2017
$		
Total Postage and Fees	$6.47	
$		

Sent To: Robert Lester
Street and Apt. No., or PO Box No.: 3475 Riverknoll Way
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☐ Adult Signature Required	$0.00	
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Postage	$0.47	01/04/2017
$		
Total Postage and Fees	$6.47	
$		

Sent To: Meredith Olmsted
Street and Apt. No., or PO Box No.: 3560 Riverknoll Way
City, State, ZIP+4®: West Linn, OR 97068

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Patrick Noe
4412 Simpson St
West Linn, OR 97068

9590 9402 2357 6249 7826 05

2. Article Number *(Transfer from service label)*

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COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Noe ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

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1. Article Addressed to:

Robert Jester
3475 River knoll Way
West Linn, OR 97068

9590 9402 2357 6249 7925 29

2. Article Number *(Transfer from service label)*

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COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Jan Jester | C. Date of Delivery 1-6-17

D. Is delivery address different from item 1? ☐ Yes
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3. Service Type
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PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Meredith Olmstead
3560 Riverknoll Way
West Linn, OR 97068

9590 9402 2357 6249 7925 12

2. Article Number *(Transfer from service label)*

7016 0910 0000 7688 1860

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
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- ☐ Insured Mail Restricted Delivery (over $500)
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AFFIDAVIT OF NOTICE

STATE OF OREGON)
) SS
County of Clackamas)

I, Richard Givens, Planning Consultant for Icon Construction and Development, LLC, declare that on January 4, 2017 notice of a neighborhood meeting was provided, in the case of the Willow Ridge subdivision, pursuant to Chapter 99.083 of the West Linn Community Development Code. Notice was mailed to property owners within 500 feet of the project site, and to the Sunset and BHT neighborhood associations. This notice was for a 6-lot subdivision.

Richard Givens — 2/20/2017

RICHARD GIVENS
PLANNING CONSULTANT

DATE

SUBSCRIBED AND SWORN TO before me this 20th day of FEBRUARY, 2017,
by RICHARD GIVENS.

OFFICIAL STAMP
MICHAEL PATRICK WILSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 944384
MY COMMISSION EXPIRES NOVEMBER 05, 2019

NOTARY PUBLIC FOR OREGON
My Commission Expires: NOVEMBER 5, 2019

AFFIDAVIT OF POSTING

STATE OF OREGON)
) SS
County of Clackamas)

I, Richard Givens, Planning Consultant for Icon Construction and Development, LLC, in the case of Willow Ridge subdivision, declare that on January 4, 2017, pursuant to Chapter 99.083 of the West Linn Community Development Code, Signs were posted providing notice of a neighborhood meeting to discuss the proposed 6 lot project. The signs met the required 11" x 17" standard and were posted on the subject property's frontage at 4096 Cornwall Street, as well as its frontage on Landis Street.

Richard Givens 2-20-2017

RICHARD GIVENS DATE
PLANNING CONSULTANT

SUBSCRIBED AND SWORN TO before me this 20th day of FEBRUARY, 2017,
by RICHARD GIVENS.

OFFICIAL STAMP
MICHAEL PATRICK WILSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 944384
MY COMMISSION EXPIRES NOVEMBER 05, 2019

NOTARY PUBLIC FOR OREGON
My Commission Expires: NOVEMBER 5, 2019

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, Oregon 97045

January 23, 2017

Mr. Patrick Noe, President
Sunset Neighborhood Association
4412 Simpson St.
West Linn, OR 97068

Dear Mr. Noe:

I'd like to thank you for your assistance in arranging a neighborhood meeting date for the proposed development of property located at 4096 Cornwall Street. Our correspondence to date has been via email, but this letter is being sent to you to fulfill the technical requirements of Section 99.038C of the West Linn Community Development Code that we contact you via certified mail to arrange the date for the meeting. Just to confirm, the date of the Sunset NA meeting is January 24, 2017 at the Sunset Primary School library at 7:00 pm and our proposal for a 6-lot subdivision will be on the agenda. We will be sending out the required neighborhood notice letters for that time and place.

Thanks again,

Rick Givens

Rick Givens

cc: Leslie Bowlin, Secretary-Treasurer Sunset NA
Meredith Olmstead, President BHT NA
Robert Jester, Vice President

phone: 503-479-0097 | fax: 503-479-0097 | e-mail: rickgivens@gmail.com

DESIGNED: REG DRAWN: REG SCALE: 1" = 20' DATE: Jan. 2017 FILE: 15-ICN-112	DATE / NO. / REVISION	Richard E. Givens, Planning Consultant 18680 Sunblaze Dr. Oregon City, OR 97045 PH: (503) 479-0097	APPLICANT: Icon Construction & Development, LLC 1980 Willamette Falls Drive, Suite 200 West Linn, OR 97068 PH: (503) 657-0406

Willow Ridge
Site Plan

SHEET: 1/1

Notice of Neighborhood Meeting

Regarding A Proposed
6-Lot Subdivision for Property
Located at 4096 Cornwall Street

You are invited to attend a neighborhood meeting to discuss a proposed development on this property. The project will be presented at the Jan. 24, 2017 meeting of the Sunset Neighborhood Association. Other items may be on the agenda in addition to this one.

The applicant for this project is Icon Construction & Development, LLC. Additional information may be obtained by telephoning the project planning consultant, Rick Givens, at (503) 479-0097 or by email at rickgivens@gmail.com.

The meeting time and place are:

7:00 PM on Tuesday, January 24, 2017
Sunset Primary School library
2351 Oxford St.
West Linn, Oregon

Notice of Neighborhood Meeting Regarding
A Proposed 6-Lot Subdivision
Located at 4096 Cornwall Street

Hello,

You are invited to attend a neighborhood meeting to discuss a proposed development in your area. Icon Construction & Development, LLC is proposing to construct a 6 Lot subdivision on property located at 4096 Cornwall Street in West Linn.

As required by the West Linn Community Development Code, prior to the submittal of an application to the City of West Linn for preliminary approval of this project, a meeting with neighbors will be held to present the conceptual plan for the project, to answer questions and for the developer to receive feedback from those in attendance. This notice of the meeting is being mailed to owners of property located within 500 feet of the boundaries of the subject property. The notice is also being mailed to officers of the Sunset and BHT Neighborhood Associations. The property is located within the Sunset Neighborhood Association boundary and is within 500 feet of the BHT Neighborhood Association boundary.

The proposed development is scheduled to be presented at the January 24, 2017 meeting of the Sunset Neighborhood Association. There may be other items on the agenda in addition to this project. Meeting time and place are:

7:00 PM, Tuesday, January 24th, 2017
Sunset Primary School Library
2351 Oxford St.
West Linn, Oregon

We look forward to meeting with you. If you cannot attend in person but have questions regarding the project, please feel free to contact the project planning consultant, Rick Givens. You may phone him at (503) 479-0097 or contact him via email at rickgivens@gmail.com.

SNA Quarterly Meeting Sign In Sheet

Name	Street	Email
Doris Clark	Cornwall	✓
Dave Cark	Tigard	
D. Dobroth	Exeter	✓
Joslynn Smith	Sunset	
H Wingard	Cornwall	✓
FRED GROVES	OC BLVD	SEVORGDERF@GMAIL.COM
Amanda Callahan	2380 Long St	✓
DOUG VOKES	4972 PROSPECT	✓
Victoria Meier	4669 Exeter	meier235@gmail.com
Bill Dahl	OC Blvd.	dahlbv@hotmail...
Pam & Mark Y.	Fairhaven Drive	pam@yokubaitis.com
Charlene Imhoff	Cornwall	
David Dotts		
Kam LePiane	Oregon City Blvd	kmlepiane@comcast.net
Kent Carol Fuchs	FAIRHAVEN DR.	cvfuchs@gmail.com
Pia Snyder	Fairhaven Dr	piasnyder@comcast.net
PATRICK KATHY BENNETT	LANDIS DR	BENNETTP0821@GMAIL.com
JEANNIE LEE	Fairhaven Dr	✓
Sherman Pauly	"	Shermpauly@YAHOO.com
Wayne Tilley	Oregon City Blvd	tilleybw@gmail.com

Name	Street	Email
Carrie Hansen	Bittner St	Carriehansen1@yahoo.com
Noelle Bledy	Bittner St	robnoelle@comcast.net
Rebel Steiner	Fairhaven Ct	RebelSteiner@gmail.com
JAKE BOWLIN	SUSSEX	n.ibowl@gmail.com
T. Christensen	SUSSEX	

Preliminary storm drainage report for

Willow Ridge

Site Conditions:

This parcel is a rectangular tract with one existing house with access of the end of Cornwall Street and containing approximately 2.18 acres. Landis Street dead ends at the westerly limit of the property. The property slopes, generally from north to south with a maximum slope of approximately 20+%. The Cornwall Street unimproved right-of-way is along the easterly boundary of the property. The preliminary plans sites six (6) single family residential lots and connects Landis with Cornwall.

There is a natural drainage way to the east and open space tract that connects to the Cornwall right-of-way. A detention pond with water quality is proposed in the open space tract.

Hydrologic Soils Group:

The Oregon Soil Survey was used to determine the soil type and Hydrologic Soil Group.

Map unit Symbol	Map unit name	Rating
76B	Saum silt loam	C
78D	Saum silt loam	C

Regulatory

West Linn Public Works Design Standards
2.0013 Minimum design criteria

Summary:

Willow Ridge			
Event	Pre-development	Post-development	Release rate
2-year	0.32 cfs	0.84cfs	0.31 cfs
5-year	0.50 cfs	1.10 cfs	0.35 cfs
10-year	0.62 cfs	1.31 cfs	0.65 cfs
25-year	0.97 cfs	1.58 cfs	0.97 cfs
100-year	N/A	1.91 cfs	1.91 cfs

Time of Concentration

$T = 0.42(n\ L)^{.8}/(P_2)^{0.5}(S_0)^{0.4}$ & $T = L/60k(s_0)^{05}$

Pre-Development: $(.42)[(0.24(280)]^{0.8}/(2.6)^{0.5}(0.20)^{.4} = 14.4$ min

Post-Development $(.42)[(0.15(109)]^{0.8}/(2.6)^{0.5}(0.21)^{.4} = 4.5$ min + $278/(60)(42)(0.018)^{.5} = 0.8$ min + $429/(60)(42)(0.01)^{5} = 1.7$ = total 7.0 minutes

HYDROGRAPH RESULTS

KING COUNTY DEPARTMENT OF PUBLIC WORKS
Surface Water Management Division
HYDROGRAPH PROGRAMS
Version 4.21B
1 - INFO ON THIS PROGRAM
2 - SBUHYD
3 - MODIFIELD SBUHYD
4 - ROUTE
5 - ROUTE2
6 - ADDHYD
7 - BASEFLOW
8 - PLOTHYD
9 - DTATA
10 - REFAC
11 - RETURN TO DOS

ENTER OPTION:
2
SBUN/SCS METHOD FOR COMPUTING RUNOFF HYDROGRAPH
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
2,24,2.5
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXX 2-YEAR 24-HOUR STORM xxxx 2.50 "TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx/

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
2.09,78,0.09,98.14.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	2.1	78.0	.1	98.0	14.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.32 7.83 6701
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:wr2
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
1.55,86,0.62,98,7
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	1.5	86.0	.6	98.0	7.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.84 7.83 12105
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:2wr
SPECIFY: C – CONTINUE, N – NEWSTORM, P – PRINT, S – STOP
N
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
5,24,3.0
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXX 5-YEAR 24-HOUR STORM xxxx 3.00" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
2.09,78,0.09,98,14.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	2.1	78.0	.1	98.0	14.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.50 7.83 9445
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:wr5
SPECIFY: C-CONTINUE, N-NEWSTORM,P-PRINT,S-STOP
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
1.55,86,0.62,98,7.0
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	

2.2	1.5	86.0	.6	98.0	7.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)

1.10 7.83 15582

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:5wr

SPECIFY: C – CONTINUE, N – NEWSTORM, P – PRINT, S – STOP

N

STORM OPTIONS:

1 – S.C.S. TYPE-1A

2 - 7-DAY DESIGN STORM

3 - STORM DATA FILE

SPECIFY STORM OPTION:

1

S.C.S. TYPE - 1A RAINFALL DISTRIBUTION

ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

10,24,3.4

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 10-YEAR 24-HOUR STORM xxxx 3.40" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

2.09,78,0.09,98,14.4

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	2.1	78.0	0.1	98.0	14.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)

.66 7.83 11793

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:wr10

SPECIFY: C-CONTINUE, N-NEWSTORM,P-PRINT,S-STOP

C

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

1.55,86,0.62,98,7.0

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	1.5	86.0	.6	98.0	7.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)

1.31 7.83 18435

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:10wr

SPECIFY: C – CONTINUE, N – NEWSTORM, P – PRINT, S – STOP

N

STORM OPTIONS:

1 - S.C.S. TYPE-1A

2 - 7-DAY DESIGN STORM

3 - STORM DATA FILE

SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
25,24,3.9
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXX 25-YEAR 24-HOUR STORM xxxx 3.90" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
2.09,78,0.09,98,14.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	2.1	78.0	.1	98.0	14.4
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.97	7.83		14877		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:wr25
SPECIFY: C - CONTINUE, N - NEWSTORM, P -PRINT, S - STOP
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
1.55,86,0.62,98,7.0
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
2.2	1.5	86.0	.6	98	7.0
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
1.58	7.83		22065		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:25wr
SPECIFY: C – CONTINUE, N – NEWSTORM, P – PRINT, S – STOP
N
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
100,24,4.5
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXX 100-YEAR 24-HOUR STORM xxxx 4.50" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
1.55,86,0.62,98,7.0
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	

2.2	1.5	86.0	.6	98.0	7.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)

1.91 7.83 26491

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:100wr

SPECIFY: C – CONTINUE, N – NEWSTORM, P – PRINT, S – STOP

S

1 - INFO ON THIS PROGRAM

2 - SBUHYD

3 - MODIFIELD SBUHYD

4 - ROUTE

5 - ROUTE2

6 - ADDHYD

7 - BASEFLOW

8 - PLOTHYD

9 - DTATA

10 - REFAC

11 - RETURN TO DOS

ENTER OPTION:

DETENTION SIZING

ENTER OPTION

10

R/D FACILITY DESIGN ROUTINE

SPEFICY TYPE OF R/D FACILTY

1 - POND 4 - INFILTRATION POND

2 - TANK 5 - INFILTRATION TANK

3 -VAULT 6 - GRAVEL TRENCH/BED

1

ENTER: POND SIDE SLOPE (HORIZ. COMPOENT)

4

ENTER: EFFECTIVE STORAGE DEPTH(ft) BEFORE OVERFLOW

3

ENTER [d:][path]filename[.ext] OF PRIMARY DESIGN INFLOW HYDROGRAPH:

C:25wr

PRELIMINARY DESIGN INFLOW PEAK = 1.68 CFS

ENTER PRIMARY DESIGN RELEASE RATE(cfs)

.97

ENTER NUMBER OF INFLOW HYDROGRAPHS TO BE TESTED FOR PERFORMANCE (5 MAXIMUM)

3

ENTER [d:][path]filename[ext] OF HYDROGRAPH 1:

C:10wr

ENTER TARGET RELEASE RATE(cfs)

.66

ENTER [d:][path]filename[ext] OF HYDROGRAPH 2:

C:5wr
ENTER TARGET RELEASE RATE(cfs)
.50
ENTER [d:][path]filename[ext] OF HYDROGRAPH 3:
C:2wr
ENTER TARGET RELEASE RATE(cfs)
0.32
ENTER: NUMBER OF ORIFICES, RISER-HEAD(ft), RISER-DIAMETER(in)
3,3,12
RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW= .30FT
SPECIFY ITERATION DISPLAY: Y -YES, N - NO
N
SPECIFY: R - REVIEW/REVISE INPUT, C - CONTINUE
C
INITIAL STORAGE VALUE FOR ITERATION PURPOSES: 6930 CU-FT
BOTTOM ORIFICE: ENTER Q-MAX(cfs)
0.38
DIA.= 2.84 INCHES
MIDDLE ORIFICE: ENTER Q-MAX(cfs), HEIGHT (ft)
0.49,2.7
DIA. = 5.74 INCHES
TOP ORIFICE: ENTER HEIGHT (ft)
2.8
DIA.= 5.87 INCHES

PERFORMANCE:	INFLOW	TARGET-OUTFLOW	ACTUAL-OUTFLOW	PK-STAGE	STORAGE
DESIGN HYD:	1.58	.97	.97	3.00	2814
TEST HYD 1:	1.31	.66	.65	2.80	2470
TEST HYD 2:	1.10	.50	.35	2.58	2140
TEST HYD 3:	.84	.32	.31	2.01	1380

SPECIFY: D - DOCUMENT, R -REVISE, A - ADJUST ORIF, E -ENLARGE, S –STOP

A proposed detention facility will be constructed within the existing open space track at the northerly side of Fairhaven. This will become a regional storm facility. The preliminary plan illustrates a facility with sufficient volume as indicated in the calculations. Water quality will be provided in the bottom on the pond. The 100-year event flow will be addressed in the final design.

This preliminary analysis of the storm water collection and discharge for the Willow Ridge development demonstrates feasibility and to meet the minimum standards of the City of West Linn. Calculations and preliminary drawings show that the storm water can be collected and discharged per standard engineering practice and City standards for the 2, 5, 10, & 25 year storm events with detention facilities that control the flow to the pre-design rates. A final report will be prepared with the design phase that will provide necessary detail and final sizing.

Prepared By:

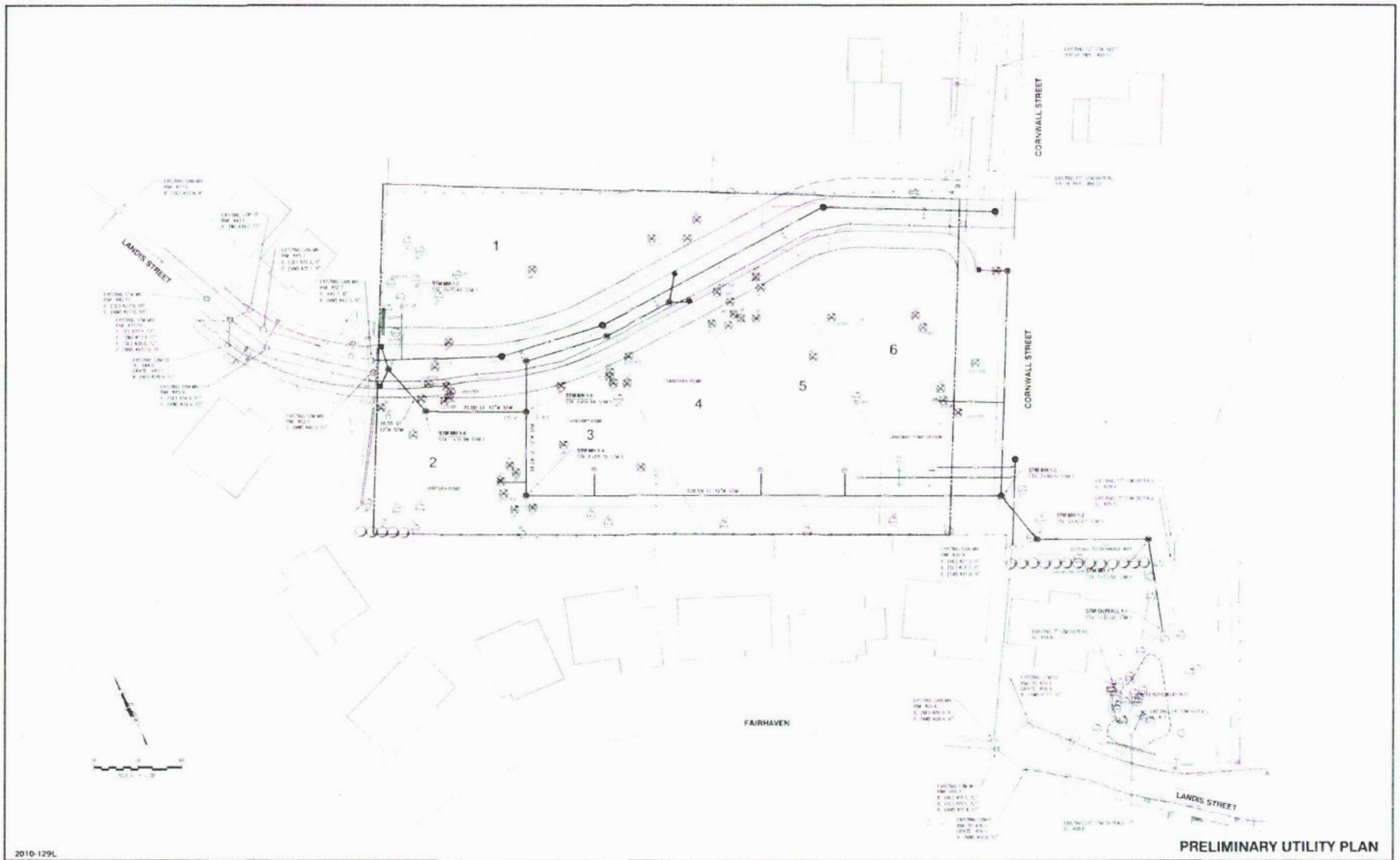
Bruce D. Goldson, PE

Theta

January 9, 2017

EXPIRES 06.30.2017

SIGNATURE DATE 2/10/17



2010-129L

PRELIMINARY UTILITY PLAN

DESIGNED	
DRAWN	
SCALE	
DATE	
FILE	

DATE | NO. | REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET 1/3

Table 4-3 MODIFIED CURVE NUMBERS

SCS Western Washington Runoff Curve Numbers

Runoff curve numbers for selected agricultural, suburban, and urban land use for Type 1A rainfall distribution, 24-hour storm duration. (Published by SCS in 1982)

LAND USE DESCRIPTION		CURVE NUMBERS BY HYDROLOGIC SOIL GROUP			
		A	B	C	D
Cultivated land[1]	Winter Condition	86	91	94	95
Mountain Open Areas:	Low growing brush and grassland.	74	82	89	92
Meadow or pasture:		65	78	85	89
Wood or forest land:	Undisturbed	42	64	76	81
	Established second growth[2]	48	68	78	83
	Young second growth or brush	55	72	81	86
Orchard:	With over crop	81	88	92	94
Open spaces, lawns, parks, golf courses, cemeteries, landscaping					
Good Condition:	Grass cover on > =75% of area	68	80	86	90
Fair Condition:	Grass cover on 50-75% of area	77	85	90	92
Gravel Roads and Parking Lots:		76	85	89	91
Dirt Roads and Parking Lots:		72	82	87	89
Impervious surfaces, pavement, roofs, etc.		98	98	98	98
Open water bodies:	Lakes, wetlands, ponds, etc.	100	100	100	100

Single Family Residential [3]: Dwelling unit/gross acre	% Impervious[4]	
1.0 DU/GA	15	Select a separate curve number for pervious and impervious portions of the site or basin.
1.5 DU/GA	20	
2.0 DU/GA	25	
2.5 DU/GA	30	
3.0 DU/GA	34	
3.5 DU/GA	38	
4.0 DU/GA	42	
4.5 DU/GA	46	
5.0 DU/GA	48	
5.5 DU/GA	50	
6.0 DU/GA	52	
6.5 DU/GA	54	
7.0 DU/GA	56	
Planned Unit Developments, condominiums, apartments, commercial businesses & industrial areas[3]	% impervious[4] Must be computed	Select a separate curve number for pervious and impervious portions of the site or basin.

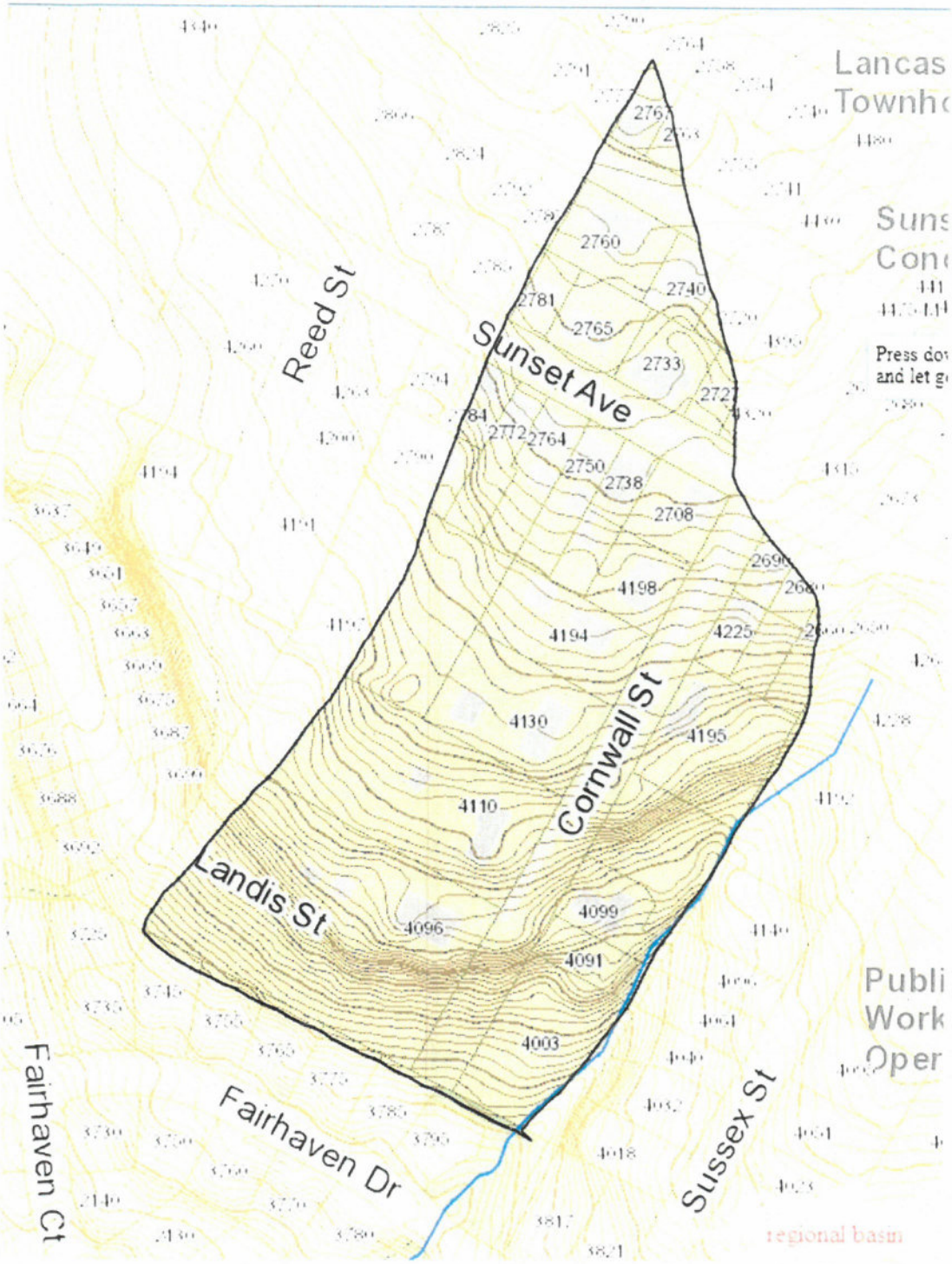
[1] For a more detailed description of agricultural land use curve numbers, refer to National Engineering Handbook, Sec. 4, Hydrology, Chapter 9, August 1972.

[2] Modified by KCFW, 1995.

[3] Assumes roof and driveway runoff is directed into street/storm system.

[4] The remaining pervious areas (lawn) are considered to be in good condition for these curve numbers.

Table 4-4 MANNING'S COEFFICIENTS/"K" FACTORS		
"n" AND "k" Value Used in Time Calculations for Hydrographs "n_s" Sheet Flow Equation Manning's Values (for initial 300 ft. of travel)		n_s
Smooth surfaces (concrete, asphalt, gravel, or bare hand packed soil)		0.01
Fallow fields or loose soil surface (no residue)		0.05
Cultivated soil with residue cover (s # 0.20 ft/ft)		0.06
Cultivated soil with residue cover (s > 0.20 ft/ft)		0.17
Short prairie grass and lawns		0.15
Dense grasses		0.24
Bermuda grass		0.41
Range (natural)		0.13
Woods or forest with light underbrush		0.40
Woods or forest with dense underbrush		0.80
* Manning values for sheet flow only, from Overton and Meadows 1976 (See SCS's TR-55, 1986) "k" Values Used in Travel Time/Time of Concentration Calculations Shallow Concentrated Flow (After the initial 300 ft. of sheet flow, R = 0.1)		k_s
1.	Forest with heavy ground litter and meadows (n = 0.10)	3
2.	Brushy ground with some trees (n = 0.060)	5
3.	Fallow or minimum tillage cultivation (n=0.040)	8
4.	High grass (n=0.035)	9
5.	Short grass, pasture, and lawns (n=0.030)	11
6.	Nearly bare ground (n=0.025)	13
7.	Paved and gravel areas (n=0.012)	27
** Channel flow (intermittent) (At beginning of visible channels R=0.2)		k_c
1.	Forested swale with heavy ground litter (n=0.10)	5
2.	Forested drainage course/ravine with defined channel bed (n=0.050)	10
3.	Rock-lined waterway (n=0.035)	15
4.	Grassed waterway (n=0.030)	17
5.	Earth-lined waterway (n=0.025)	20
6.	CMP pipe (n=0.024)	21
7.	Concrete pipe (0.012)	42
8.	Other waterways and pipe 0.508/n	
Channel flow (Continuous stream, R=0.4)		k_c
9.	Meandering stream with some pools (n=0.040)	20
10.	Rock-lined stream (n=0.035)	23
11.	Grass-lined stream (n=0.030)	27
12.	Other streams, man-made channels and pipe 0.807/n **	
** See Table 6-3 for additional Mannings "n" values for open channels.		


Reed St
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EXISTING CONDITIONS MAP

TAX LOT 6300
LOCATED IN THE N.W. 1/4 SECTION 36, T.2S., R.1E., W.M.,
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON
DECEMBER 28, 2015 SCALE 1"=30'

SURVEY NOTES:

[illegible]

LEGEND:

[illegible]

GRAPHIC SCALE

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 13, 2004
TOBY G. BOLDEN
60377LS

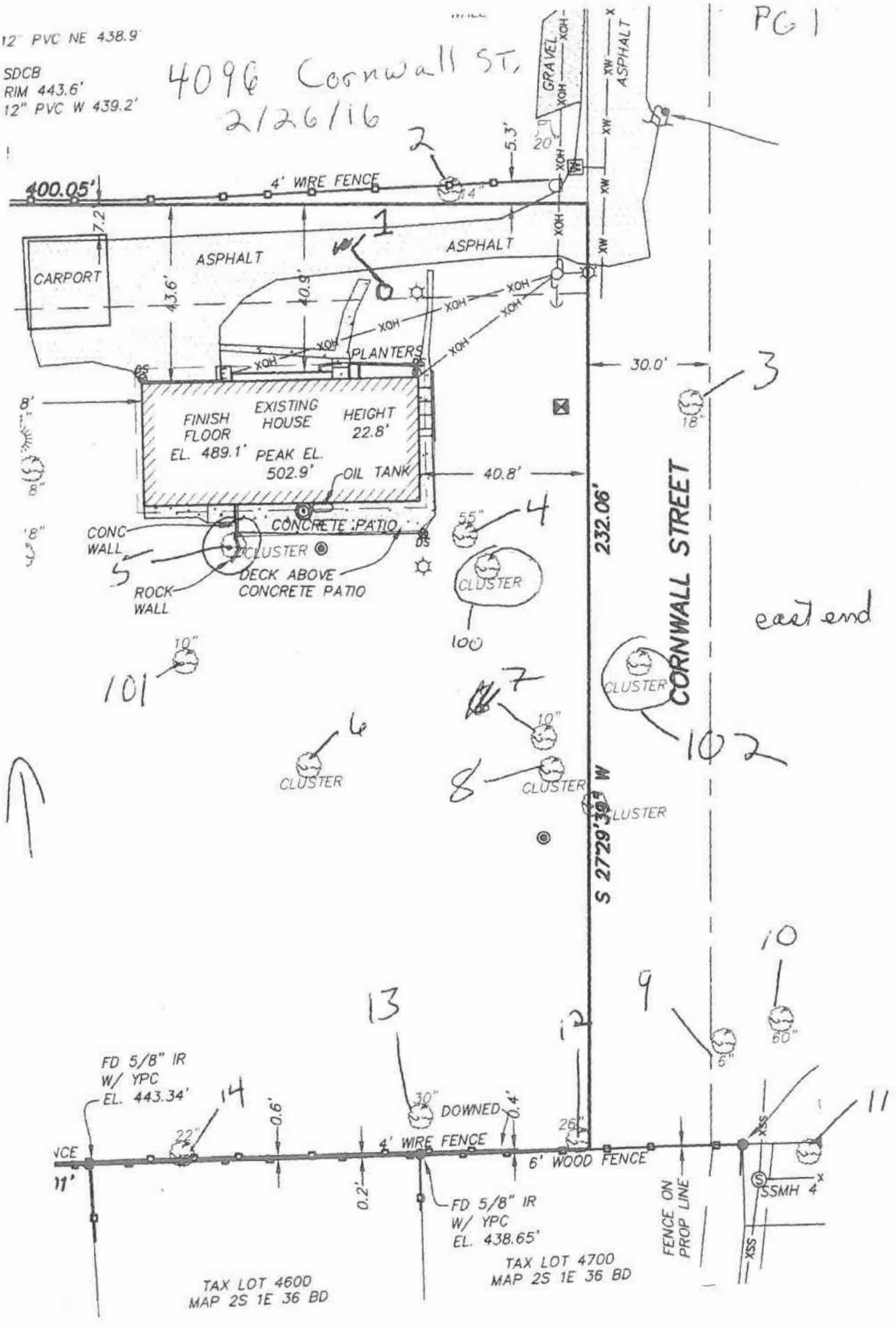
CENTERLINE CONCEPTS
LAND SURVEYING, INC.

Tag	Species	Diameter	DBH	Rating	Condition
1	blue spruce	20	20	2	added
2	tree of heaven	14	14	2	average
3	bird cherry	18	18	2	offsite
4	Lombardy poplar	55	55	2	11' from existing house
5	plum	12	12	1	stump sprouts
6	weeping willow	0	0	0	fallen; on ground
7	elm	11	11	11	undersize
8	elm	9,5,3	9	1	undersize; listed
9	big leaf maple	7	7	2	undersize; offsite
10	Garry oak	55	55	3	offsite
11	Garry oak	43	43	2	offsite
12	Garry oak	26	26	2	barbed wire in trunk
13	Garry oak	32	32	2	average
14	Garry oak	20	20	2	barbed wire in trunk
15	Garry oak	34	34	2	average
16	Garry oak	38	38	3	excellent
17	Garry oak	19	19	2	average
18	Garry oak	31	31	3	excellent
19	Garry oak	23	23	2	average
20	Garry oak	25	25	2	average
21	Garry oak	24	24	2	average
22	Garry oak	10	10	1	basal decay; dead stem; broken top
23	Garry oak	20	20	2	average
24	Garry oak	28	28	2	average
25	Garry oak	26	26	2	average
26	Garry oak	42	42	2	co-dominate at 3'; added
27	Garry oak	28	28	1	basal decay; ivy
28	big leaf maple	30	30	2	average
29	big leaf maple	16	16	0	broken; snag
30	big leaf maple	16	16	2	ivy
31	big leaf maple	24	24	1	cavity in base
32	big leaf maple	18	18	2	broken stem for T34 hung up in canopy

Tag	Species	Diameter	DBH	Rating	Condition
33	big leaf maple	26	26	2	ivy
34	big leaf maple	52,16	60	0	basal decay; trunk decay; failed stem is hung up in T32
35	Portuguese laure	12	12	2	average
36	Portuguese laure	14	14	2	average
37	western red ceda	22	22	2	average
38	western red ceda	20	20	2	average
39	apple	18	18	1	trunk decay; topped; resprouted tops
40	apple	10	10	1	undersize
41	apple	10	10	1	resprouted tops
42	Pacific dogwood	8	8	2	average
43	Port-Orford ceda	16	16	2	average
44	plum	8	8	2	undersize
45	English walnut	10	10	2	undersize
46	English walnut	12	12	2	average
47	elderberry	6,5,5	11	2	undersize
48	big leaf maple	45	45	1	trunk decay; resprouted tops
49	big leaf maple	28	28	2	average
50	big leaf maple	26	26	2	average
51	plum	8	8	2	undersize
52	Garry oak	26	26	2	average
53	Garry oak	31	31	2	average
54	Garry oak	18	18	2	average
55	Garry oak	30	30	2	average
56	big leaf maple	20	20	1	basal decay; hollow; hazard
57	Garry oak	30	30	2	average
58	big leaf maple	20	20	1	decline
59	big leaf maple	26,16	34	1	basal decay; multiple cavities in trunk
60	Garry oak	38	38	2	co-dominate at 4'
61	Garry oak	26	26	2	average
62	big leaf maple	22	22	2	average
63	big leaf maple	36	36	1	trunk and stem decay; past failures; hazard
64	Garry oak	32	32	2	average

Tag	Species	Diameter	DBH	Rating	Condition
65	Garry oak	10	10	2	average
66	Garry oak	23	23	2	average
67	Garry oak	42	42	2	average
100	Lombardy poplar	8, 12	16	2	undersize; no tag
101	plum	10	10	1	undersize
102	elm	<12	<12	2	cluster; offsite
103	big leaf maple	<6	<6	0	undersize; stump sprouts; no tag

4096 Cornwall St.
2/26/16



4096 4096 Cornwall ST.
2/26/16

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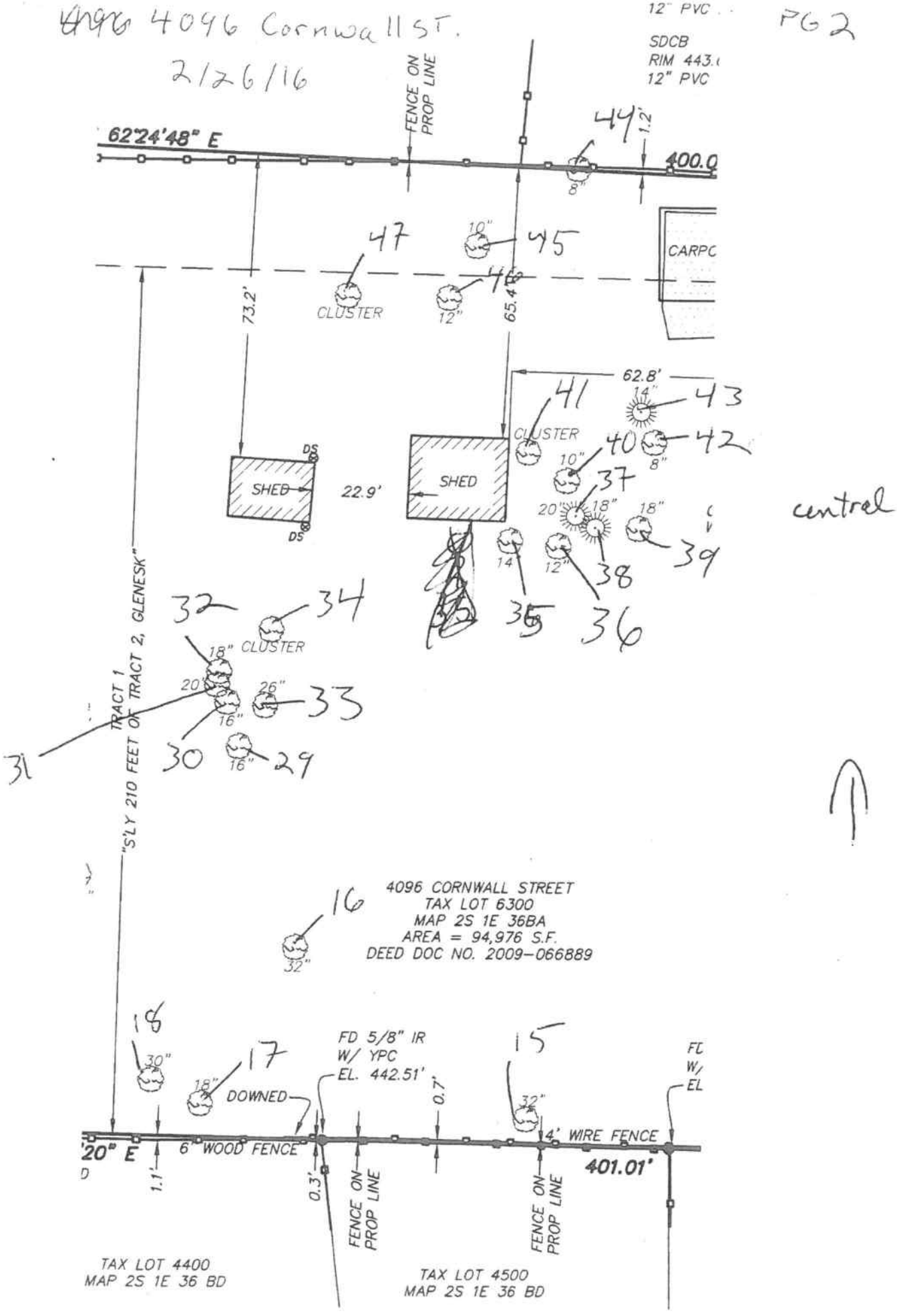

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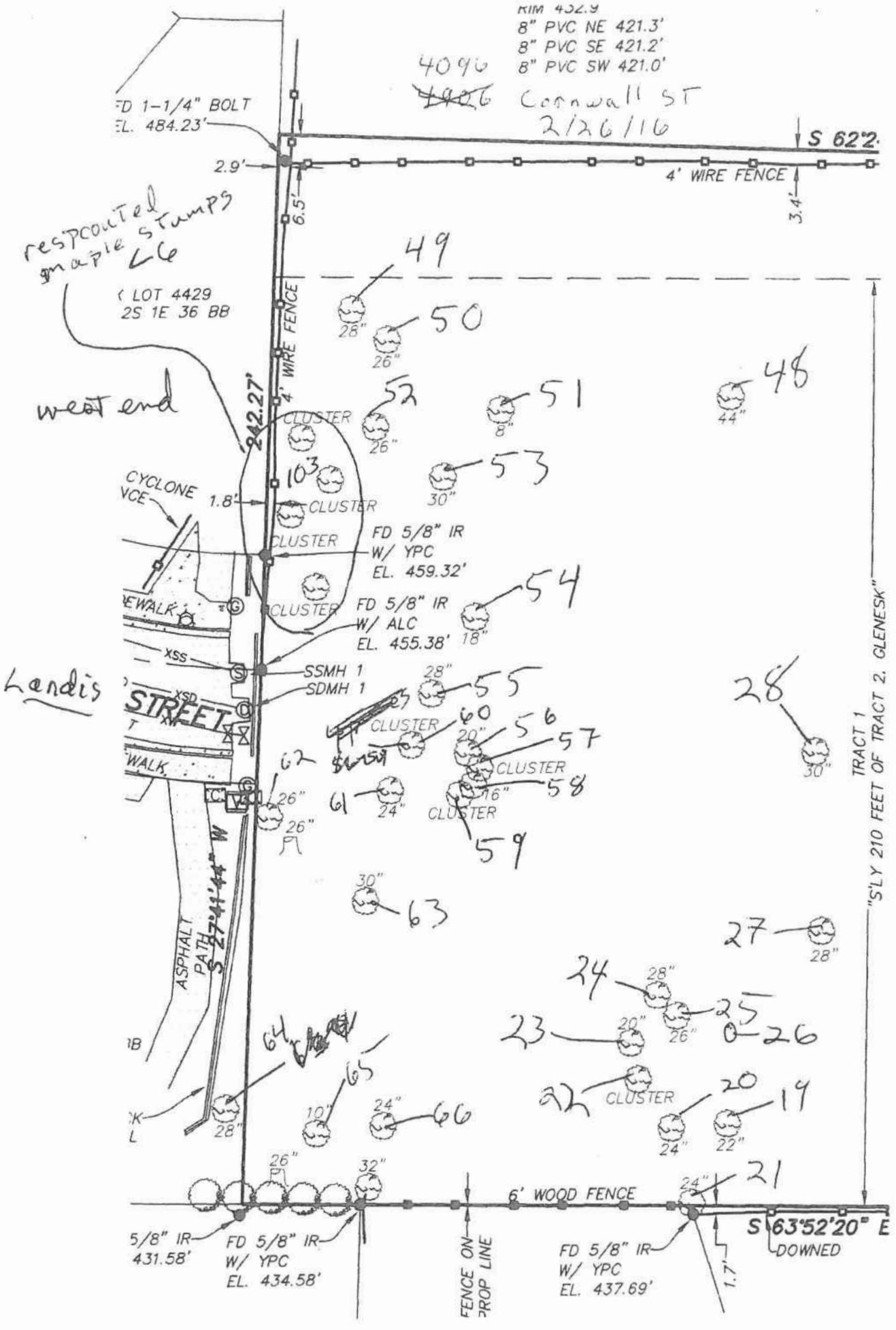
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8" PVC NE 421.3'
8" PVC SE 421.2'
8" PVC SW 421.0'
4096 Cornwall ST
2/26/16
FD 1-1/4" BOLT
EL. 484.23'
S 62°2
2.9'
6.5'
4' WIRE FENCE
3.4'
respected maple stumps
LOT 4429
2S 1E 36 BB
west end
242.27'
4' WIRE FENCE
CLUSTER
CYCLONE FENCE
1.8'
FD 5/8" IR
W/ YPC
EL. 459.32'
FD 5/8" IR
W/ ALC
EL. 455.38'
SSMH 1
SDMH 1
Landis
STREET
WALK
XSS
XSD
ASPHALT PATH
S 27°41'44" W
"S'LY 210 FEET OF TRACT 2, GLENESK"
TRACT 1
6' WOOD FENCE
S 63°52'20" E
DOWNED
5/8" IR
431.58'
FD 5/8" IR
W/ YPC
EL. 434.58'
FENCE ON PROP LINE
FD 5/8" IR
W/ YPC
EL. 437.69'
1.7'
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Carlson Geotechnical

A Division of Carlson Testing, Inc.
Phone: (503) 601-8250
Fax: (503) 601-8254

Bend Office	**(541) 330-9155**
Eugene Office	**(541) 345-0289**
Salem Office	**(503) 589-1252**
Tigard Office	**(503) 684-3460**

Report of
Geotechnical Investigation
Cornwall Street Subdivision
4096 Cornwall Street
West Linn, Oregon

CGT Project Number G1504283

Prepared for

Mr. Darren Gusdorf
ICON Construction & Development
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068

January 7, 2016

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1980 Willamette Falls Drive, Suite 200
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Report of
Geotechnical Investigation
Cornwall Street Subdivision
4096 Cornwall Street
West Linn, Oregon

CGT Project Number G1504283

Dear Mr. Gusdorf:

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this report summarizing our Geotechnical Investigation for the proposed Cornwall Street Subdivision project. The site is located at 4096 Cornwall Street in West Linn, Oregon. We performed our work in general accordance with CGT Proposal GP6901, dated December 3, 2015. Written authorization for our services was provided on December 3, 2015.

We appreciate the opportunity to work with you on this project. Please contact us at 503.601.8250 if you have any questions regarding this report.

Respectfully Submitted,
CARLSON GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER
15764
OREGON
January 21, 1982
WILLIAM M. WEYRAUCH
EXPIRES 6.30.2016

Kyle Smetana, EIT
Geotechnical Project Manager
ksmetana@carlsontesting.com

William M. Weyrauch, P.E., G.E.
Senior Geotechnical Engineer
bweyrauch@carlsontesting.com

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ATTACHMENTS

Doc ID: G:\GEOTECH\PROJECTS\2015 Projects\Cornwall St Subdivision\008 - Deliverables\Report G1504283.docx

1.0 INTRODUCTION

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this report summarizing our Geotechnical Investigation for the proposed Cornwall Street Subdivision. The site is located at 4096 Cornwall Street in West Linn, Oregon, as shown on the attached Site Location, Figure 1.

1.1 Project Description

CGT developed an understanding of the proposed project based on our correspondence with ICON Construction & Development and a preliminary site plan prepared by Richard E. Givens, Planning Consultant, dated March 2015. Based on our review, we understand the project will include:

- Demolition and removal of the existing single-family residence and accessory structures.
- Partitioning the site into seven residential lots.
- Development within each lot will include construction of a single-family residence with appurtenant driveways and underground utilities. Although no lot-specific plans have been provided, we have assumed each structure will be two stories in height, wood-framed, and include daylight basements/garages. We anticipate the living space of the structures will incorporate post-and-beam floors (crawlspaces), while basements/garages will incorporate a slab-on-grade floor.
- Construction of extensions to Landis Street and Cornwall Street to provide vehicular access to the residential lots.
- Although no grading plans have been provided, we anticipate permanent grade changes at the site will include cuts and fills on the order of up to 5 feet within the new roadway.
- We understand infiltration testing is not needed as part of this assignment.

1.2 Scope of Work

The purpose of our work was to explore shallow subsurface conditions at the site in order to provide geotechnical recommendations for design and construction of the proposed development. Our scope of work included the following:

- Contact the Oregon Utilities Notification Center and subcontract a private utility locator to mark the locations of public utilities within a 20-foot radius of our explorations at the site.
- Explore subsurface conditions at the site by observing the excavation of seven test pits to depths of about 6 to 10 feet below ground surface (bgs).
- Classify the materials encountered in the explorations in accordance with American Society for Testing and Materials (ASTM) Soil Classification Method D2488 (visual-manual procedure).
- Collect representative soil samples from within the explorations in order to perform laboratory testing and to confirm our field classifications.
- Perform laboratory testing on selected samples collected during our subsurface exploration.
- Provide a technical narrative describing surface and subsurface deposits, and local geology of the site, based on the results of our explorations and published geologic mapping.
- Provide a site vicinity map and a site plan showing the locations of the explorations relative to existing site features.
- Provide logs of the explorations, including results of laboratory testing on selected soil samples.
- Provide preliminary geotechnical recommendations for site preparation and earthwork.
- Provide preliminary geotechnical engineering recommendations for design and construction of shallow spread foundations, retaining walls, floor slabs, and flexible pavements.

- Provide recommendations for the Seismic Site Class, mapped maximum considered earthquake spectral response accelerations, and site seismic coefficients.
- Provide a qualitative evaluation of seismic hazards at the site, including liquefaction potential, earthquake-induced settlement and landsliding, and surface rupture due to faulting or lateral spread.
- Provide this written report summarizing the results of our Geotechnical Investigation and preliminary recommendations for the project. This report is considered preliminary, as we have not reviewed final grading plans, finished floor elevations, and/or detailed structural information for the development. An addendum indicating that this report is final, and including supplemental recommendations, if warranted, can be issued after we have reviewed those items.

2.0 SITE INVESTIGATION

2.1 Site Geology

The site is located at the southeast end of the Tualatin Mountains. The Tualatin Mountains separate the Tualatin Valley to the west, the Portland Basin to the northeast, and the Willamette Valley to the southwest. Based on available geologic mapping of the area, the site is underlain by Columbia River Basalt. The Columbia River Basalt consists of numerous fine-grained lava flows that primarily erupted from fissures in present day eastern Washington and Oregon and western Idaho during the Miocene (23.8 to 5.3 million years ago). A thick, clay-rich residual soil often forms on the upper portion of the Columbia River Basalt from the in-place weathering of the rock. The Columbia River Basalt is several thousand feet thick in the vicinity of the site.

2.2 Site Surface Conditions

The site consists of one tax lot totaling approximately 2 acres. A single-family residence and accessory structures were located within the northeast portion of the site. The site was bordered by residential development on all sides. Landis Street and Cornwall Street terminate at the site boundaries. Vegetation on the northeastern portion of the site consists of grasses and scattered deciduous trees. The site generally descended to the south at maximum gradients up to about 2½ horizontal to 1 vertical (2½H:1V).

2.3 Field Investigation

2.3.1 Test Pits

CGT observed the excavation of seven test pits (TP-1 through TP-7) at the site on December 10, 2015, to depths of up to about 10 feet bgs. The test pits were excavated using a John Deere 50G, tracked excavator provided and operated by ICON Construction. The approximate test pit locations are shown on the attached Site Plan, Figure 2. The test pits were located in the field using approximate measurements from existing site features shown on the Site Plan. Upon completion of logging, the test pits were loosely backfilled by ICON Construction with the excavated materials.

Pocket penetrometer readings were taken within the upper 4 feet of selected test pits, where fine-grained soils were present. The pocket penetrometer is a hand-held instrument that provides an approximation of the unconfined compressive strength of cohesive, fine-grained soils. The correlation between pocket penetrometer readings and the consistency of cohesive, fine-grained soils is provided on the attached Figure 3.

2.3.2 Soil Classification & Sampling

Members of CGT's staff logged the soils observed within the explorations in general accordance with the Unified Soil Classification System (USCS) and collected representative samples of the materials encountered. An explanation of the USCS is presented on the attached Soil Classification Criteria and Terminology, Figure 4. Rock encountered within the test pits was logged in accordance with the Oregon Department of Transportation (ODOT) Soil and Rock Classification Manual[1]. An explanation of the rock classification is shown on the attached ODOT Rock Classification Criteria and Terminology, Figure 5. The soil samples were stored in sealable plastic bags and transported to our laboratory for further examination and testing. Our staff visually examined all samples returned to our laboratory in order to refine the field classifications. Logs of the explorations are presented on the attached Exploration Logs, Figures 6 through 12. Surface elevations indicated on the logs and shown on the attached Figure 2 were estimated based on the topographic contours from the MetroMap web application. Elevations shown on the logs should be considered approximate.

2.4 Laboratory Testing

Laboratory testing was performed on samples collected in the field to refine our initial field classifications and determine in-situ parameters. Results of the laboratory tests are shown on the attached Exploration Logs, Figures 6 through 12. Laboratory testing included:

- Seven moisture content determinations (ASTM D2216)
- One Atterberg limits (plasticity index) test (ASTM D4318)

2.5 Subsurface Materials

The following paragraphs provide a description of each of the subsurface materials encountered at the site.

2.5.1 Silty Sand Fill (SM FILL)

Silty sand fill was encountered at the surface of TP-1 and TP-2. This material extended to depths of about 2 feet bgs. The silty sand fill was generally brown, moist, fine- to medium-grained, contained roots (less than 3-inch diameter), and contained fine to coarse angular gravel (up to 4-inch diameter).

2.5.2 Sandy Silt Fill (SM FILL)

Sandy silt fill was encountered beneath the silty sand fill within TP-1 and extended to a depth of about 4½ feet bgs. This material was generally gray, moist, exhibited low plasticity, contained fine to coarse angular gravel, and contained brick and asphalt debris (up to 2-inch diameter).

2.5.3 Native Silty Sand (SM)

Native silty sand was encountered beneath the sandy silt fill within TP-1 and at the surface of TP-3 and TP-4. This material extended to depths up to about 8½ feet bgs. The silty sand was generally medium dense, gray to brown, damp to moist, fine- to medium-grained, and contained gravel and boulders (up to 20-inch diameter).

[1] Oregon Department of Transportation, 1987. Soil and Rock Classification Manual.

2.5.4 Native Sandy Silt (ML)

Native sandy silt was encountered at the surface of TP-5 through TP-7 and extended to depths up to about 2 feet bgs. This material was generally medium stiff to stiff, gray to brown, moist, exhibited low plasticity, contained roots (up to 3-inch diameter), and contained gravel and cobbles (up to 10-inch diameter).

2.5.5 Native Lean Clay (CL)

Native lean clay was encountered beneath the silty sand fill within TP-2, beneath the native silty sand within TP-4, and beneath the sandy silt within TP-5 through TP-7. The lean clay extended to depths up to about 5 feet bgs within TP-2and TP-4through TP-76. The lean clay was generally medium stiff to very stiff, gray-brown, moist, exhibited medium plasticity, and contained sand, gravel, and cobbles (up to 9 inches in diameter).

2.5.6 Predominantly Weathered Basalt

Predominantly weathered basalt was encountered beneath the silty sand within TP-1 and TP-3, and beneath the lean clay within TP-2 and TP-4 through TP-7. The predominantly weathered basalt extended to the full depths explored within these test pits, up to about 10 feet bgs. The weathered basalt was generally very soft (R1), red, gray, brown, tan, and moist.

2.6 Groundwater

Groundwater was not encountered within depths explored on December 10, 2015. Based on our review of available groundwater mapping provided by the United States Geological Survey[2] (USGS), groundwater in the immediate vicinity of the site is estimated to be at a depth in excess of 200 feet bgs. We anticipate groundwater levels will fluctuate due to seasonal and annual variations in precipitation, changes in site utilization, or other factors. In addition, the native sandy silt (ML), native lean clay (CL), and weathered basalt are conducive to the formation of perched water tables.

3.0 SEISMIC CONSIDERATIONS

3.1 Seismic Design

Section 1613.3.2 of the 2014 Oregon Structural Specialty Code (2014 OSSC) requires that the determination of the seismic site class be based on subsurface data in accordance with Chapter 20 of the American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures (ASCE 7). Based on the results of the explorations and review of geologic mapping, we have assigned the site as Site Class D for the subsurface conditions encountered. Earthquake ground motion parameters for the site were obtained based on the United States Geological Survey (USGS) Seismic Design Values for Buildings - Ground Motion Parameter Web Application[3]. The site Latitude 45.356965° North and Longitude 122.633618° West were input as the site location. The following table shows the recommended seismic design parameters for the site.

---

[2] "USGS: Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area" http://or.water.usgs.gov/projs_dir/puz/

[3] United States Geological Survey, 2015. **Seismic Design Parameters determined using:, "U.S. Seismic Design Maps Web** Application - Version 3.1.0," **from the USGS** website *http://geohazards.usgs.gov/designmaps/us/application.php.*

Table 1 Seismic Ground Motion Values (Section 1613.5 of 2014 OSSC)

Parameter		Value
Mapped Acceleration Parameters	Spectral Acceleration, 0.2 second (S_s)	0.944g
	Spectral Acceleration, 1.0 second (S_1)	0.407g
Coefficients (Site Class D)	Site Coefficient, 0.2 sec. (F_A)	1.122
	Site Coefficient, 1.0 sec. (F_V)	1.593
Adjusted MCE Spectral Response Parameters	MCE Spectral Acceleration, 0.2 sec. (S_{MS})	1.060g
	MCE Spectral Acceleration, 1.0 sec. (S_{M1})	0.648g
Design Spectral Response Accelerations	Design Spectral Acceleration, 0.2 seconds (S_{DS})	0.706g
	Design Spectral Acceleration, 1.0 second (S_{D1})	0.432g
Seismic Design Category		D

3.2 Seismic Hazards

3.2.1 Liquefaction

In general, liquefaction occurs when deposits of loose/soft, saturated, cohesionless soils, generally sands and silts, are subjected to strong earthquake shaking. If these deposits cannot drain quickly enough, pore water pressures can increase, approaching the value of the overburden pressure. The shear strength of a cohesionless soil is directly proportional to the effective stress, which is equal to the difference between the overburden pressure and the pore water pressure. When the pore water pressure increases to the value of the overburden pressure, the shear strength of the soil approaches zero, and the soil can liquefy. The liquefied soils can undergo rapid consolidation or, if unconfined, can flow as a liquid. Structures supported by the liquefied soils can experience rapid, excessive settlement, shearing, or even catastrophic failure.

For fine-grained soils, susceptibility to liquefaction is evaluated based on penetration resistance and plasticity, among other characteristics. Criteria for identifying non-liquefiable, fine-grained soils are constantly evolving. Current practice[4] to identify non-liquefiable, fine-grained soils is based on plasticity characteristics of the soils, as follows: (1) liquid limit greater than 47 percent, (2) plasticity index greater than 20 percent, and (3) moisture content less than 85 percent of the liquid limit. The susceptibility of sands, gravels, and sand-gravel mixtures to liquefaction is typically assessed based on penetration resistance, as measured using SPTs, CPTs, or Becker Hammer Penetration tests (BPTs).

Based on the shallow depth to weathered basalt, the relative plasticity of the clay soils and the estimated depth to groundwater, the soils encountered at the site are considered non-liquefiable within the depths explored.

3.2.2 Slope Instability

Due to the relatively minimal planned changes in site grade and the generally gently-sloping topography, we conclude the risk of seismically-induced slope instability at the site is low.

---

[4] Seed, R.B. et al., 2003. Recent Advances in Soil Liquefaction Engineering: A Unified and Consistent Framework. Earthquake Engineering Research Center Report No. EERC 2003-06.

3.2.3 Surface Rupture

3.2.3.1 Faulting

Although the site is situated in a region of the country with known active faults and historic seismic activity, no known faults exist on or immediately adjacent to the site. Therefore, the risk of surface rupture at the site due to faulting is considered low.

3.2.3.2 Lateral Spread

Surface rupture due to lateral spread can occur on sites underlain by liquefiable soils that are located on or immediately adjacent to slopes steeper than about 3 degrees (20H:1V), and/or adjacent to a free face, such as a stream bank or the shore of an open body of water. During lateral spread, the materials overlying the liquefied soils are subject to lateral movement downslope or toward the free face. Given the lack of liquefiable soils at the site and the absence of a free face, the risk of surface rupture due to lateral spread is considered negligible.

4.0 CONCLUSIONS

Based on the results of our field explorations and analyses, the site may be developed as described in Section 1.1 of this report, provided the recommendations presented in this report are incorporated into the design and development. The primary geotechnical considerations for this project include:

- Cobbles and Boulders at Foundation/Floor Slab/Pavement Subgrade: Based on our explorations, cobbles and boulders may be encountered at design subgrade elevations for shallow foundations, floor slabs, or pavements. Structural elements placed directly on boulders and cobbles can result in uneven ground response. To minimize this potential, CGT recommends:
  - Boulders encountered during foundation, floor slab, and pavement subgrade preparation be removed in their entirety and replaced with granular structural fill.
  - Foundation subgrades should be covered with a minimum of 6 inches of angular structural fill compacted to a well-keyed condition.
- Existing Structures: Existing structures should be removed prior to redevelopment of the site.
- Moisture Sensitive Soils: The near-surface, native, silty sand (SM), native sandy silt (ML), and native lean clay (CL) are sensitive to small changes in moisture content, and can pose challenges for earthwork performed during wet weather.

5.0 PRELIMINARY RECOMMENDATIONS

The following paragraphs present specific geotechnical recommendations for design and construction of the proposed residential structures at the site. The recommendations presented in this report are based on the information provided to us, results of the field investigation, laboratory data, and professional judgment. CGT has observed only a small portion of the pertinent subsurface conditions. The recommendations are based on the assumption that the subsurface conditions do not deviate appreciably from those found during the field investigation. CGT should be consulted for further recommendations if variations and/or undesirable geotechnical conditions are encountered at the site.

This report is considered preliminary, as we have not reviewed final grading plans, finished floor elevations, and detailed structural information for the development. An addendum indicating that this report is final, and including supplemental recommendations, if warranted, can be issued after we have reviewed those items.

5.1 Site Preparation

5.1.1 Site Stripping

Existing vegetation, topsoil, and fill (SM FILL and ML FILL) should be removed from within, and for a minimum 5-foot margin around, proposed building pad and pavement areas. Based on the results of our field explorations, stripping depths at the site are anticipated to be about 2 to 4½ foot bgs where fill is present and about ½ to 1 foot bgs where fill is not present. These materials may be deeper or shallower at locations away from the completed explorations. A geotechnical representative from CGT should provide recommendations for actual stripping depths based on observations during site stripping. Stripped surface vegetation and rooted soils should be transported off-site for disposal or stockpiled for later use in landscaped areas. Stripped pavements and demolition debris should be transported off site for disposal.

5.1.2 Grubbing

Grubbing of trees should include the removal of the root mass and roots greater than ½-inch in diameter. Grubbed materials should be transported off-site for disposal. Root masses from larger trees may extend greater than 3 feet bgs. Where root masses are removed, the resulting excavation should be properly backfilled with structural fill in conformance with Section 5.4 of this report.

5.1.3 Existing Utilities & Below-Grade Structures

All existing utilities at the site should be identified prior to excavation. Abandoned utility lines beneath new residential structures, pavements, and hardscaping should be completely removed or grouted full. Soft, loose, or otherwise unsuitable soils encountered in utility trench excavations should be removed and replaced with structural fill as described in Section 5.4 of this report. No below-grade structures were encountered in our explorations. If encountered during site preparation, buried structures (i.e. footings, foundation walls, slabs-on-grade, tanks, etc.) should be completely removed and disposed of off-site except for concrete which may, alternatively, be processed for re-use as described in Section 5.4.1.1. Resulting excavations should be backfilled with structural fill as described in Section 5.4 of this report, as needed to achieve design grades.

5.1.4 Erosion Control

Erosion and sedimentation control measures should be employed in accordance with applicable City, County and State regulations regarding erosion control.

5.2 Temporary Excavations

5.2.1 Overview

Conventional earthmoving equipment in proper working condition should be capable of making necessary excavations into the on-site soils. Excavations into the basalt, if needed, may require the use of special excavation methods and/or equipment. Please contact the geotechnical engineer for further evaluation if excavation into the basalt is anticipated based on final plans.

All excavations should be in accordance with applicable OSHA and state regulations. It is the contractor's responsibility to select the excavation methods, to monitor site excavations for safety, and to provide any shoring required to protect personnel and adjacent improvements. A "competent person", as defined by OR-OSHA, should be on site during construction in accordance with regulations presented by OR-OSHA. CGT's current role on the project does not include review or oversight of excavation safety.

5.2.2 OSHA Soil Class

For use in the planning and construction of temporary excavations up to 8 feet in depth at the site, an OSHA soil type "C" should be used for the native, silty sand (SM), native sandy silt (ML), and native lean clay (CL). Special consideration may be required where boulders are encountered during excavation or are present within excavation sidewalls.

5.2.3 Utility Trenches

Temporary trench cuts in native soils described earlier should stand near vertical to depths of approximately 4 feet. Caving should be expected where the native soils contain boulders. Some instability may occur if groundwater seepage is encountered. If seepage undermines the stability of the trench, or if caving of the sidewalls is observed during excavation, the sidewalls should be flattened or shored. Depending on the time of year trench excavations occur, trench dewatering may be required in order to maintain dry working conditions, particularly if the invert elevations of the proposed utilities are below the groundwater level. Pumping from sumps located within the trench will likely be effective in removing water resulting from seepage. If groundwater is present at the base of utility excavations, we recommend placing trench stabilization material at the base of the excavations. Trench stabilization material should be in conformance with Section 5.4.4 of this report.

5.2.4 Excavations Near Existing Foundations

Temporary excavations near existing footings should not extend within a 1½H:1V (horizontal to vertical) plane projected out and down from the outside, bottom edge of the footings. In the event that excavation needs to extend below the referenced plane, temporary shoring of the excavation and/or underpinning of the footing may be required. The geotechnical engineer should be consulted to review proposed excavation plans for this design case to provide specific recommendations.

5.3 Wet Weather Considerations

For planning purposes, the wet season should be considered to extend from late September to late June. It is our experience that dry weather working conditions should prevail between early July and the middle of September. Notwithstanding the above, soil conditions should be evaluated in the field by the geotechnical engineer or his representative at the initial stage of site preparation to determine whether the recommendations within this section should be incorporated into construction.

5.3.1 General Considerations

The near-surface, native, silty sand (SM), native sandy silt (ML), and native lean clay (CL) encountered within our explorations are susceptible to disturbance during wet weather. Trafficability of these soils may be difficult, and significant damage to subgrade soils will likely occur, if earthwork is undertaken without proper precautions at times when the exposed soils are more than a few percentage points above optimum moisture content. For construction that occurs during the wet season, methods to limit soil disturbance should be employed. Site preparation activities may need to be accomplished using track-mounted equipment, loading removed material onto trucks supported on granular haul roads. Soils that have been disturbed during site preparation activities should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill.

5.3.2 Geotextile Separation Fabric

We recommend placing geotextile separation fabric to serve as a barrier between the fine-grained subgrade and imported fill in areas of repeated or heavy construction traffic. The geotextile fabric should be in conformance with Section 02320 of the current Oregon Department of Transportation (ODOT) Standard Specification for Construction. Please refer to Table 02320-4 of the 2015 ODOT specifications for specific requirements.

5.3.3 Granular Working Surfaces (Haul Roads & Staging Areas)

Haul roads subjected to repeated heavy, tire-mounted, construction traffic (e.g. dump trucks, concrete trucks, etc.) will require a minimum of 18 inches of imported granular material. The prepared subgrade should be covered with geotextile fabric prior to placement of the imported granular material. The imported granular material should be placed in a single lift (up to 24 inches deep) and compacted using a smooth-drum, non-vibratory roller until well-keyed.

For light staging areas, 12 inches of imported granular material should be sufficient. Additional granular material or geo-grid reinforcement may be recommended based on site conditions and/or loading at the time of construction. The imported granular material should be in conformance with Section 5.4.2 of this report and have less than 5 percent material passing the U.S. Standard No. 200 Sieve.

5.3.4 Footing Subgrade Protection

A minimum of 3 inches of imported granular material is recommended to protect fine-grained, footing subgrades from foot traffic during inclement weather. The imported granular material should be in conformance with Section 5.4.2 of this report. The maximum particle size should be limited to 1 inch. The imported granular material should be placed in one lift over the prepared, undisturbed subgrade, and compacted using non-vibratory equipment until well keyed.

5.4 Structural Fill

The geotechnical engineer should be provided the opportunity to review all materials considered for use as structural fill a minimum of five business days prior to placement. If the gradation and proctor test results are not available or are more than three months old, samples of the proposed structural fill materials should be submitted to the geotechnical engineer for testing a minimum of five business day prior to use on site.

The geotechnical engineer or his representative should be contacted to evaluate compaction of structural fill as the material is being placed. Evaluation of compaction may take the form of in-place density tests and/or proof-roll tests with suitable equipment. Compaction of structural fill should be evaluated at intervals not exceeding every 2 vertical feet as the fill is being placed.

5.4.1 On-Site Soils (General Use)

5.4.1.1 Concrete Debris

Concrete debris resulting from the demolition of existing structures (foundations, floor slabs, etc.) can be re-used as structural fill if processed/crushed into material that is fairly well graded between coarse and fine particle sizes. The processed/crushed concrete should contain no organic matter, debris, or particles larger than 4 inches in diameter. Moisture conditioning (wetting) should be expected in order to achieve adequate compaction. When used as structural fill, this material should be placed and compacted in general accordance with Section 5.4.2 of this report. Such materials should be "capped" with a minimum of 12 inches

of ¾ -inch-minus (or finer) granular fill under all structural elements (footings, and, pavements, etc.). The capping material below slabs-on-grade (base rock) should consist of material as described in Section 5.4.3.

5.4.1.2 Silty sand (SM), Sandy Silt (ML) and Lean Clay (CL)

Re-use of on-site soils with fines contents over about 5 percent as structural fill may be difficult because these soils are sensitive to small changes in moisture content and are difficult, if not impossible, to adequately compact during wet weather. We anticipate the moisture content of these soils will be higher than the optimum moisture content for satisfactory compaction. Therefore, moisture conditioning (drying) should be expected in order to achieve adequate compaction. If used as structural fill, these soils should be free of organic matter, debris, and particles larger than 4 inches. Processing of the clay should include removal of boulders in excess of 4 inches in diameter. When used as structural fill, these soils should be placed in lifts with a maximum loose thickness of about 8 inches at moisture contents within –1 and +3 percent of optimum, and compacted to not less than 93 percent of the material's maximum dry density, as determined in general accordance with ASTM D1557 (Modified Proctor). If these soils cannot be properly moisture-conditioned and processed, we recommend using imported granular material for structural fill.

5.4.2 Imported Granular Structural Fill (General Use)

Imported granular structural fill should consist of angular pit or quarry run rock, crushed rock, or crushed gravel that is fairly well graded between coarse and fine particle sizes. The granular fill should contain no organic matter, debris, or particles larger than 1½ inches, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. The percentage of fines can be increased to 12 percent of the material passing the U.S. Standard No. 200 Sieve if placed during dry weather, and provided the fill material is moisture-conditioned, as necessary, for proper compaction. Granular fill material should be placed in lifts with a maximum loose thickness of about 12 inches, and compacted to not less than 93 percent of the material's maximum dry density, as determined in general accordance with ASTM D1557 (Modified Proctor). Proper moisture conditioning and the use of vibratory equipment will facilitate compaction of these materials.

Compaction of granular fill materials with high percentages of particle sizes in excess of 1½ inches should be evaluated by periodic proof-roll observation or continuous observation by the CGT geotechnical representative during fill placement, since it cannot be tested conventionally using a nuclear densometer. Such materials should be "capped" with a minimum of 12 inches of 1½-inch-minus (or finer) granular fill under all structural elements (footings, concrete slabs, pavements, etc.).

5.4.3 Floor Slab Base Rock

Floor slab base rock should consist of well-graded granular material (crushed rock) containing no organic matter or debris, have a maximum particle size of ¾-inch, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. Floor slab base rock should be placed in one lift and compacted to not less than 90 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor).

5.4.4 Trench Base Stabilization Material

If groundwater is present at the base of utility excavations, stabilization material should be placed to help stabilize the base of the trench. Trench base stabilization material should consist of at least 1 foot of well-graded granular material with a maximum particle size of 4 inches and less than 5 percent material passing the U.S. Standard No. 4 Sieve. The material should be free of organic matter and other deleterious material, placed in one lift, and compacted until well-keyed.

5.4.5 Trench Backfill Material

Trench backfill for the utility pipe base and pipe zone should consist of granular material as recommended by the utility pipe manufacturer. Trench backfill above the pipe zone should consist of well-graded granular material containing no organic matter or debris, have a maximum particle size of ¾ inch, and have less than 8 percent material passing the U.S. Standard No. 200 Sieve. As a guideline, trench backfill should be placed in maximum 12-inch thick lifts. The earthwork contractor may elect to use alternative lift thicknesses based on their experience with specific equipment and fill material conditions during construction in order to achieve the required compaction. The following table presents recommended relative compaction percentages for utility trench backfill.

Table 2 Utility Trench Backfill Compaction Recommendations

Backfill Zone	Recommended Minimum Relative Compaction	
	Structural Areas[1]	Landscaping Areas
Pipe Base and Within Pipe Zone	90% ASTM D1557 or pipe manufacturer's recommendation	85% ASTM D1557 or pipe manufacturer's recommendation
Above Pipe Zone	92% ASTM D1557	88% ASTM D1557
Within 3 Feet of Design Subgrade	93% ASTM D1557	88% ASTM D1557
[1]Includes proposed residential structures, driveways, hardscaping, roadways, etc.		

5.5 Permanent Slopes

5.5.1 Overview

Permanent cut or fill slopes constructed at the site should be graded at 2H:1V or flatter. Constructed slopes should be overbuilt by a few feet depending on their size and gradient so that they can be properly compacted prior to being cut to final grade. The surface of all slopes should be protected from erosion by seeding, sodding, or other acceptable means. Adjacent on-site and off-site structures should be located at least 5 feet from the top of slopes.

5.5.2 Placement of Fill on Slopes

New fill should be placed and compacted against horizontal surfaces. Where fill is placed on existing slopes which exceed 5H:1V (horizontal to vertical), the existing slopes should be keyed and benched prior to structural fill placement in general accordance with the attached Fill Slope Detail, Figure 13. If subdrains are needed on benches, subject to the review of the CGT geotechnical representative, they should be placed as shown on the attached Fill Slope Detail, Figure 13. In order to achieve well-compacted slope faces, slopes should be overbuilt by a few feet and then trimmed back to proposed final grades. A representative from CGT should observe the benches, keyways, and associated subdrains, if needed, prior to placement of structural fill.

5.6 Shallow Spread Foundations

5.6.1 Subgrade Preparation

Satisfactory subgrade support for shallow foundations associated with the planned building addition can be obtained from the native medium dense to better, silty sand (SM), the native, medium stiff to better, sandy silt (ML), and native, medium stiff to better, lean clay (CL), or on structural fill that is properly placed and

compacted on this material during construction. These materials were encountered at depths of about 0 to 4½ feet bgs in the explorations.

Boulders encountered during foundation excavation should be removed and replaced with granular structural fill. The geotechnical engineer or his representative should be contacted to observe subgrade conditions prior to placement of forms, reinforcement steel, or granular backfill (if required). If soft, loose, or otherwise unsuitable soils are encountered, they should be over-excavated as recommended by the geotechnical representative at the time of construction. The resulting over-excavation should be brought back to grade with imported granular structural fill in conformance with Section 5.4.2 of this report. The maximum particle size of over-excavation backfill should be limited to 1½ inches and ¾ inch within 12 inches of the bottom of new structural elements, (footings, concrete slabs, pavements, etc.). All granular pads for footings should be constructed a minimum of 6 inches wider on each side of the footing for every vertical foot of over-excavation.

5.6.2 Minimum Footing Width & Embedment

Minimum footing widths should be in conformance with the most recent, Oregon Structural Specialty Code (OSSC). As a guideline, CGT recommends individual spread footings should have a minimum width of 24 inches. Similarly, for one-story, light-framed structures, we recommend continuous wall footings have a minimum width of 12 inches. For two-, three-, and four-story, light-framed structures, we recommend continuous wall footings have a minimum width of 15, 18, and 24 inches, respectively. All footings should be founded at least 18 inches below the lowest, permanent adjacent grade.

5.6.3 Bearing Pressure & Settlement

The minimum footing dimensions described above will likely govern footing sizes. Nonetheless, footings founded as recommended above, should be proportioned for a maximum allowable soil bearing pressure of 1,500 pounds per square foot (psf). This bearing pressure is a net bearing pressure, applies to the total of dead and long-term live loads, and may be increased by one-third when considering seismic or wind loads. For the recommended design bearing pressure, total settlement of footings is anticipated to be less than 1 inch. Differential settlements between adjacent columns and/or bearing walls should not exceed ½-inch. Based on the soils encountered in the explorations and soils encountered during excavation, limited (less than 1-foot) over-excavation/backfill should be anticipated in some areas in order to achieve the indicated allowable soil bearing pressure.

5.6.4 Lateral Capacity

A maximum passive (equivalent-fluid) earth pressure of 150 pounds per cubic foot (pcf) is recommended for design for footings confined by the native soils described earlier or imported granular structural fill that is properly placed and compacted during construction. The recommended earth pressure was developed using a factor of safety of 1½, which is appropriate due to the amount of movement required to develop full passive resistance. In order to develop the above capacity, the following should be understood:

1. Concrete must be poured neat in the excavation or the perimeter of the foundation must be backfilled with imported granular structural fill,
2. The adjacent grade must be level or rising away from the footing,
3. The static ground water level must remain below the base of the foundation throughout the year, and
4. Adjacent development (e.g. slabs, pavements, etc.) and/or the upper 12 inches of adjacent unpaved, structural fill areas should not be considered when calculating passive resistance.

An ultimate coefficient of friction equal to 0.45 may be used when calculating resistance to sliding for footings founded on a minimum of 6 inches of imported granular structural fill (crushed rock) that is properly placed and compacted during construction.

5.6.5 Subsurface Drainage

Recognizing the fine-grained soils encountered at this site, placement of foundation drains is recommended at the outside base elevations of perimeter continuous wall footings. Foundation drains should consist of a minimum 4-inch diameter, perforated, PVC drainpipe wrapped with a non-woven geotextile filter fabric. The drains should be backfilled with a minimum of 2 cubic feet of open graded drain rock per lineal foot of pipe. The drain rock should also be encased in a geotextile fabric in order to provide separation from the surrounding clayey soils. Foundation drains should be positively sloped and should outlet to a suitable discharge point. The geotechnical engineer or his representative should observe the drains prior to backfilling. Roof drains should not be tied into foundation drains.

5.7 Floor Slabs

5.7.1 Subgrade Preparation

Satisfactory subgrade support for floor slabs constructed on grade, supporting up to 150 psf area loading, can be obtained from native medium dense to better, silty sand (SM), the native, medium stiff to better, sandy silt (ML), and native, medium stiff to better, lean clay (CL), or on structural fill that is properly placed and compacted on this material during construction. Boulders encountered during floor slab excavation should be removed and replaced with granular structural fill. The geotechnical engineer or his representative should observe floor slab subgrade soils to evaluate surface consistencies. If soft, loose, or otherwise unsuitable soils are encountered, they should be over-excavated as recommended by the CGT geotechnical representative at the time of construction. The resulting over-excavation should be brought back to grade with imported granular structural fill as described in Section 5.4.2 of this report.

5.7.2 Crushed Rock Base

Concrete floor slabs should be supported on a minimum 6-inch thick layer of crushed rock base in conformance with Section 5.4.3 of this report. We recommend "choking" the surface of the base rock with sand just prior to concrete placement. Choking means the voids between the largest aggregate particles are filled with sand, but does not provide a layer of sand above the base rock. Choking the base rock surface reduces the lateral restraint on the bottom of the concrete during curing. Choking the base rock also reduces punctures in overlying vapor retarding membranes due to foot traffic where such membranes are used.

5.7.3 Design Considerations

For floor slabs constructed as recommended, an equivalent modulus of subgrade reaction of 75 pounds per cubic inch (pci) is recommended for the design of the floor slab. If a higher equivalent modulus of subgrade reaction value is required, this can be achieved with a thicker base rock section below the slab. For example, on this project, the use of a 12-inch thick base rock section below the slab would allow the use of an equivalent modulus of subgrade reaction value of 100 pci. Please consult the geotechnical engineer if alternative values are needed. Floor slabs constructed as recommended will likely settle less than ½-inch. For general floor slab construction, slabs should be jointed around columns and walls to permit slabs and foundations to settle differentially.

5.7.4 Subgrade Moisture Considerations

Liquid moisture and moisture vapor should be expected at the subgrade surface. The crushed rock base recommended above typically serves as a capillary break and provides protection against liquid moisture. Where moisture vapor emission through the slab must be minimized, e.g. impervious floor coverings, storage of moisture sensitive materials directly on the slab surface, etc., a vapor retarding membrane or vapor barrier below the slab should be considered. Factors such as cost, special considerations for construction, floor coverings, and end use suggest that the decision regarding a vapor retarding membrane or vapor barrier be made by the architect and owner.

If a vapor retarder or vapor barrier is placed below the slab, its location should be based on current American Concrete Institute (ACI) guidelines, ACI 302 Guide for Concrete Floor and Slab Construction. In some cases, this indicates placement of concrete directly on the vapor retarder or barrier. Please note that the placement of concrete directly on impervious membranes increases the risk of plastic shrinkage cracking and slab curling in the concrete. Construction practices to reduce or eliminate such risk, as described in ACI 302, should be employed during concrete placement.

5.8 Pavements

5.8.1 Subgrade Preparation

In general, the subgrade soils encountered should be suitable for pavement support. However, depending on final subgrade elevations, weather conditions and soils encountered at the time of construction, a contingency for limited over-excavation and replaced with imported granular structural fill in conformance with Section 5.4.2 of this report, and the use of geotextile fabric should be planned. When evaluating its suitability as a pavement subgrade, the presence of stress concentrators (large cobbles and boulders) within 12 inches of the design pavement section should also be precluded whenever possible.
Additional subgrade improvement may be required based on the subgrade conditions encountered during construction. Where silt or clay soils are exposed at the subgrade surface, geotextile fabric should be placed at the subgrade surface prior to placing the base rock section.

5.8.1.1 Dry Weather Construction
After site preparation as recommended above, but prior to placement of fill and/or base rock, the geotechnical engineer or his representative should observe a proof roll test of the exposed subgrade soils in order to identify areas of excessive yielding. Proof rolling of subgrade soils is typically conducted during dry weather conditions using a fully-loaded, 10- to 12-cubic-yard, tire-mounted, tandem-axle dump truck or equivalent weighted water truck. Areas that appear too soft and wet to support proof rolling equipment should be prepared in general accordance with the recommendations for wet weather construction presented in Section 5.3 of this report. If areas of soft soil or excessive yielding are identified, the affected material should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill in conformance with Section 5.4.2 of this report.

5.8.1.2 Wet Weather Construction
Preparation of pavement subgrade soils during wet weather should be in conformance with Section 5.3 of this report. As indicated therein, increased base rock sections and a geotextile separation fabric may be required in wet conditions.

5.8.2 Input Parameters

Design of the flexible pavement sections presented below was based on the parameters presented in the following table, procedures in the American Association of State Highway and Transportation Officials (AASHTO) 1993 "Design of Pavement Structures" manual, ODOT Pavement Design Guide 2011, and the Asphalt Pavement Association of Oregon Asphalt Pavement Design Guide. If any of the items listed need revised, please contact us and we will reassess the provided design sections.

Table 3 Input Parameters Assigned for Pavement Design

Input Parameter	Design Value[1]	Input Parameter		Design Value[1]
Pavement Design Life	20 years	Resilient Modulus[4]	Suitable Silt, Silty Sand, Lean Clay Subgrade	5,000 psi
Annual Percent Growth	0 percent		Crushed Aggregate Base	22,500 psi
Serviceability	4.2 initial, 2.5 terminal	Structural Coefficient[2]	Crushed Aggregate Base	0.08
Reliability[2]	75 percent		Asphalt	0.42
Standard Deviation[2]	0.49	Vehicle Traffic[5]	APAO Level I "Residential Driveways"	Less than 10,000 ESAL
Drainage Factor[3]	1.0		APAO Level II "Residential Streets"	Less than 50,000 ESAL

[1] If any of the above parameters are incorrect, please contact us so that we may revise our recommendations, if warranted.
[2] Value based on guidelines presented in Section 5.3 of the 2011 ODOT Pavement Design Manual for flexible pavements, local streets.
[3] Assumes good drainage away from pavement, base, and subgrade is achieved by proper crowning of subgrades.
[4] Values based on experience with similar soils prepared as recommended in this report.
[5] ESAL = Total 18-Kip equivalent single axle load. Traffic levels taken from Table 3.1 of APAO manual. If an increased traffic load is estimated, please contact us so that we may refine the traffic loading and revise our recommendations, if warranted.
[6] Suitability of subgrade at the time of construction and may require limited over-excavation as described in Section 5.8.1 of this report. A contingency for such over-excavation is recommended. Evaluation of actual requirements should be made at the time of construction based on actual subgrade soils encountered.

5.8.3 Recommended Minimum Sections

The following table presents the minimum recommended flexible pavement sections for the traffic levels indicated in the preceding table, based on the referenced AASHTO procedures.

Table 4 Recommended Minimum Pavement Sections

Material	Minimum Thickness (inches)[1]	
	APAO Level I (Residential Driveways)	APAO Level II (Residential Streets)
Asphalt Pavement (inches)	3	4
Crushed Aggregate Base (inches)[2]	12	12
Subgrade Soils	Prepared in accordance with Section 5.8.1 of this report. Silt or clay subgrade soils should be covered with geotextile fabric prior to placing base rock materials.	

[1] Subject to review of Clackamas County standard structural sections and functional classification of subject roadway.
[2] Thickness shown assumes dry weather construction. Geotextile separation fabric required regardless of weather conditions. Additional granular over-excavation/backfill (sub-base) section may be required in wet weather or otherwise unsuitable subgrade conditions. Refer to Section 5.3 and for additional discussion.

5.8.4 Asphalt & Base Course Materials

Asphalt pavement and base course material should conform to the most recent State of Oregon Standard Specifications for Highway Construction. Place aggregate base in one lift, and compact to not less than 95 percent of the material's maximum dry density, as determined in general accordance with ASTM D1557 (Modified Proctor). Asphalt pavement should be compacted to at least 91 percent of the material's theoretical maximum density, as determined in general accordance with ASTM D2041 (Rice Specific Gravity).

5.8.5 Rigid Retaining Walls

At this time, we are not aware of final grading plans and the presence or absence of retaining walls within the overall development except those that might be related to basement walls. The following preliminary recommendations are provided for preliminary design purposes and are based on the assumption that silt or clay soils will be the predominant soil retained by the basement walls.

5.8.5.1 Footings

Retaining wall footings should be designed and constructed in conformance with the recommendations presented in Section 8.5 of this report, as applicable.

5.8.5.2 Wall Drains

We recommend retaining wall drains consist of a minimum 4-inch diameter, perforated, HDPE (High Density Poly-Ethylene) drainpipe wrapped with a non-woven geotextile filter fabric. The drains should be backfilled with a minimum of 2 cubic feet of open graded drain rock per lineal foot of pipe. The drain rock should be encased in a geotextile fabric in order to provide separation from the surrounding soils. Retaining wall drains should be positively sloped and should outlet to a suitable discharge point. The geotechnical engineer or his representative should be contacted to observe the drains prior to backfilling.

5.8.5.3 Backfill

Retaining walls should be backfilled with imported granular structural fill in conformance with Section **Error! Reference source not found.** of this report and contain less than 5 percent passing the U.S. Standard No. 200 Sieve. The backfill should be compacted to a minimum of 90 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor). When placing fill behind walls, care must be taken to minimize undue lateral loads on the walls. Heavy compaction equipment should be kept at least "H" feet from the back of the walls, where "H" is the height of the wall. Light mechanical or hand tamping equipment should be used for compaction of backfill materials within "H" feet of the back of the walls.

5.8.5.4 Design Considerations

For rigid retaining walls founded, backfilled, and drained as recommended above, the following table presents parameters recommended for design.

Table 5 Design Parameters for Rigid Retaining Walls

Retaining Wall Condition	Modeled Backfill Condition	Static Equivalent Fluid Pressure (S_A)	Additional Seismic Equivalent Fluid Pressure (S_{AE})	Surcharge from Uniform Load, q, Acting on Backfill Behind Retaining Wall
Not Restrained from Rotation	Level (i = 0)	34 pcf	12 pcf	0.30*q
Restrained from Rotation	Level (i = 0)	58 pcf	6 pcf	0.50*q
Note 1. Refer to the attached Figure 14 for a graphical representation of static and seismic loading conditions. Seismic component of active thrust acts at 0.6H above the base of the wall. Note 2. Seismic (dynamic) lateral loads were computed using the Mononobe-Okabe Equation as presented in the 1997 Federal Highway Administration (FHWA) design manual.				

The above design recommendations are based on the assumptions that:

(1) the walls consist of concrete cantilevered retaining walls (β = 0 and δ = 24 degrees, see Figure 14).
(2) the walls are 10 feet or less in height.
(3) the backfill is drained and consists of imported granular structural fill (ϕ = 38 degrees).
(4) no line load, point, or area load surcharges are imposed behind the walls.
(5) the grade behind the wall is level, or sloping down and away from the wall, for a distance of 10 feet or more from the wall.
(6) the grade in front of the walls is level or sloping up for a distance of at least 5 feet from the wall.

Re-evaluation of our recommendations will be required if the retaining wall design criteria for the project vary from these assumptions.

5.9 Additional Considerations

5.9.1 Drainage

Subsurface drains should be connected to the nearest storm drain, on-site infiltration system (if selected and designed by others), or other suitable discharge point. Paved surfaces and ground near or adjacent to the buildings should be sloped to drain away from the buildings. Surface water from paved surfaces and open spaces should be collected and routed to a suitable discharge point. Surface water should not be directed into foundation drains or onto site slopes.

5.9.1 Expansive Potential

The near surface native soils consisted of silty sand (SM), sandy silt (ML), and lean clay (CL), with boulders noted in some areas. Based on experience with similar soils in the area of the site, these soils are considered to have a low susceptibility to volume change due to changes in moisture content.

6.0 RECOMMENDED ADDITIONAL SERVICES

Satisfactory earthwork, foundation, floor slab, and pavement performance depends to a large degree on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during subsurface explorations, and recognition of changed conditions often requires experience. We recommend that qualified

personnel visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those observed to date and anticipated in this report.

The project geotechnical engineer or their representative should provide observations and/or testing of at least the following earthwork elements during construction:

- Site Stripping & Grubbing
- Subgrade Preparation for Structural Fills, Shallow Foundations, Floor Slabs, and Pavements
- Compaction of Structural Fill and Utility Trench Backfill
- Compaction of Base Rock for Floor Slabs and Pavements

It is imperative that the owner and/or contractor request earthwork observations and testing at a frequency sufficient to allow the geotechnical engineer to provide a final letter of compliance for the earthwork activities.

7.0 LIMITATIONS

We have prepared this report for use by the owner/developer and other members of the design and construction team for the proposed development. The opinions and recommendations contained within this report are not intended to be, nor should they be construed as a warranty of subsurface conditions, but are forwarded to assist in the planning and design process.

We have made observations based on our explorations that indicate the soil conditions at only those specific locations and only to the depths penetrated. These observations do not necessarily reflect soil types, strata thickness, or water level variations that may exist between or away from our explorations. If subsurface conditions vary from those encountered in our site explorations, CGT should be alerted to the change in conditions so that we may provide additional geotechnical recommendations, if necessary. Observation by experienced geotechnical personnel should be considered an integral part of the construction process.

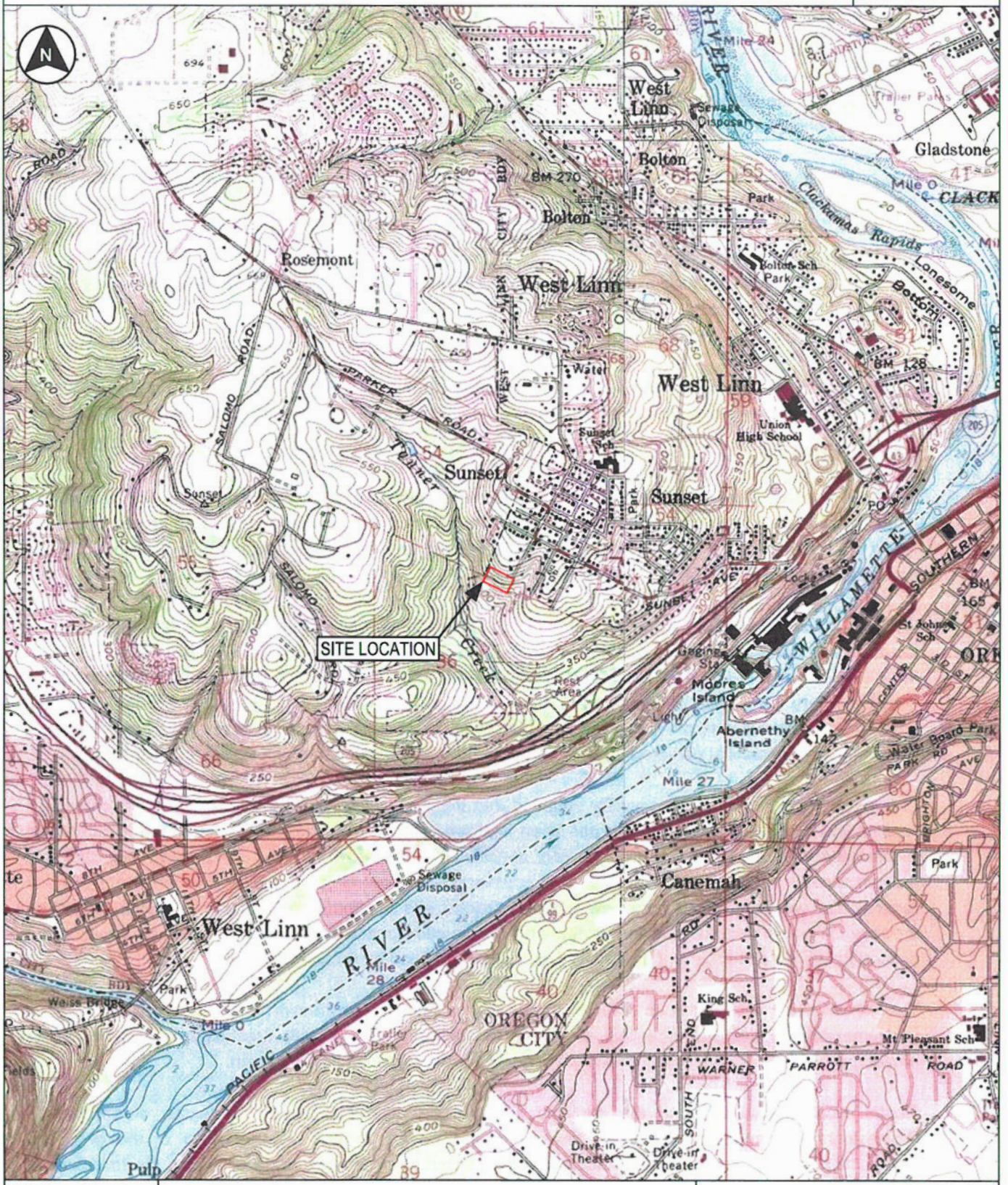
The owner/developer is responsible for ensuring that the project designers and contractors implement our recommendations. When the design has been finalized, prior to releasing bid packets to contractors, we recommend that the design drawings and specifications be reviewed by our firm to see that our recommendations have been interpreted and implemented as intended. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification. Design review and construction phase testing and observation services are beyond the scope of our current assignment, but will be provided for an additional fee.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design.

Geotechnical engineering and the geologic sciences are characterized by a degree of uncertainty. Professional judgments presented in this report are based on our understanding of the proposed construction, familiarity with similar projects in the area, and on general experience. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared; no warranty, expressed or implied, is made. This report is subject to review and should not be relied upon after a period of three years.

CORNWALL STREET SUBDIVISION - WEST LINN, OREGON
Project Number G1504283

FIGURE 1
Site Location



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Map created with TOPO!™, © 2006 National Geographic Holdings
USGS 7.5 Minute Topographic Map Series, Canby, Oregon Quadrangle.

Township 2 South, Range 1 East, Section 36 Willamette Meridian

Latitude: 45.356965
Longitude: -122.633618

1 Inch = 2,000 feet

0 2000 4000

CORNWALL STREET SUBDIVISION - WEST LINN, OREGON
Project Number G1504283

FIGURE 2
Site Plan

CARLSON CGT GEOTECHNICAL 503-601-8250

LEGEND

TP-1 Test pit

1 Orientation of site photographs shown on Figure 3

1 Inch = 100 Feet

0 100 200

NOTES: Drawing based on observations made while on site and site plans provided by client. All exploration locations should be considered approximate.

Photograph 1: Looking southwest towards the south margin of the site from just south of the existing residence.

Photograph 2: Looking south from the southeast towards the south-east corner of the site from just south of the existing residence.

Photograph 3: Looking northwest along the south margin of the site from within Lot 7.

Photograph 4: Looking north-northwest towards the northwest margin of the site from the proposed alignment of Landis Street.

CORNWALL STREET SUBDIVISION - WEST LINN, OREGON
Project Number G1504283

FIGURE 4
USCS

Classification of Terms and Content

NAME: MINOR Constituents (12-50%); MAJOR Constituents (>50%); Slightly (5-12%)
Relative Density or Consistency
Color
Moisture Content
Plasticity
Trace Constituents (0-5%)
Other: Grain Shape, Approximate Gradation, Organics, Cement, Structure, Odor...
Geologic Name or Formation: Fill, Willamette Silt, Till, Alluvium, etc.

USCS Grain Size

Fines		<#200 (.075 mm)
Sand	Fine	#200 - #40 (.425 mm)
	Medium	#40 - #10 (2 mm)
	Coarse	#10 - #4 (4.75)
Gravel	Fine	#4 - 0.75 inch
	Coarse	0.75 inch - 3 inches
Cobbles		3 to 12 inches; scattered <15% est. numerous >15% est.
Boulders		> 12 inches

Relative Density or Consistency

Granular Material		Fine-Grained (cohesive) Materials				
SPT N-Value	Density	SPT N-Value	Torvane tsf Shear Strength	Pocket Pen tsf Unconfined	Consistency	Manual Penetration Test
		<2	<0.13	<0.25	Very Soft	Thumb penetrates more than 1 inch
0 - 4	Very Loose	2 - 4	0.13 - 0.25	0.25 - 0.50	Soft	Thumb penetrates about 1 inch
4 - 10	Loose	4 - 8	0.25 - 0.50	0.50 - 1.00	Medium Stiff	Thumb penetrates about ¼ inch
10 - 30	Medium Dense	8 - 15	0.50 - 1.00	1.00 - 2.00	Stiff	Thumb penetrates less than ¼ inch
30 - 50	Dense	15 - 30	1.00 - 2.00	2.00 - 4.00	Very Stiff	Readily indented by thumbnail
>50	Very Dense	>30	>2.00	>4.00	Hard	Difficult to indent by thumbnail

Moisture Content

Dry: Absence of moisture, dusty, dry to the touch
Damp: Some moisture but leaves no moisture on hand
Moist: Leaves moisture on hand
Wet: Visible free water, likely from below water table

	Plasticity	Dry Strength	Dilatancy	Toughness
ML	Non to Low	Non to Low	Slow to Rapid	Low, can't roll
CL	Low to Medium	Medium to High	None to Slow	Medium
MH	Medium to High	Low to Medium	None to Slow	Low to Medium
CH	Medium to High	High to Very High	None	High

Structure

Stratified: Alternating layers of material or color >6 mm thick
Laminated: Alternating layers < 6 mm thick
Fissured: Breaks along definite fracture planes
Slickensided: Striated, polished, or glossy fracture planes
Blocky: Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lenses: Has small pockets of different soils, note thickness
Homogeneous: Same color and appearance throughout

Unified Soil Classification Chart (Visual-Manual Procedure) (Similar to ASTM Designation D-2487)

Major Divisions			Group Symbols	Typical Names
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: 50% or more *retained* on the No. 4 sieve	Clean Gravels	GW	Well-graded gravels and gravel/sand mixtures, little or no fines
			GP	Poorly-graded gravels and gravel/sand mixtures, little or no fines
		Gravels with Fines	GM	Silty gravels, gravel/sand/silt mixtures
			GC	Clayey gravels, gravel/sand/clay mixtures
	Sands: More than 50% *passing* the No. 4 sieve	Clean Sands	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly-graded sands and gravelly sands, little or no fines
		Sands with Fines	SM	Silty sands, sand/silt mixtures
			SC	Clayey sands, sand/clay mixtures
Fine-Grained Soils: 50% or more Passes No. 200 Sieve	Silt and Clays Low Plasticity Fines		ML	Inorganic silts, rock flour, clayey silts
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
			OL	Organic silt and organic silty clays of low plasticity
	Silt and Clays High Plasticity Fines		MH	Inorganic silts, clayey silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat, muck, and other highly organic soils

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Additional References:
ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes and
ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)

Table 22: Scale of Relative Rock Weathering

Designation	Field Identification
Fresh	Crystals are bright. Discontinuities may show some minor surface staining. No discoloration in rock fabric.
Slightly Weathered	Rock mass is generally fresh. Discontinuities are stained and may contain clay. Some discoloration in rock fabric. Decomposition extends up to 1-inch into rock.
Moderately Weathered	Rock mass is decomposed 50% or less. Significant portions of rock show discoloration and weathering effects. Crystals are dull and show visible chemical alteration. Discontinuities are stained and may contain secondary mineral deposits.
Predominantly Weathered	Rock mass is more than 50% decomposed. Rock can be excavated with geologist's pick. All discontinuities exhibit secondary mineralization. Complete discoloration of rock fabric. Surface of core is friable and usually pitted due to washing out of highly altered minerals by drilling water.
Decomposed	Rock mass is completely decomposed. Original rock fabric may be evident. May be reduced to soil with hand pressure.

Table 23: Scale of Relative Rock Hardness

Term	Hardness Designation	Field Identification	Approximate Unconfined Compressive Strength
Extremely Soft	R0	Can be indented with difficulty by thumbnail. May be moldable or friable with finger pressure.	<100 psi
Very Soft	R1	Crumbles under firm blows with point of geology pick. Can be peeled by pocket knife. Scratched with finger nail.	100-1000 psi
Soft	R2	Can be peeled by pocket knife with difficulty. Cannot be scratched with finger nail. Shallow indention made by firm blow of geology pick.	1000-4000 psi
Medium Hard	R3	Can be scratched by knife or pick. specimen can be fractured with a sin-gle firm blow of hammer/geology pick.	4000-8000 psi
Hard	R4	Can be scratched with knife or pick only with difficulty. Several hard blows required to fracture specimen.	8000-16000 psi
Very Hard	R5	Cannot be scratched by knife or sharp pick. Specimen requires many blows of hammer to fracture or chip. Hammer rebounds after impact.	>16000 psi

Table 24: Stratification Terms

Term	Characteristics
Laminations	Thin beds (<1cm).
Fissle	Tendency to break along laminations.
Parting	Tendency to break parallel to bedding, any scale.
Foliation	Non-depositional, e.g., segregation and layering of minerals in metamorphic rock.

Tables adapted from the 1987 Soil and Rock Classification Manual, Oregon Department of Transportation.

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Tigard, OT 97281
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Fax: 503-601-8254

FIGURE 6

Test Pit TP-1

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 486 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE —
EXCAVATION METHOD Excavator
GROUNDWATER AT END —
NOTES
GROUNDWATER AFTER EXCAVATION —

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / □ FINES CONTENT (%) □ 0 20 40 60 80 100
484		SM FILL	**SILTY SAND FILL with gravel:** Brown, moist, with roots (less than ¼-inch diameter), and with fine to coarse angular gravel (up to 1-inch diameter).		0	GRAB TP1-1			0.5 1 0.5		
482		ML FILL	**SANDY SILT FILL:** Gray, moist, exhibited low plasticity, and with fine to coarse angular gravel, brick and asphalt debris (up to 2-inch diameter), and roots (up to 1-inch diameter).		2	GRAB TP1-2			1 1.5 2 2.5 2.5		
480		SM	**SILTY SAND:** Medium dense, red-brown, damp to moist, fine- to medium-grained, with roots, and with gravel and boulders (up to 20 inch-diameter).		4						
478					6	GRAB TP1-3					20
476			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), red and black, moist.		8	GRAB TP1-4					36
			• Test pit terminated at about 10 feet bgs. • No groundwater or caving observed within the depth explored. • Test pit loosely backfilled by Icon Construction with cuttings upon completion.		10						

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Tigard, OT 97281
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FIGURE 7

Test Pit TP-2

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 486 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE —
EXCAVATION METHOD Excavator
GROUNDWATER AT END —
NOTES
GROUNDWATER AFTER EXCAVATION —

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / ☐ FINES CONTENT (%) ☐ 0 20 40 60 80 100
484		SM FILL	**SILTY SAND FILL with gravel:** Brown, moist, with roots (less than 3-inch diameter), and with fine to coarse angular gravel (up to 4-inch diameter).		0				0.5 0.5 1		
482		CL	**LEAN CLAY with gravel:** Medium stiff to very stiff, gray-brown, exhibited medium plasticity, with roots (less than ¼-inch diameter), and with fine to coarse gravel (up to 2-inch diameter).		2				1.5 1.5 2.5		
480			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), red, black, gray and tan, and moist.		4	GRAB TP2-1			3 4		35
478			• Test pit terminated at about 7½ feet bgs due to practical refusal on a boulder. • No groundwater or caving observed within the depth explored. • Test pit loosely backfilled by Icon Construction with cuttings upon completion.		6	GRAB TP2-2					43
476											

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Tigard, OT 97281
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FIGURE 8

Test Pit TP-3

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 486 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE —
EXCAVATION METHOD Excavator
GROUNDWATER AT END —
NOTES
GROUNDWATER AFTER EXCAVATION —

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / □ FINES CONTENT (%) □ 0 20 40 60 80 100
484		SM	**SILTY SAND:** Medium dense, gray-brown, damp to moist, fine- to medium-grained, with roots (less than, and with cobbles (up to 8-inch diameter).		0				1 1.5 2.5		
					2				2 2.5 3.5		
482			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), moist, gray, red, brown, and tan		4				4 4		
480					6						
478					8						
476			• Test pit terminated at about 8 feet bgs due to practical refusal on basalt. • No groundwater or caving observed within the depth explored. • Test pit loosely backfilled with cuttings upon completion.								

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FIGURE 9

Test Pit TP-4

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 468 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE ---
EXCAVATION METHOD Excavator
GROUNDWATER AT END ---
NOTES
GROUNDWATER AFTER EXCAVATION ---

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / ☐ FINES CONTENT (%) ☐ 0 20 40 60 80 100
					0						
		SM	**SILTY SAND:** Medium dense, gray-brown, damp to moist, fine- to medium-grained, with roots (less than, and with gravel and boulders (up to 20-inch diameter).						0.5		
									1		
									1		
466					2				1.5		
		CL	**LEAN CLAY with gravel:** Medium stiff to very stiff, gray-brown, exhibited medium plasticity, and with cobbles (up to 9-inch diameter). Light to moderate groundwater seepage observed at about 3 feet bgs.			GRAB TP4-1			1.5		22 45 31
			PREDOMINANTLY WEATHERED BASALT: Very soft (R1), moist, gray, red, brown, and tan						2.5		
									3.5		
464					4				4		
462					6						
			• Test pit terminated at about 7 feet bgs due to practical refusal on a boulder. • No caving observed within the depth explored. • Test pit loosely backfilled with cuttings upon completion.								
460											
458											

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FIGURE 10

Test Pit TP-5

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 446 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE —
EXCAVATION METHOD Excavator
GROUNDWATER AT END —
NOTES
GROUNDWATER AFTER EXCAVATION —

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / □ FINES CONTENT (%) □ 0 20 40 60 80 100
444		ML	**SANDY SILT:** Medium stiff to stiff, gray to brown, moist, exhibited low plasticity, with fine to coarse gravel and cobbles (up to 10-inch diameter), and with roots (up to 3-inch diameter).		0				0.5 0.5 1		
					2				2		
		CL	**LEAN CLAY with gravel:** Medium stiff to very stiff, gray-brown, exhibited medium plasticity, and with cobbles (up to 9-inch diameter).						2.5 3.5		
442			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), moist, gray, red, brown, and tan Moderate groundwater seepage observed at about 4 feet bgs.		4				4 4		
440					6						
438					8						
436			• Test pit terminated at about 8 feet bgs. • No caving observed within the depth explored. • Test pit loosely backfilled with cuttings upon completion.								

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FIGURE 11

Test Pit TP-6

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 450 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE ---
EXCAVATION METHOD Excavator
GROUNDWATER AT END ---
NOTES
GROUNDWATER AFTER EXCAVATION ---

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / □ FINES CONTENT (%) □
		ML	**SANDY SILT:** Medium stiff to stiff, gray to brown, moist, exhibited low plasticity, with fine to coarse gravel, and with roots (up to 2-inch diameter).		0				0.5		
									0.5		
									0.5		
448		CL	**LEAN CLAY with gravel:** Medium stiff to very stiff, gray-brown, exhibited medium plasticity, and with cobbles (up to 9-inch diameter).		2	GRAB TP6-1			1.5		33
									1.5		
									2.5		
									3		
446			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), moist, gray, red, brown, and tan		4				4		
			Moderate groundwater seepage observed at about 4 feet bgs.								
444					6						30
			• Test pit terminated at about 7 feet bgs. • No groundwater or caving observed within the depth explored. • Test pit loosely backfilled with cuttings upon completion.								
442											
440											

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FIGURE 12

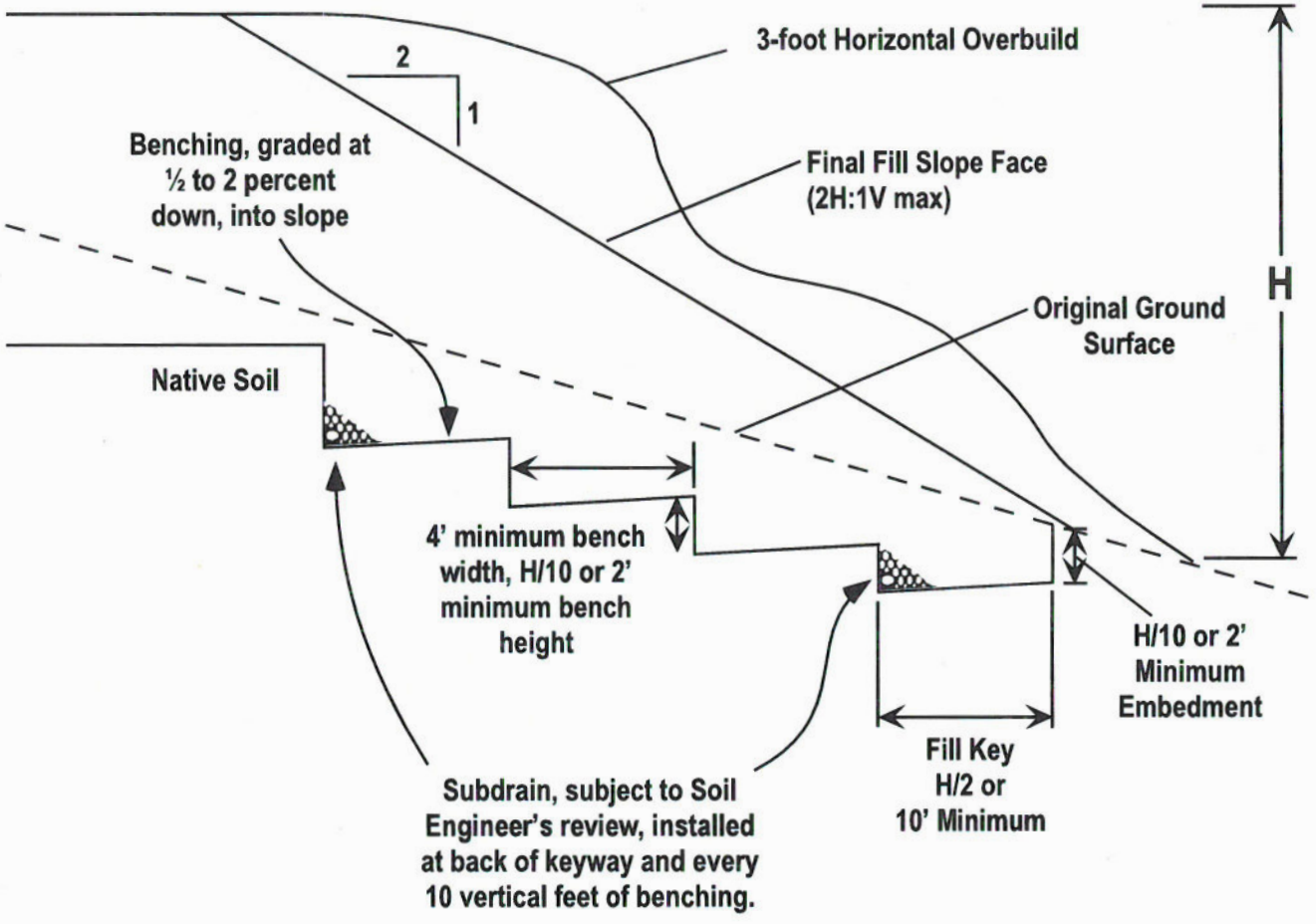
Test Pit TP-7

CLIENT Icon Construction - Darren Gusdorf
PROJECT NAME Cornwall Street Subdivision
PROJECT NUMBER G1504283
PROJECT LOCATION 4096 Cornwall Street, West Linn, Oregon
DATE STARTED 12/10/15 **GROUND ELEVATION** 460 ft
ELEVATION DATUM See Figure 2
EXCAVATION CONTRACTOR Icon Construction
LOGGED BY BLN **REVIEWED BY** KJS
EQUIPMENT John Deere 50G
SEEPAGE —
EXCAVATION METHOD Excavator
GROUNDWATER AT END —
NOTES
GROUNDWATER AFTER EXCAVATION —

ELEVATION (ft)	GRAPHIC LOG	U.S.C.S.	MATERIAL DESCRIPTION	GROUNDWATER	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	WDCP N_{60} VALUE	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ WDCP N_{60} VALUE ▲ / PL LL MC / □ FINES CONTENT (%) □ 0 20 40 60 80 100
		ML	**SANDY SILT:** Medium stiff to stiff, gray to brown, moist, exhibited low plasticity, with fine to coarse gravel, and with roots (up to 2-inch diameter).		0				0.5 0.5 0.5		
458		CL	**LEAN CLAY with gravel:** Medium stiff to very stiff, gray-brown, exhibited medium plasticity, and with cobbles (up to 9-inch diameter).		2				1 1.5 3.5		
456			**PREDOMINANTLY WEATHERED BASALT:** Very soft (R1), moist, gray, red, brown, and tan		4				4 4		
454					6						
			• Test pit terminated at about 6 feet bgs. • No groundwater or caving observed within the depth explored. • Test pit loosely backfilled with cuttings upon completion.								
452											
450											

CORNWALL STREET SUBDIVISION - WEST LINN, OREGON
Project Number G1504283

FIGURE 13
FILL SLOPE DETAIL



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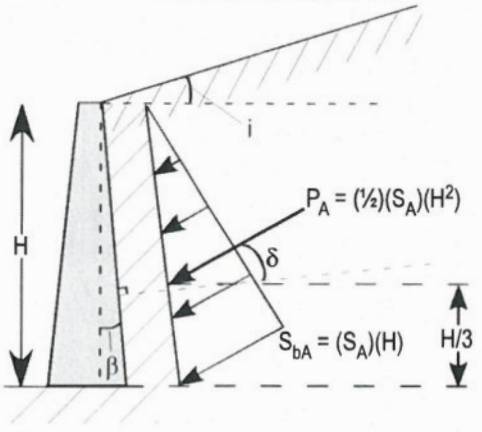
NOTE: Surfaces to receive fill with slopes steeper than 5H:1V (horizontal:vertical) should be benched and keyed as shown.

CORNWALL STREET SUBDIVISION - WEST LINN, OREGON
CGT Project No. G1504283

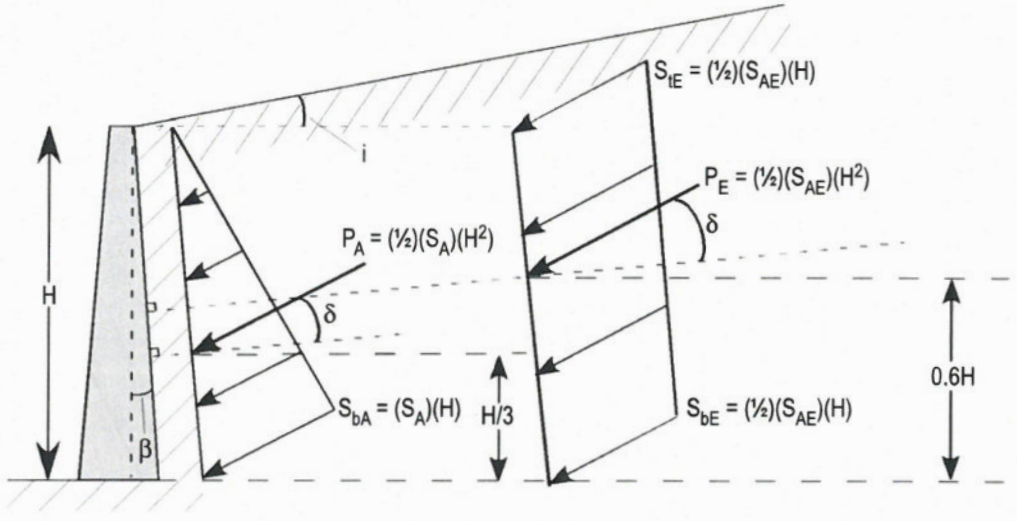
FIGURE 14
RETAINING WALLS

ACTIVE LATERAL PRESSURE DISTRIBUTION

STATIC LOADING CONDITIONS



SEISMIC LOADING CONDITIONS



LEGEND

P_A = Static active thrust force acting at a triangular distribution on wall (lb/ft^3)

P_E = Dynamic component of active thrust force acting at a uniform distribution on wall (lb/ft)

i = Slope of backfill (degrees)**

S_A = Active (static) component of equivalent fluid pressure (lb/ft^3)*

S_{tE} = Active earth pressure (dynamic) at the top of the wall (lb/ft^3)

S_{bA} = Active earth pressure (static) at the bottom of the wall (lb/ft^3)

ϕ = Internal angle of friction for backfill (degrees)**

δ = Angle from normal of back of wall (degrees). Based on friction developing between wall and backfill**

β = Slope of back of wall (degrees)**

S_{AE} = Dynamic component of equivalent fluid pressure (lb/ft^3)*

S_{bE} = Active earth pressure (dynamic) at bottom of the wall (lb/ft^3)*

*Refer to report text for calculated values **Refer to report text for modeled/assumed values

Notes

1. Uniform pressure distribution of seismic loading is based on empirical evaluations [Sherif et al, 1982 and Whitman, 1990].
2. Placement of seismic resultant force at 0.6H is based on wall behavior and model test results [Whitman, 1990].

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SIGNED ON: 20FEB17

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 13, 2004
TOBY G. BOLDEN
60377LS

RENEWS: DECEMBER 31, 2017

Design by: Richard E. Givens, Planning Consultant
Survey Work by: Centerline Concepts, Inc.

Applicant/Owner:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 2-1E-36BA TL 6300

Water: City of West Linn

Sewer: City of West Linn

Contours: Centerline Concepts, Inc.

Site Area: 2.176 Acres

Engineer:
Theta Engineering, Inc.
PO Box 1345
Lake Oswego, OR 97035
PH: (503) 481-8822

Surveyor:
Centerline Concepts, Inc.
700 Molalla Ave.
Oregon City, OR 97045
PH: (503) 650-0188

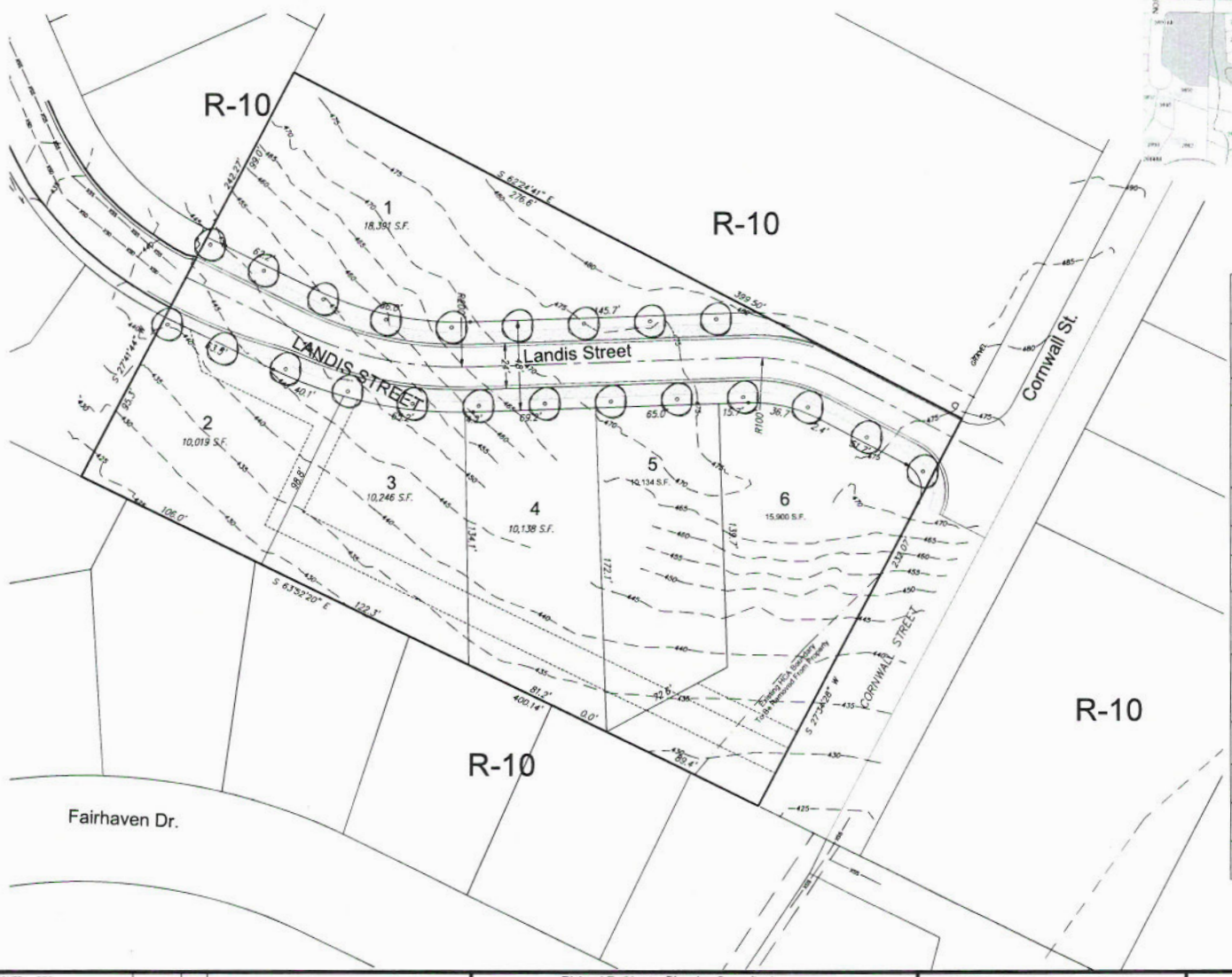
Zoning: R-10

NORTH

0 10' 20' 30' 40' 50' 100

Scale: 1" = 40'

Vicinity Map



Density Calculations

	Area (sq. ft.)	Allowable Density	Units @1 per 10,000 sq.ft.
Gross Site Area	94,808		
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested:	0		
Area in street right-of-way:	19,068		
Net Site Area:	75,740		
Area within Type I or II slopes where Developed:	20,587	50%	1.03
Area within Type I or II slopes where Density Will be Transferred:	0	75%	0
Area within Water Resource Area-all development transferred.	0	50%	0
Open Space (Type III and IV Lands)	0	100%	0.00
Type III & IV Land Developed:	55,153	100%	5.5
Base Density Allowed:			6
TOTAL ALLOWED DENSITY:			6 UNITS

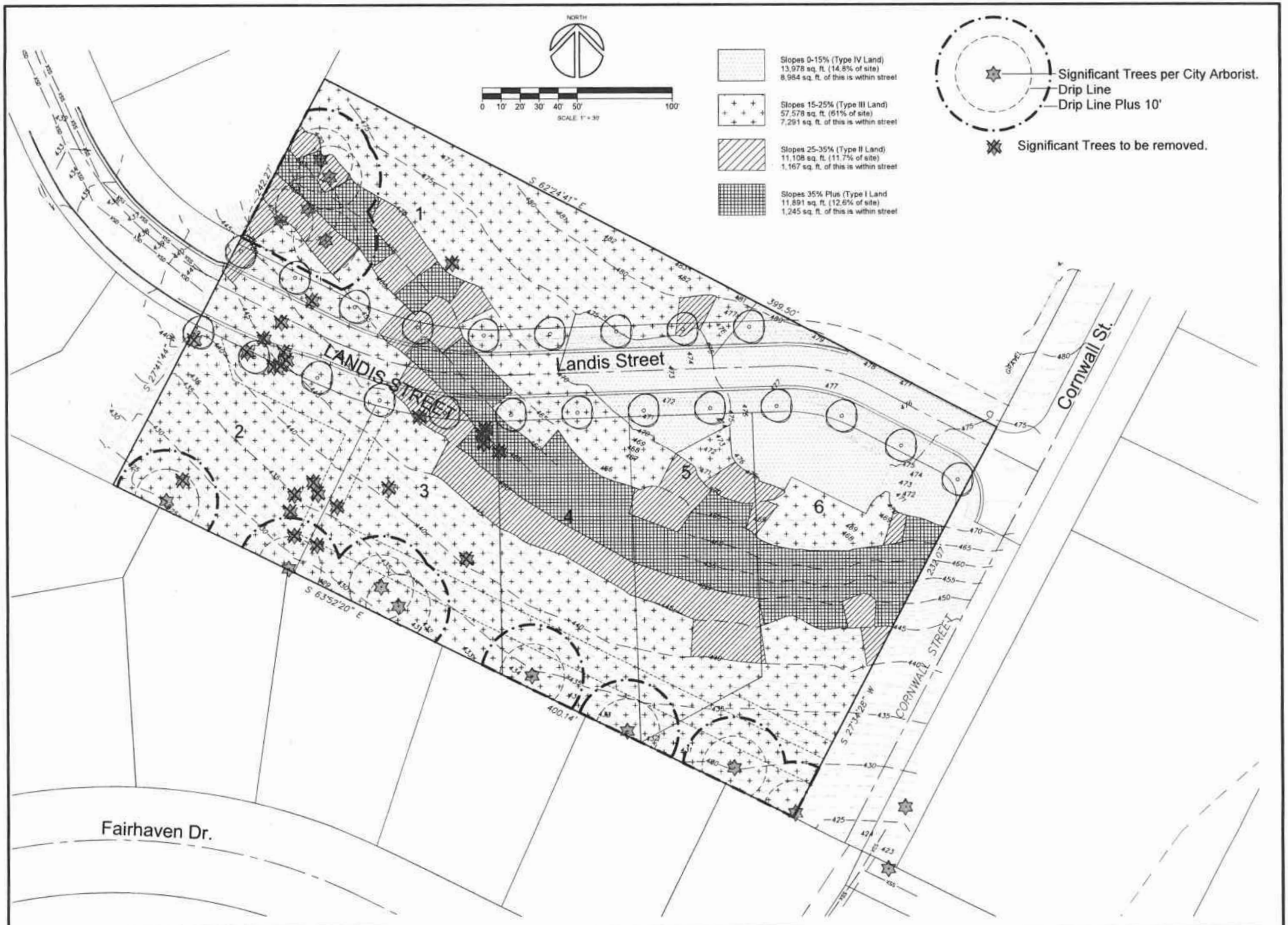
DESIGNED: REG			
DRAWN: REG			
SCALE: 1" = 30'			
DATE: Oct. 2017			
FILE: 15-ICN-112	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Willow Ridge
Tentative Plan

SHEET: 1/2



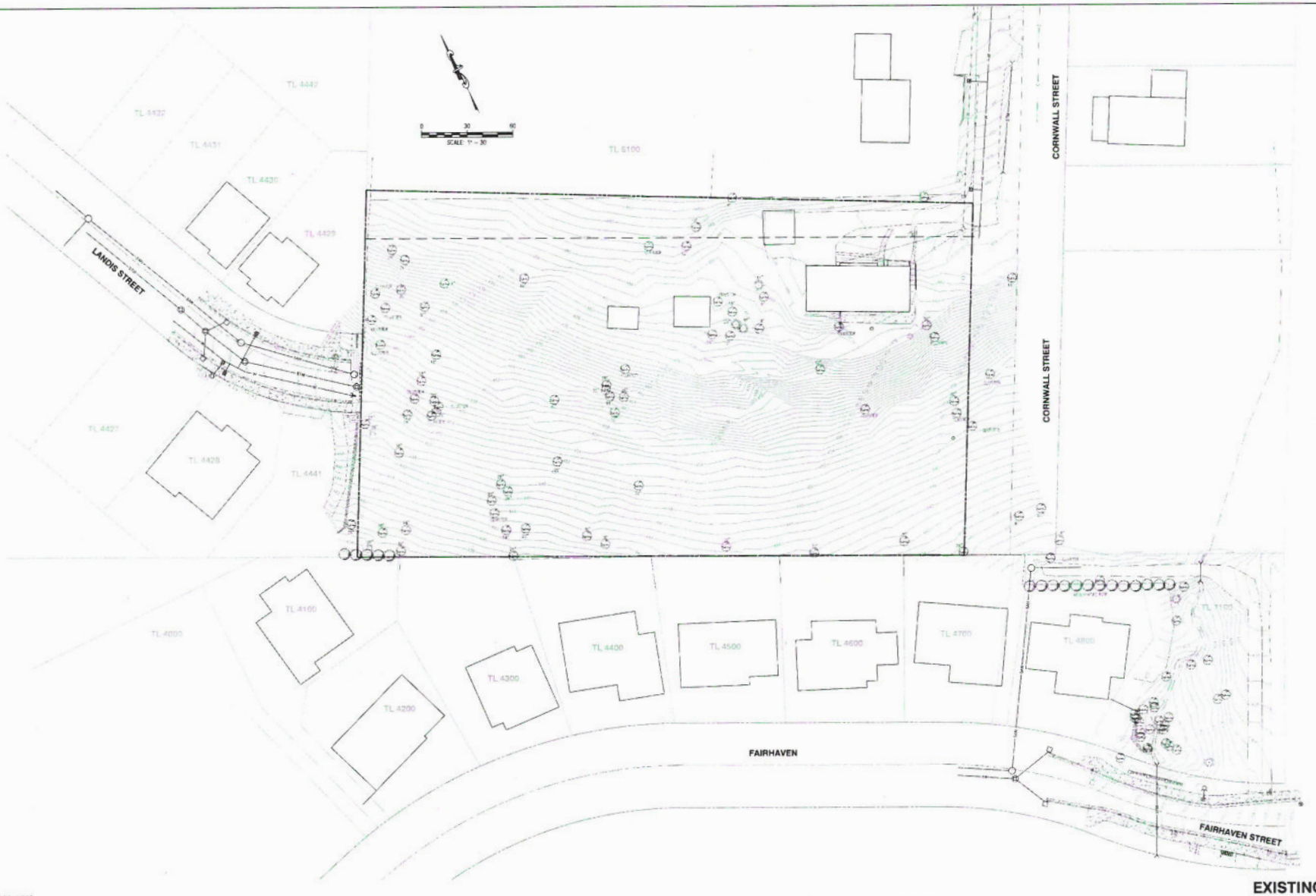
DESIGNED	REG			
DRAWN	REG			
SCALE	1" = 30'			
DATE	January 2017			
FILE	15-ICN-112	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Willow Ridge
Trees & Slope Analysis Plan

SHEET: 2/2



EXISTING CONDITIONS

2010-129L

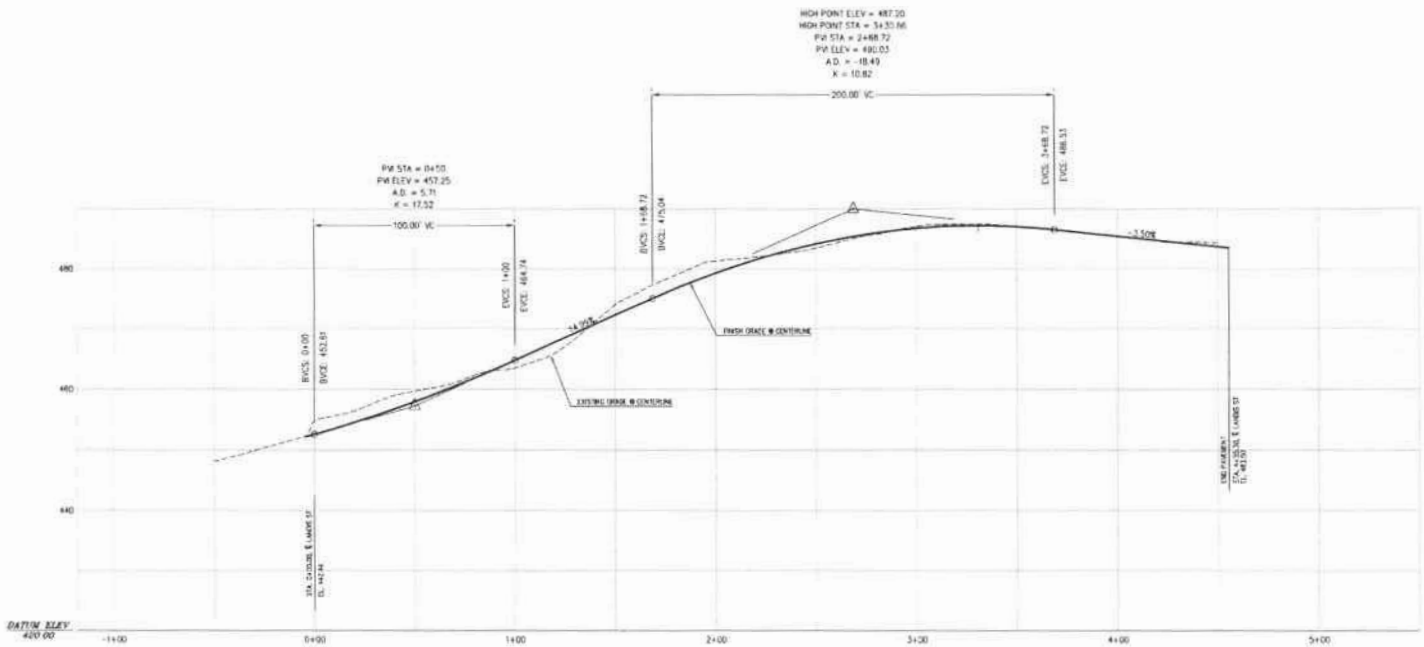
DESIGNED:	BDG		
DRAWN:	BJS		
SCALE:	1" = 30'		
DATE:	April, 2016		
FILE:	Cornwall Street Prelim3	DATE	NO. REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345, Lake Oswego, Oregon 97035
503/481-8822
email: thtaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET: 1/4



LANDIS STREET
CENTERLINE PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 10' VERTICAL

1/3

PRELIMINARY STREET PROFILE

2010-129L

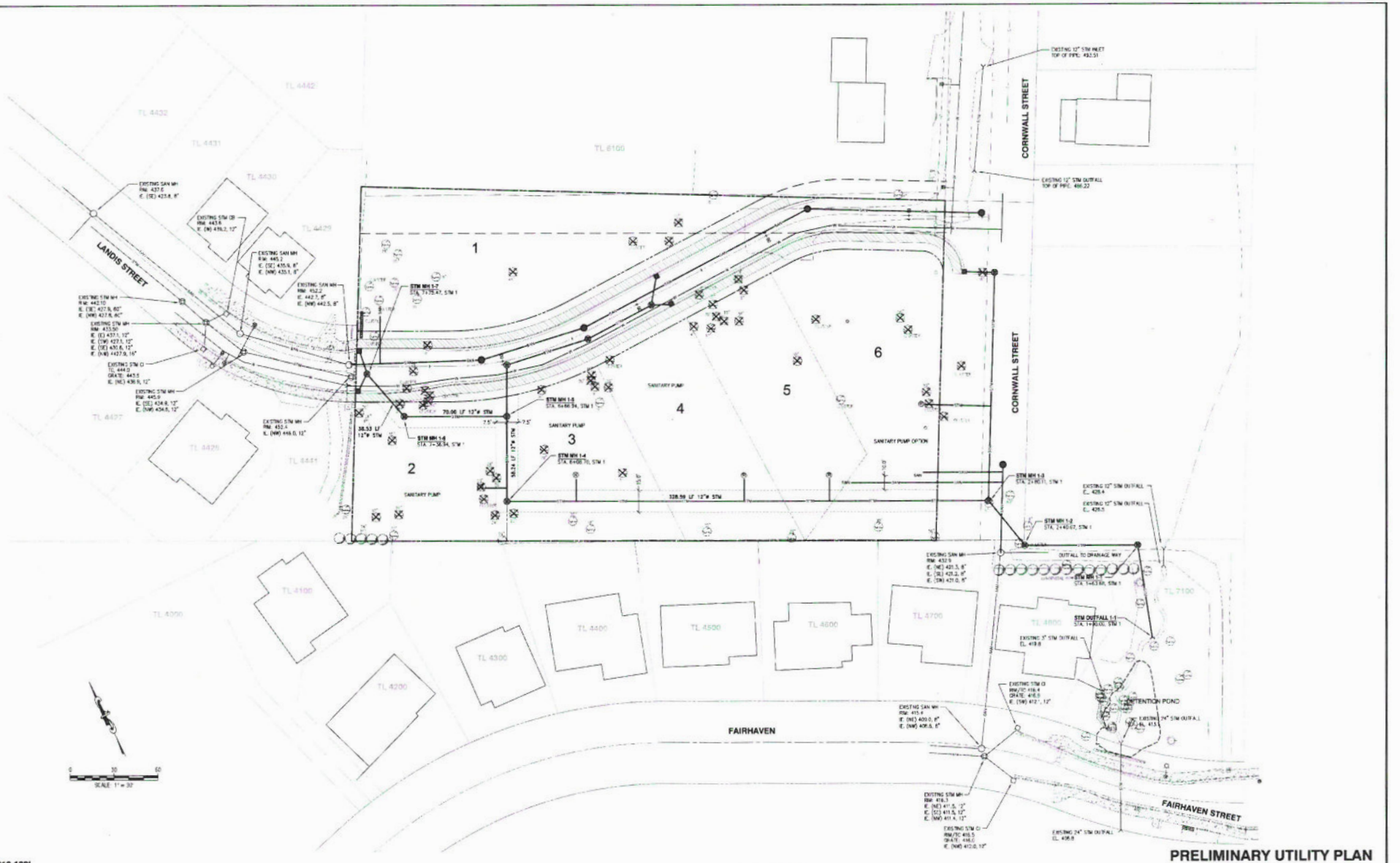
DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 30'			
DATE:	April, 2016			
FILE:	Cornwall Street Profile.dg	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503.481.4622
email: thetallc@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET:
2/4



2010-129L

PRELIMINARY UTILITY PLAN

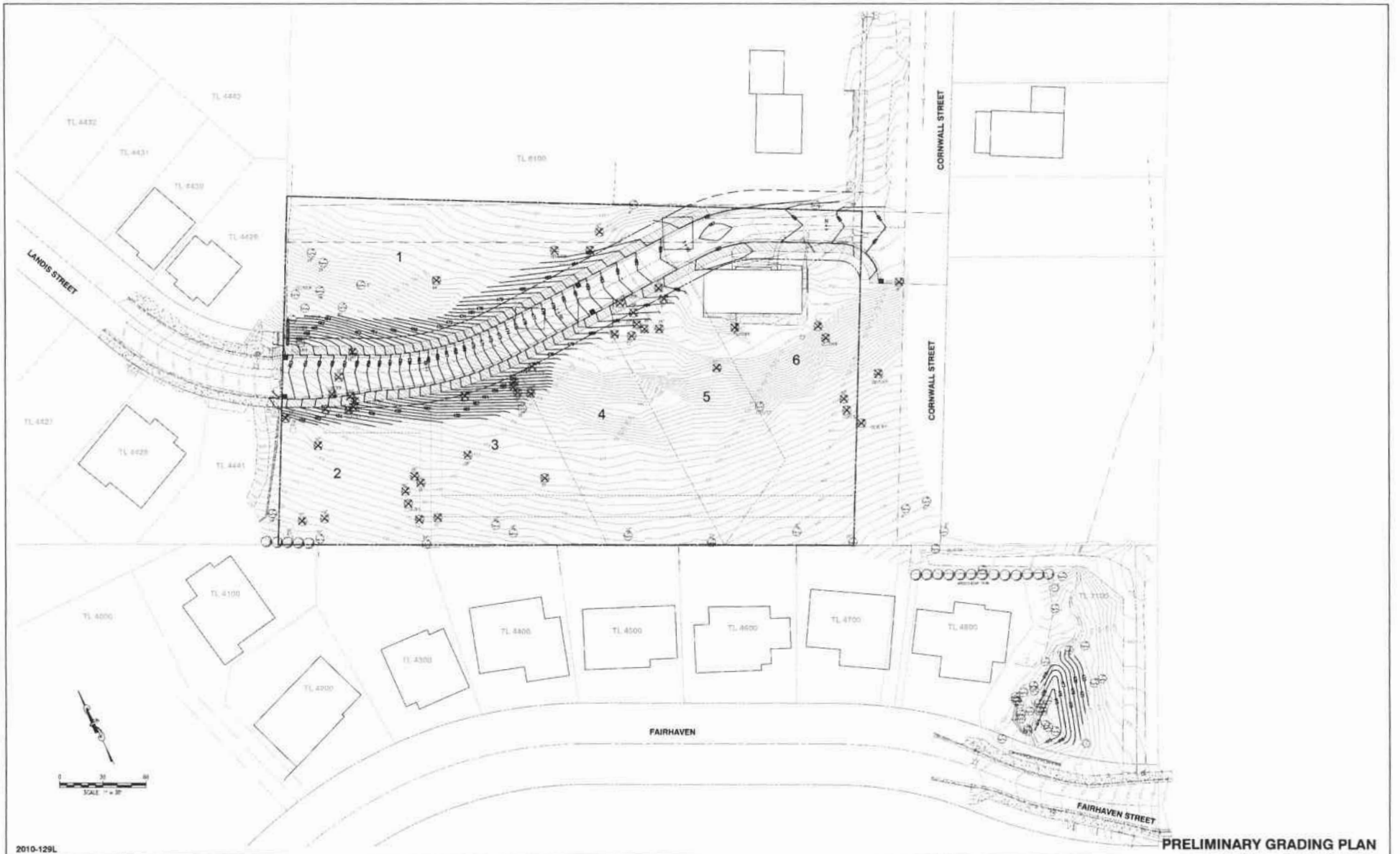
DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 30'			
DATE:	April, 2016			
F&E:	Cornwall Street Prelim3	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8820
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET: 3/4



PRELIMINARY GRADING PLAN

2010-129L

DESIGNED:	RDG			
DRAWN:	BJS			
SCALE:	1" = 30'			
DATE:	April, 2018			
FILE:	Cornwall Street Prelim'D	DATE	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: jhetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone: (503) 657-0406

Willow Ridge
West Linn, Oregon

SHEET: 4/4

Arnold, Jennifer

From: Pam Yokubaitis <pam@yokubaitis.com>
Sent: Wednesday, December 13, 2017 12:56 PM
To: Arnold, Jennifer
Subject: Re: PA-17-43 6 lot ELD Subdivision at 4096 Cornwall Street

I want to re-confirming that you do have all 7 items of my wetlands presentation, including the keynote presentation, all of which you can open. Is that correct?

On Dec 13, 2017, at 12:11 PM, Arnold, Jennifer <jarnold@westlinnoregon.gov> wrote:

These two attachments have been added to the record. I have responded to all of your emails that included testimony. IF you do not have a response from me about a piece of testimony, please resubmit it. It is up to you to verify that all of your information has been submitted. I do understand this and I appreciate your many email confirmations. My list of testimonies is below as a checks and balances for us to be sure we're in sync. I am trusting that you are opening all documents/links to make sure they work (like the keynote), so pease advise if something doesn't work. I need this assurance from you because I have no way of knowing that something is corrupted on your end.

New written testimony yet to be emailed to you will come today from Pia Snyder and myself. You might receive prior written testimony from Gary Eppelsheimer, but I think he only gave oral testimony.

Authors of Testimony and the Number of Their Submissions

1. Patrick Noe (1 overview document of our neighborhood concerns, and 1 with document including petition signatures) *(Sunset)*
2. Meredith Olmstead (0) *(BHT)*
3. Pia Snyder (1 already submitted; **one new testimony and one old testimony you will receive by 5 PM today)** *(BHT)*
4. Ed Turkisher (2 separate documents) *(Sunset/Cornwall)*
5. Chelsea Diaz (1 document with photo attachment) *(Stonegate)*
6. Steve Thornton (1) *(Stonegate)*
7. David Corey (1) *(Hidden Creek Estates)*
8. Christine Henry (2 documents with video attachment) *(Hidden Creek Estates)*
9. Jon Gice (2) *(Tanner Woods)*
10. Gary Eppelsheimer (I don't know for sure if he testified "in writing" so you may not receive anything from him) *(Sunset/Cornwall)*
11. Pam Yokubaitis (Citizens' Perspective; link to Icon's first application; full Wetlands Presentation (1-7) with keynote imbedded; my correspondence with Darren from Icon; this email (see underline below); **Traffic safety testimony you will receive by 5 PM,** and perhaps another document with comments about the applicants application if time permits) *(Hidden Creek Estates)*

Please include this email as part of my testimony so the Commissioners can readily see who all testified and what areas they represent in the listing above.

Thank you, Jennifer! Pam

Jennifer

From: Pam Yokubaitis [mailto:pam@yokubaitis.com]
Sent: Wednesday, December 13, 2017 11:26 AM

To: Arnold, Jennifer <jarnold@westlinnoregon.gov>
Subject: PA-17-43 6 lot ELD Subdivision at 4096 Cornwall Street

Jennifer,

This is the last part of my wetlands presentation that I have to email piecemeal because the file size is too large. Items 5-7 attached below.

I previously sent you an email with just items 1& 2 (which you can now discard) because I also sent you another email with items 1 through 4 (keynote) included. Please confirm that you now have 2 emails with 1-4 pieces of evidence in one email, and this email that has 5-7 pieces of evidence.

I do have just #4 (the keynote) in a separate email if that doesn't come through, so I await your feedback.

Thank you.

Pam Yokubaitis

Begin forwarded message:

From: Pam Yokubaitis <pam@yokubaitis.com>
Subject: Pam Yokubaitis 6/7/17 Testimony PART 2
Date: June 7, 2017 at 9:28:30 AM PDT
To: "Arnold, Jennifer" <jarnold@westlinnoregon.gov>
Cc: Jon Gice <jon_gice@sbcglobal.net>
Reply-To: Pam Yokubaitis <pam@yokubaitis.com>

Jennifer,

Due to 3 message delivery failures, I'm breaking up my testimony email into two parts because the file size was too big. Please look for two emails from me titled the same in the subject line, but with PART 1 and PART 2 indicated at the end.

Please have these emails available tonight on display so I can testify about it's contents as you scroll through them and click on key documents imbedded. Also double check that you can open the imbedded attachments as well, and confirm receipt as usual. Thank you.

Pam

Below is a continuation of Pam Yokubaitis's Testimony….

5) Received Offsite Wetlands Determination Report (document of findings) from the State of Oregon

Wetland Determination Request

On behalf of **B**arrington Heights, **H**idden Creek Estates & **T**anner Woods Subdivisions
BHT Neighborhood Association
West Linn, OR 97068

April 19,2017

Contact: Jon Gice
503-882-2996

Background

Barrington Heights, **H**idden Creek Estates and **T**anner Woods (BHT) subdivisions are located in West Linn, OR and are collectively recognized by city government as the BHT Neighborhood Association (BHTNA). *(Appendix 1: BHTNA & Sunset Neighborhood Associations)* The 450 or so large homes in these 3 subdivisions share views of Oregon's Willamette River, Mt. Hood, and the beautiful Willamette Valley. These 3 subdivisions are physically adjacent or near to, and below a property in the Sunset Neighborhood that has been proposed for development. The developer has named this proposed 6 home development Willow Ridge. Unlike other properties, this property has some complex issues to address since it has a very steep slope across the entire property *(Appendix 2: Trees and Slope Analysis)*, excessive amounts of surface and ground water springs, numerous old trees, and historical matters that raise some questions.

Tanner Creek is a wetlands body of water that flows through the 3 subdivisions, and is located to the West of the proposed development. *(Appendix 3: Tanner Creek Wetlands Map)* This creek water flows into the Tanner Woods subdivision's large wetland pond. *(Appendix 4: Tanner Creek Wetlands Pond, West Side)* To the East of the proposed development is another Unnamed creek which also flows into the Tanner Woods subdivision's large wetland pond. *(Appendix 5A: Creeks and Development Site & Appendix 5B Tanner Creek Wetlands Pond, East Side)*

Given the fact that this proposed development property:

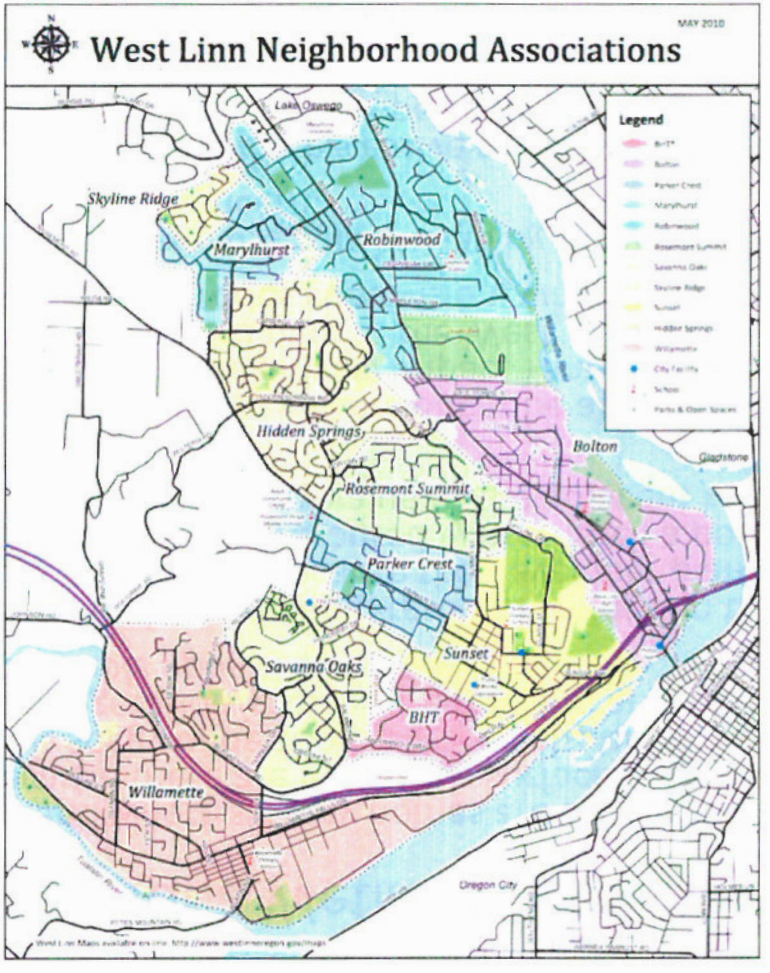
1) has excessive water bubbling on the surface and numerous underground springs,
2) has 50+ homes beneath this property that are built on top of the same underground springs that run through this proposed development
3) has the developer wanting to convert the free flowing Unnamed creek into a detention pond, *(Appendix 6A: Detention Pond/Preliminary Utility Plan & Appendix 6B & 6C: Photo of Unnamed creek where detention pond would be)*
4) has water traveling to wetlands below are on either side of this property, and
5) meets several criteria identified by the state to be considered wetlands, it is being questioned if this proposed development land has been evaluated in the past.

These are the reasons why this Wetlands Determination Request is being made at this time.

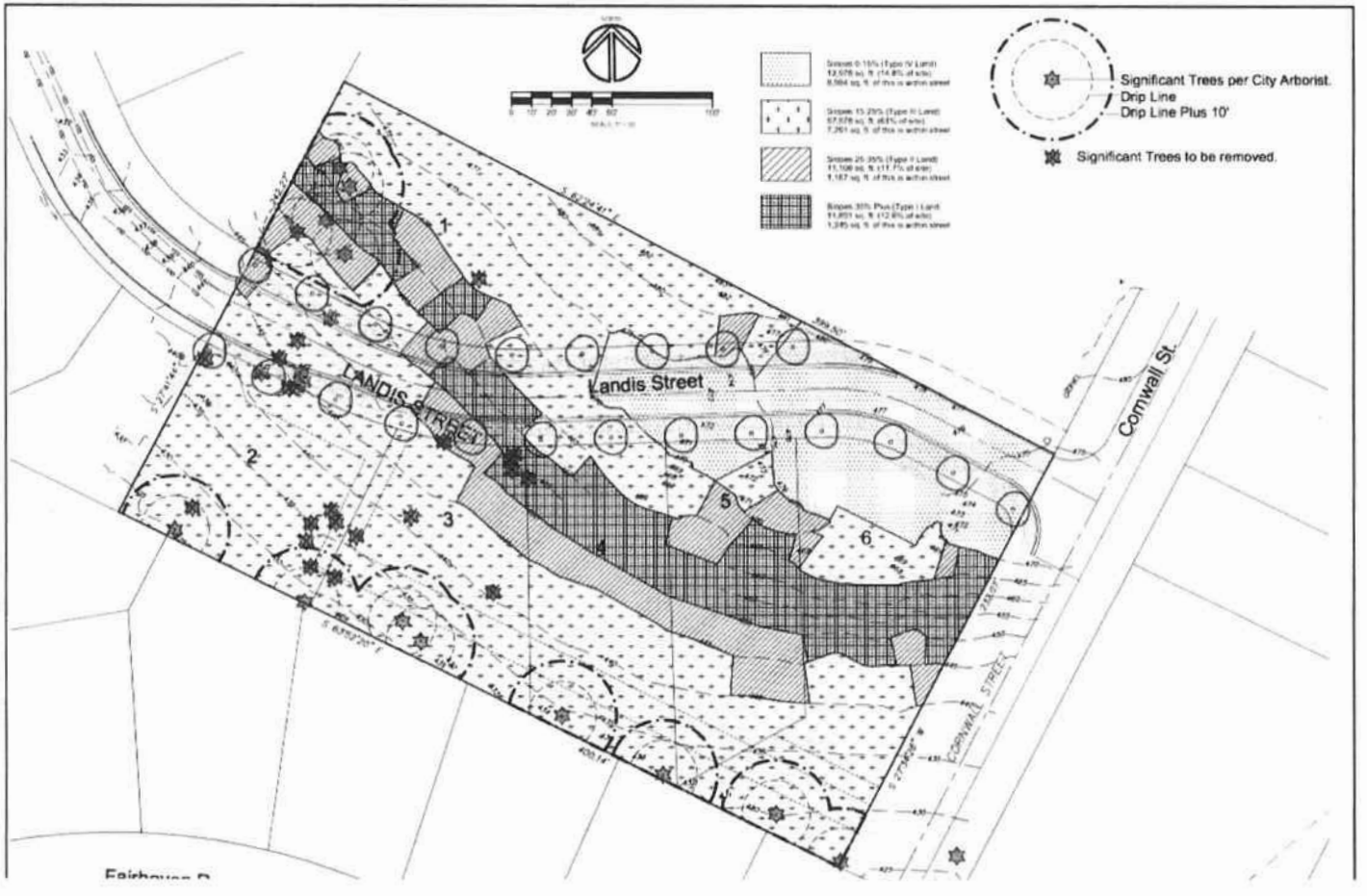
Request for a Wetland Determination

- We believe that the plot of land where six new homes are proposed to be built could be designated as a wetland because there are numerous surface and underground springs throughout the property; it is soggy underfoot; water pools; turtles and skunk cabbage occupy adjacent property; wetlands vegetation/grasses are present; and willow trees and hydric soils exist on the property. *(Photos available upon request.)*
- We believe that the numerous surface and underground springs on this land will negatively impact the currently unnamed creek on the East because the developer plans to build a detention pond in the unnamed creek to control the flow of rerouted water. Such a pond will dam up the creek, require maintenance, decrease the property value of the adjacent homesteads and destroy the natural beauty of this lovely creek.
- We believe that the *additional water* that will no longer be absorbed by older trees, nor be eroding soil on the properties below, will also negatively impact Tanner Creek wetlands because much of the surface and underground springs draining to the West will need to be directed into Tanner Creek wetlands and pond in Tanner Woods subdivision, which is currently at capacity.
- We believe that a failed septic system, previously used by the vacant blue home on this plot of land, is another unresolved issue of concern.
- We believe that as a result of rerouting the excessive surface water and underground springs, numerous homes adjacent to and below this property may be impacted with water seepage and/or foundation problems once this property's terrain has been altered.
- We believe that there is substantial evidence that this property meets wetlands criteria as outlined by the state of Oregon.

Appendix 1: BHTNA (bright pink) Sunset (bright yellow)



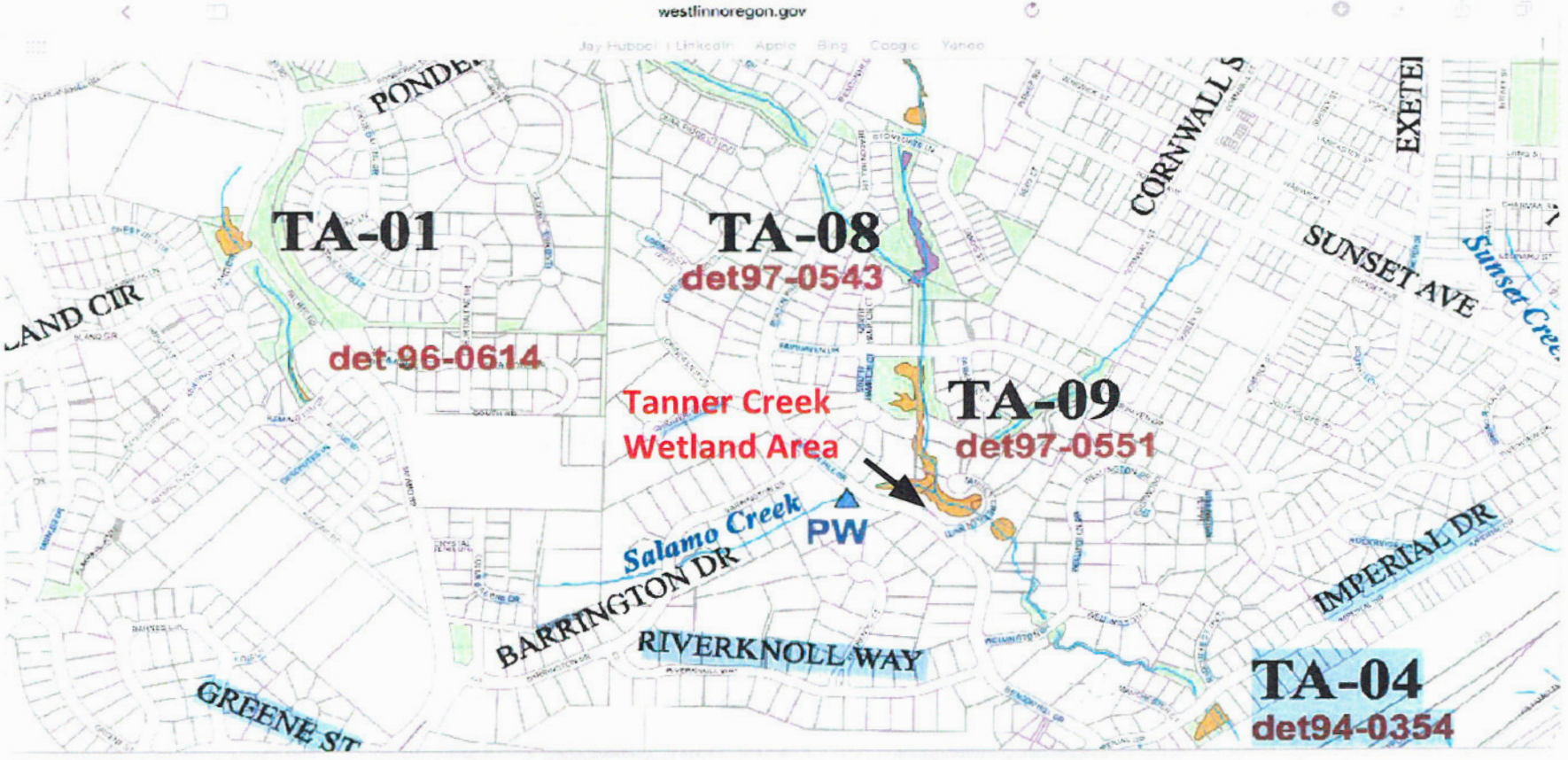
Appendix 2: Trees and Slope Analysis



Appendix 3: Tanner Creek Wetlands Map

Unnamed Creek (under TA-09)

Tanner Creek & Tanner Woods Pond (Wetlands in yellow)



Appendix 4: Tanner Creek Wetlands Pond,
West side of Tanner Woods Subdivision Creek Bridge

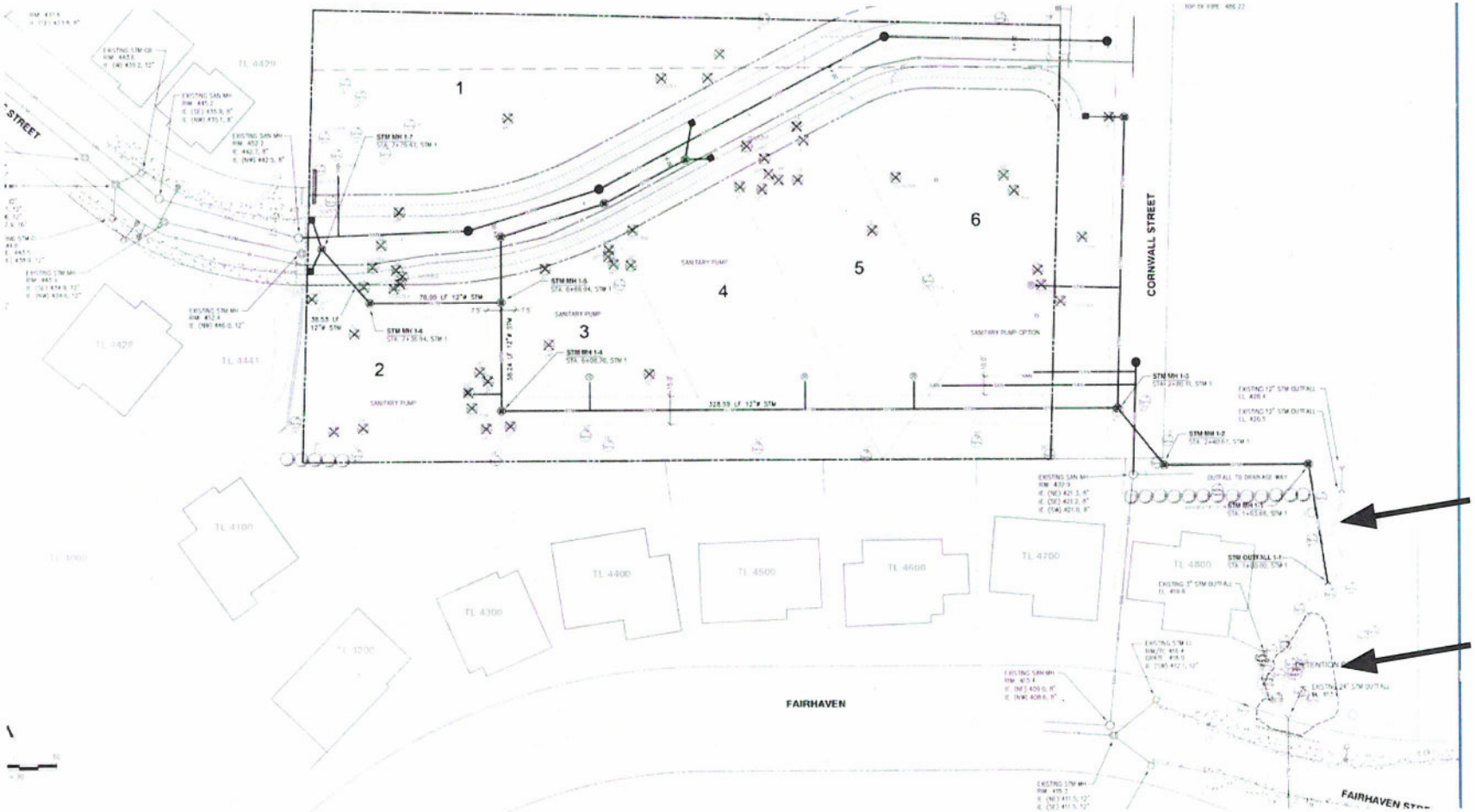
Appendix 5A: Creeks and Development Site

The subject property is described as Tax Lot 6300 of Assessor's Map 21E36BA. The site is 2.18 acres (94,808 square feet) in area. It is presently developed with a single-family detached home. This home will be removed to allow for the construction of the extension of Landis Street to Cornwall Street. The subject property is zoned R-10.

Figure 1: Vicinity Map

Appendix 5B– Tanner Creek Wetlands Pond
East side of Tanner Woods Subdivision Creek Bridge

Appendix 6A: Detention Pond/Preliminary Utility Plan



Appendix 6B: Unnamed Creek where the Detention Pond would be (next to the bridge sidewalk)

Appendix 6C: Unnamed Creek where Detention Pond would be

TESTIMONY FOR WEST LINN PLANNING COMMISSIONERS
REGARDING PA-17-43 6 lot ELD Subdivision at 4096 Cornwall Street
Submitted by: Pam Yokubaitis

FOUR MAJOR TRAFFIC SAFETY ISSUES

I am testifying about multiple traffic safety issues that impacts Icon's proposed Willow Ridge development at the end of Cornwall Street in West Linn. The second set of plans submitted by Icon for expedited review no longer connects Landis Street to Cornwall Street, but now dead ends into private property. The original description of an "emergency vehicle road with a locked gate" has now also been labeled on maps as an "Alleyway", which connects the dead end of Landis Street to the end of Cornwall Street.

A. LOT 6 CONCERNS: THE EMERGENCY ROAD/ALLEYWAY

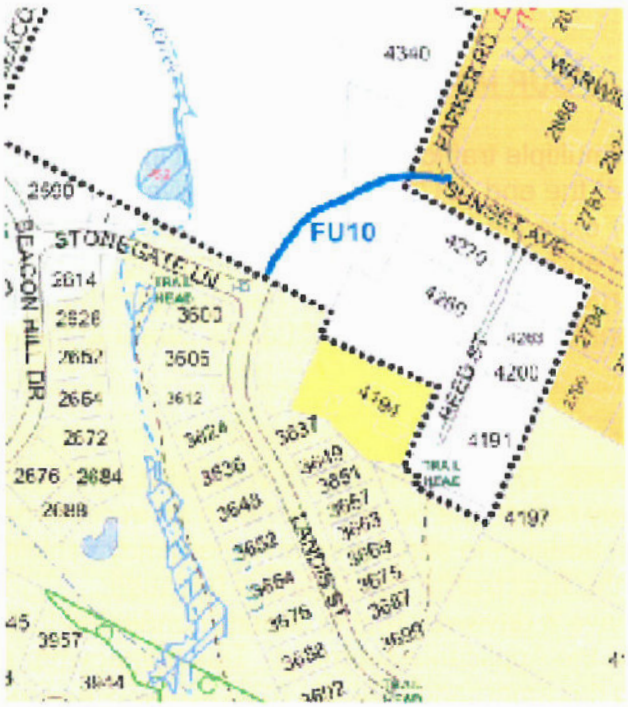
This new alleyway serves the purpose of being an access road to Willow Ridge's lot 6 driveway, in addition to serving as an emergency vehicle road. This arrangement is the **first traffic safety issue** because:

1) Lot 6 does *not* have a driveway that is directly connected to Landis Street, but this was not stated in the Applicants submittal. This homeowner must access his property utilizing the emergency vehicle road/alleyway just to get to his driveway.
2) The necessity to use this emergency road permanently for homestead access defeats the intended purpose of this being an emergency road (implying rarely used, and it was identified as having a *locked* gate!). Identifying this asphalt path now as an alleyway implies it's no longer just emergency access. Which is it? If it is providing connectivity, then Cornwall Street requires complete repaving because this now serves as a cut through. Read Ed Turkisher's 2 testimonies and Patrick Noe's about the extremely poor condition of Cornwall Road, with photos provided.
3) This homeowner has no street parking for guests at his home, which then creates traffic concerns of parked cars on Landis Street at a steep point in the slope, or on the Alleyway. It is unreasonable to deny street parking to any homeowner.

B. STONEGATE'S LOCATION FOR CONNECTIVITY MUST BE RE-EVALUATED

The proposed Landis Street stub out abutting private property near Cornwall implies that a road will eventually go through this land to Cornwall Street when this area is redeveloped. However, the issue of connecting Landis Street to Cornwall Street through Willow Ridge demands re-evaluation *because future connectivity of Stonegate's subdivision already exists, directly toward Sunset/Parker Roads.* This connectivity option was *not* previously mentioned. A Landis Street Road stub out is already built on the North side of Landis Street as you enter Stonegate's subdivision off of Beacon Hill onto Stonegate Lane. As you intersect with Landis Street, the stub out is immediately on your left. The existing (North) Landis Street road stub out is a far better option for connecting Stonegate to Sunset/Parker Roads for the numerous reasons listed below:

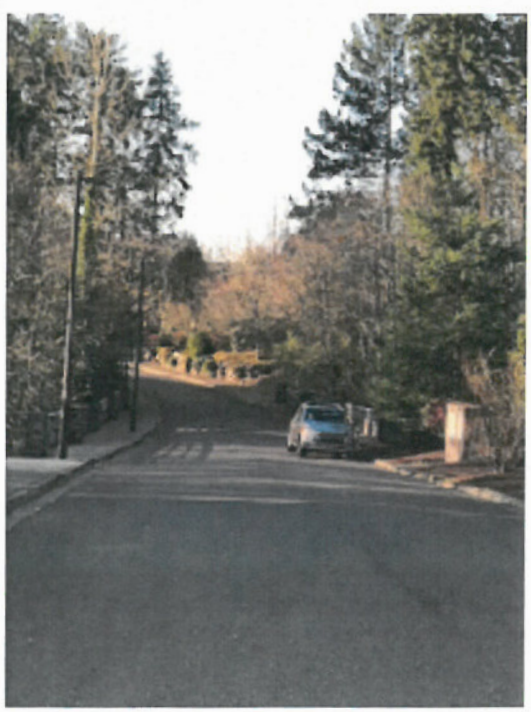
Connectivity from Landis Street to Sunset & Parker Roads



Stub out of (North) Landis Street, on left side at the end of Stonegate Lane.

Stonegate Lane bridge from Beacon Hill intersection, looking at Landis Street (where van is seen)

Stonegate Lane bridge from in front of (North) Landis stub out, looking toward Beacon Hill intersection (reverse view of above photo).



1. SHORT & COST EFFECTIVE CONNECTIVITY: The (North) Landis stub out offers a much shorter and direct access to Sunset/Parker Roads for future road connectivity. This connectivity location affords much less disruption to surrounding neighborhoods, and being shorter in distance makes it more cost effective to serve more residents. The (North) Landis Street stub out is next to a farm, which is very close to Sunset/Parker Roads than the Landis Street and Cornwall connection. This location affords greater connectivity for more homes.

2. STREET PARKING ON (SOUTH) LANDIS: One Stonegate resident floated the idea to their HOA Board of requiring parking only on one side of their street. This was not well received by the HOA President. The interference Street parking presents is a **second traffic safety issue**. Homeowners have the right to parking in front of their property for themselves and their guests. Removing this right is unreasonable, avoidable and would anger many residents if they lost this privilege. This is an HOA issue to address and enforce, not one that the city should dictate when there is a better and safer alternative available.

Begin forwarded message:
From: travis <travis_wp@yahoo.com>
Subject: Re: Width of Landis
Date: November 13, 2017 at 2:25:29 PM PST
To: Steve Thornton <steve.thornton@localfresh.com>, Thomas Elin <elin.thomas.e@gmail.com>, Richard Santee <richardsantee@gmail.com>
Cc: Pam Yokubaitis <pam@yokubaitis.com>
Reply-To: travis <travis_wp@yahoo.com>

Richard,
Closing one side of the street will help construction vehicles, but I think it will also cause issues with the open side for parking if the closed side homeowners start using the other side as extra parking in front of other people's homes which takes away their use for their guests. Is the intent to have all homeowners not park in the street at all?
I think another option is to have Icon punch the emergency access road from Cornwall to upper Landis and have construction vehicles access that way of a more direct route than through Barrington. Also since Cornwall is in much need of an upgrade, why not use it then have the City repair the entire street after? Two birds with one stone! :-). Thoughts?
- Travis

On Monday, November 13, 2017, 1:53:40 PM PST, Richard Santee <richardsantee@gmail.com> wrote

Per Pam's request, I've measured the width of Landis at a couple of points and it is 25 ft. One problem is that if two cars are parked on the street across from each other, that leaves only 8-9 feet between them--not enough for the constructions vehicles that will be traveling to the job site. Would it make sense to close off one side of Landis to street parking? Is so, our HOA will need to request that of the City.
Richard

View of street parking on Landis Street looking East towards Willow Ridge

3. HAZARDOUS BLIND SPOT: There is a massive rock retaining wall that poses a dangerous blind spot to oncoming traffic in both directions at a bend in the road near Stonegate's entrance. This is a **third traffic safety issue**. Stonegate residents have had accidents amongst their own neighbors on this bend, which validates that (South) Landis Street is a hazardous corner, undesirable for increased traffic, with a steep slope to travel, narrow streets with parked cars to contend with and many residential homes to pass by.

(South) Landis Street with cars park on blind spot curve

4. LANDIS STREET ROAD WIDTH: There clearly is no space available to widen Landis Street. This road is only 25' wide, whereas Fairhaven Drive is 31' 10" wide and 19' 8" wide on the bridge (for traffic calming purposes). Since Landis Street is only 25' wide, the 7' width discrepancy between these 2 streets is substantial if Landis and Cornwall were to become as trafficked as Fairhaven Drive is today. In comparison, Cornwall Street is 18 feet wide and 14 feet wide in the narrowest part. These road widths don't match, but most importantly, the 25 foot width of Landis Street makes it impassable for street parking and 2 way traffic. This is a **fourth traffic safety issue.**

Only one vehicle is able to safely pass when two cars are parked on opposite sides of this residential street. This is grossly inadequate for a future dual lane thoroughfare, not to mention very inadequate for construction access to build Willow Ridge.

Landis Street looking East toward Willow Ridge;
Two way traffic isn't feasible with street parking

5. BUYERS PREFER QUIET STREETS: The East side of Stonegate's subdivision located on Beacon Hill has only one street (Landis) with 20 homes on it. The Willow Ridge property was originally intended to be Phase II of Stonegate as noted on former plat maps (I received this notification). By extending Landis Street into Willow Ridge and making it a dead end road, the quiet residential atmosphere that all surrounding homeowners on Landis Street, Cornwall Street, and Fairhaven Drive currently treasure is retained. Dead end streets are highly desirable to West Linn buyers, especially with young children because they have minimal traffic and noise, like cul-de-sacs and private streets. The Alleyway could serve as a turn around like the one below currently at the end of Landis Street.

(South) Landis Street Turn Around

6. NEIGHBORHOOD EXPLOITATION: Connecting *both* ends of Landis Street as connectivity arteries will significantly alter the essence of all adjacent existing neighborhoods (Stonegate, Cornwall, and Hidden Creek Estates) due of increased traffic and noise. Adding through traffic exploits half of Stonegate's nestled subdivision for the city's needs and ignores all existing surrounding homeowners rights to their peaceful neighborhoods. Fairhaven Drive residents directly beneath Willow Ridge are sandwiched between Landis Street and Fairhaven Drive road noise. This would subject them to traffic noise in both their front and now back yards. If Landis connects to Cornwall which connects

to Sunset, which then connects back to (North) Landis through any number of ways, a large loop for traffic has been created. Landis Street was not intended to be heavily trafficked when Stonegate was originally being designed. Taking a long, meandering maze of roads through Stonegate, Willow Ridge then Cornwall, just to get to Sunset Road doesn't make sense when a shorter, more cost effective point of connectivity exists that provides a direct connection to two major roads (Sunset and Parker).

7. STONEGATE CONNECTIVITY THROUGH NORTH LANDIS STREET IS A *WIN-WIN-WIN-WIN* FOR ALL NEIGHBORHOODS AND THE CITY: Residents living on Landis Street in Stonegate and Willow Ridge, on Cornwall Street, and on Fairhaven Drive beneath Willow Ridge ALL can *retain* their quiet neighborhoods without additional traffic noise by utilizing the (North) Landis Street stub out for connectivity and not joining Landis Street to Cornwall. The city still retains neighborhood connectivity using a much shorter road, opens up traffic connectivity to more Parker Road and Sunset residents, and a proper size road from the existing stub out for the volume of traffic anticipated can be built, with no existing residents being affected by this buildout.

The above 7 points make a strong case for re-thinking Landis Street connectivity to Cornwall Street, because the shortest path for connectivity for the most residents to one of two major roads can best be accommodated from (North) Landis Street. Since Stonegate's connectivity can be easily modified at this juncture, *this alternative plan is worthy of serious consideration and examination.*

C) TRAFFIC VOLUMES ARE GROSSLY MISREPRESENTED IN DEVELOPER'S APPLICATION:

The traffic estimate in the developer's application grossly underestimates the volume of cars because it does NOT account for all the neighborhood traffic coming from Beacon Hill toward Sunset, nor does it account for traffic from Sunset going towards Landis Street. (Read Ed Turkisher's testimony.) The developer's numbers at best represent a *guesstimate* of additional traffic of just Willow Ridge and Stonegate residents passing through on Landis Street. Since a traffic study can't be conducted to statistically record traffic volume at this time because connectivity isn't established, the numbers presented in the developer's application fails to account for all through traffic coming from surrounding the neighborhoods of Cascade Summit, Barrington Heights, Sabo Lane, Winkel Way, Sunset, Parker Road, etc.

D) DEVELOPER INTENDS TO USE CORNWALL STREET AS THE ACCESS POINT TO WILLOW RIDGE DEVELOPMENT SITE

During our recent meeting with Icon and a few BHT neighbors, the developer explained to BHT's VP that all construction traffic will come down Cornwall Street because it is the most direct route. Thus, the risk of damage from trucks to Barrington Heights center islands will be zero. Ed Turkisher's testimony describes the current state of Cornwall

Street; also known as the street in the worst condition in West Linn. The developer has only committed to repave where he lays pipe down Cornwall Street. But this is grossly inadequate, so repaving of the entire street should be required for the current residents. It is naive to think heavy equipment can utilize this residential road of the poorest quality and only do patch repairs when finished.

Furthermore, it is also known that the developer has already platted lots for Cornwall Street redevelopment (See Willow Ridge Plat A) on the private property where they

propose to stub out Landis Street. This demonstrates the developer's serious interest in developing adjacent Cornwall property in the future. Cornwall Street will be destroyed when construction is finished, so the developer needs to take much greater responsibility to upgrade Cornwall Street than just do patch repairs.

To summarize, it is the desire of the surrounding residents to retain our quiet residential neighborhoods that we currently enjoy. Adding significant traffic noise past numerous homes affecting four surrounding neighborhoods is avoidable with a better solution, therefore the alternative option of using (North) Landis Street for future connectivity should be the chosen course of action.

Flag Lot 6 won't have direct street access to Landis, so the road to this home can't be called an emergency vehicle road (as was told to us at our recent BHT meeting), and an emergency vehicle road that is *locked* is a conflict of purpose. Of interest is that all the online maps now refer to this same road as Alleyway.

The attached Willow Ridge Offsite Shadow Plat A layout above reveals this developer is showing great interest now in buying the private Cornwall properties adjacent to Willow Ridge. *But we don't support connectivity between these two Willow Ridge developments for traffic safety reasons.*

Traffic volumes predicted by the developer are woefully inadequate. Logic reveals that connectivity that uses (North) Landis Street, the shortest path, is far less costly, more useful, and it minimally impacts surrounding residents, which makes this *the best solution*.

Lastly, Cornwall Street is in horrible condition and will further deteriorate with use from heavy construction equipment. The residents on this road deserve this street to be useable before, during and after any construction. Repairing Cornwall Street only where pipe has been laid will be very inadequate. Serious consideration for repaving this entire street properly should be a requirement of this developer, who obviously is already anticipating doing future development on Cornwall Street.

I thank you all for thoroughly examining these safety issues, viewing this matter not only as a West Linn resident and Planning Commissioner, but also as a judge who must decide what is in the best interests of our community long term. As the mayor says, "CITIZENS FIRST".

Arnold, Jennifer

From: PIA SNYDER <piasnyder@comcast.net>
Sent: Wednesday, December 13, 2017 4:26 PM
To: Arnold, Jennifer
Subject: Willow Ridge
Attachments: willow Ridge.docx

Hi Jennifer:

I hope all is well with you. I wanted to send you a quick e-mail to bring up some of my concerns after attending both the pre-application meeting and the meeting between Icon and our neighborhood association. Some of our questions have been answered, and improvements have been made to the original plan. I am attaching my testimony to share with the Planning Commission.

Thank you for all the work you do on behalf of the city and West Linn citizens.

Pia Snyder

3817 Fairhaven Drive

My name is Pia Snyder, and I live on 3817 Fairhaven Drive. I have given previous testimony regarding the Willow Ridge development. My concern with the potential water problems caused by the removal of significant trees as well as the consequences of moving soil around remaining significant trees remains.

1. Significant tree removal

   According to the application, there are 38 significant trees on the property. 13 will remain. I understand that the developer will have to compensate for the removal of the trees on an inch to inch basis. (ex.: if a cut tree was 48", it would be replaced by 12 4" trees). We are talking about an abundance of new trees here. I would like to see some written explanation before the significant trees are cut as to how many trees will be planted. The city arborist needs to document the size of the downed trees. These trees would be in addition to the street trees that the city plants since that is a requirement.

2. Root damage

   Storm and sewer lines will be installed on the south end of lots 3 – 6. The rear yard of lot 6 as well as the Cornwall Street right-a-way are Habitat Conservation Areas (HCA). This same area also demonstrates two of the three components necessary for land to be identified as wetlands (hydrophytic vegetation and wetland hydrology are present.) There are several significant trees in these areas. Extreme care needs to be taken to protect the root systems considering the nature of the soil.
   Storm and sewer lines need to be adjusted to ensure that these trees will survive, not just one year after development, but many years to come. This soil disturbance must be closely monitored.

Even though this property has not been labeled as wetlands, I know the land well enough that I continue to be concerned because of the slope, the type of soil and the removal of 25 significant trees (plus all the trees which are not considered "significant") I urge the planning commission to take my concerns into serious consideration.

Thank you very much,

Pia Snydersa

Arnold, Jennifer

From: Karie Oakes <karieokee@aol.com>
Sent: Wednesday, December 13, 2017 4:58 PM
To: Arnold, Jennifer
Subject: Testimony for SUB 17-04, 4096 Cornwall ST

Dear Planning Commissioners:

I have two concerns regarding this application.

It appears as a six-lot subdivision, this application has not met the applicable criteria for an expedited land division.

197.360 "Expedited land division" defined; applicability. (1) As used in this section:
(b) "Expedited land division" includes land divisions that create three or fewer parcels under ORS 92.010 to 92.192 and meet the criteria set forth in paragraph (a) of this subsection.

ORS 92.010 and 92.192 provide for subdivisions and partitions.

(4) An application for an expedited land division submitted to a local government shall describe the manner in which the proposed division complies with each of the provisions of subsection (1) of this section.

I ask you to please consider if this is basis for denial of the application.

Secondly, I question the Planning Manager decision to redraw the boundaries of the HCA and the applicants response to the applicability of Chapter 28 on pages 20-21 of the application. The applicant contends Chapter 28 does not apply because after the boundaries are redrawn there are no HCA areas.

The Planning Managers decision reasons that the designated HCA land should be removed from the HCA inventory because it has been left to degrade with blackberries. CDC 28.040 does not provide an exception for blackberries. This HCA is associated with Cornwall Creek and we should be preserving and restoring HCA areas and not rewarding poor stewards of the land by removing protections.

197.015 Definitions for ORS chapters 195, 196, 197 and ORS 197A.300 to 197A.325. As used in ORS chapters 195, 196 and 197 and ORS 197A.300 to 197A.325, unless the context requires otherwise:
(22) "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Please deny the boundary change for the HCA.

Thank you.

Sincerely,

Karie Oakes