

**Minutes of the
CANNON BEACH PLANNING COMMISSION**
Thursday, January 26, 2023

Present: Chair Anna Moritz and Commissioners Mike Bates, Erik Ostrander, Les Sinclair Aaron Matusick, and Dorian Farrow, Aaron Matusick via Zoom

Excused: Chair Clay Newton

Staff: Director of Community Development Jeff Adams, Land Use Attorney Bill Kabeiseman, City Planner Robert St. Clair, and Community Development Administrative Assistant Emily Bare

CALL TO ORDER

Chair Moritz called the meeting to order at 6:00 p.m.

ACTION ITEMS

(1) Approval of Agenda

Motion: Commissioner Erik moved to approve the agenda as presented; Commissioner Bates seconded the motion.

Vote: Sinclair, Matusick, Bates, Moritz, Bennett and Chair Moritz voted AYE; the motion passed

Motion: Motion to amend the agenda to discuss code audit process leading into the future during the Good of the Order. Both Commissioner Bates and Ostrander agreed to their first and second motion to amend the agenda for discussion.

Discussion: None noted

(2) Consideration of the Minutes for the Planning Commission Meeting of January 26, 2023.

Motion: Commissioner Bates moved to approve the minutes; Commissioner Farrow seconded the motion.

Vote: Sinclair, Bates, Moritz, Matusick and Chair Moritz voted AYE; the motion passed

3) Public Hearing and Consideration of V#23-01, CIDA request on behalf of the City of Cannon Beach, for a variance to off-street parking requirements at 268 Beaver St.

V#23-01, Public hearing and consideration of a variance request submitted by CIDA, on behalf of the City of Cannon Beach, to exempt the site of the former Cannon Beach Elementary School from

meeting the minimum off-street parking requirements established by Cannon Beach Municipal Code 17.78.020 in favor of alternate methods of transit and parking. The property is located at 268 Beaver St. (Taxlots 4000, 4100, 4101, 4200, and 4301, Map 51020CB) in an Institutional (IN) zone. The request will be reviewed under Cannon Beach Municipal Code, Sections 17.78.020, Off-Street Parking Requirements.

Robert St. Clair Read the staff report.

Public Comment: Dustin Johnson from Cida & Bruce

First and foremost, I want to thank you all for this opportunity uh to speak to you tonight and to have you consider this variance request. In our work session on November 22, 2022, I read you a description of the project and if it's all right with you tonight I'd like to do that here.

The Cannon Beach Elementary Rejuvenation project is an Adaptive reuse project aimed at reactivating the former Cannon Beach Elementary School and neck use Park site for use by Cannon Beach visitors, residents and businesses.

the two-and-a-half-acre project site is situated at the North End Of Cannon Beach and consists of multiple tax lots zoned in institutional as well as e Estuary CIA limited commercial R3 high density residential. It is bordered by Kohler Creek to the north, First Street to the east, Beaver Street to the South and undeveloped city-owned property with beach access to the West.

As the site of the former class of Nehalem tribal Village of neck use for Generations perhaps over a thousand years, the site is nationally recognized as culturally significant and is considered one of the last best preserved Native American Heritage sites on the West Coast. Given its location on the estuary where Ecola Creek discharges to the Pacific Ocean, as well as the diversity of resident and migrating wildlife that frequent the bordering riparian area the site is also recognized as both geographically and ecologically significant. These unique features and cultural heritage of the project site inspired significant interest amongst public and tribal stakeholders who have been actively engaged throughout the programming and schematic design phases of the project.

We are now in the process of schematic design. We've gone through a several month-long process of what we call a programming phase where we engage in community stakeholders, ask questions, take notes and have them fill out surveys. We collect that information, organize, and prioritize it.

Robert, thank you for going through and reading the staff comments but there are other considerations beyond just the code that I wanted to speak to tonight and again the information is bound in your meeting packet. There are multiple reasons for requesting this variance, however, those of highest priority follow and are based on several months of community outreach.

To preserve one of the oldest indigenous villages on the west coast currently protected by varying depths of shallow sediment. The village, which was documented by Lewis and Clark in 1806, and verified in recent years via ground penetrating radar by Portland State University professor and archaeologist Doug Dorr.

Cannon Beach Elementary School will be used to educate visitors about the rich history and way of life of the class of Nehalem people on this site and throughout this region.

No staff response.

Public Record Closed 6:10pm

Council Question: Bates: Did any business owners give concerns about the parking. Are we doing angle parking on Antler as well as Beaver. Is there anything we can do to make sure that those parking spots don't turn into all day beach parking. Bates expressed concern about paying for parking. Bruce responded that he hopes it is local people that will utilized the parking for the majority of the time.

Staff Response: Staff recommends approval.

Bates is in support of approval. Erik is worried that the parking will greatly effect the businesses in that area, especially on Farmer's Market days. Moritz expressed that there is public parking which the walkway will feed directly to the Elementary School. Sinclair is worried that we may be setting a presidence. Moritz expressed the transportation plan that should be having shuttles.

Motion: Commissioner Bates motion to approve, commissioner Matusick seconded

Vote: Sinclair, Bates, Moritz, Bennett and Chair Moritz voted AYE; the motion passed

(4) Public Hearing and Consideration of AA#23-01, Dana Cardwell for an administrative appeal of the City's approval of Development Permit DP#22-19.

AA#23-01, Public hearing and consideration of an administrative appeal submitted by Dana Cardwell of the City's approval of Development Permit DP#22-19 for the extension of a stormwater management system in the Forest Lawn right-of-way adjacent to Taxlot# 4100, Map 51030DA, a Residential Medium Density (R2) zoned property. The request will be reviewed pursuant to Cannon Beach Municipal Code, Section 17.88.180, review consisting of additional evidence or de novo review and applicable sections of the Zoning Ordinance.

Jeff Adams Read the staff report.

Public Comment:

No staff response.

Public Record Closed 7:11pm

Council Question: Bates claims that there is information in the code...pervision Claim at nothing in the overlay zone. Tried to challenge Jeff into a discussion. Mickey stopped the discussion until that are of the agenda.

Jan

Po Box 778

In our experience there's been much confusion and misunderstanding with regard to this matter, we believe this appeal brings up many important points and we hope you'll be able to delve into them before making your final decision. We still have many questions involving the situation on Forest Lawn Road, we're concerned that more information may need to be found for you to fully determine your stance on this appeal. For instance, what is the history of the drainage outfall the developer is wanting to move? Is the water presently draining onto the developer's property draining there illegally as the city staff seems to have been told by the developer? What was the actual written agreement between the city and previous owners of this wetland property? The present developer bought this property seemingly knowing about the wetland and the drainage outfall if he did his due diligence at the time of his purchase were other questions to be answered? Why does the present developer want or need to relocate the outfall? What is his hoped for outcome of this change? Would this in fact constitute a draining of the Wetland? What is the city's real responsibility here? What is the actual length of the proposed new line to be moved northward 100 feet 200 feet there seemed to be varied lengths mentioned throughout the various documents in the packet. Also, how many trees and which trees would be removed for this project? Has the Cannon Beach City Arborist made a report regarding these trees? If so, where is the report and if not, why has the report not been done? Why does the drawing in this project sitemap packet page 49 appear to differ substantially from the site map of Rosie Dorsey's development permit? Regarding Rosie's hookup in the written development agreement between the city and the developer the completion of this project packet page 115 seems to be by January 1st 2023. What is the date of completion to be now? Please read number five outfall location packet page 115. Also, it appears the developer can possibly try to move the outfall again later if any changes are made to the written agreement. How will the public be notified and when what would that process be? Please look at packet page 124 exhibit a map of the temporary construction easement area. Why has the easement been granted? That is way beyond this project, it appears to go all the way to Hemlock Street. We ask that our questions and those asked by the appellant be clearly answered before you make any decision on this appeal. Finally, please help protect this wetland. Thank you and I don't remember how it works to ask for a continuation but, these questions really can't be clearly answered, and I ask for a continuation. How does that work the contingent continuation it sounds like she is, and we can just address it sounds like we've received one if you think it's helpful?

Bruce, City Manager

PO Box 1474

I kind of got this particular project going as far as the new line. And well, we had a conundrum with one of our residents and that was Mrs. Dorsey. There was a requirement and I think you're all aware of when her house was built in 2004 that all the drainage had to be kept on her property. This came up around the same time, that had not happened, it was not her fault she had bought the house you know long after, but it was still a requirement and we had to deal with this. I just try to look at it in the simplest way is that there was water called illegal water but there was water going far enough over on Mrs. Dorsey's property that there's a good possibility it was going on to that site and she really didn't have an answer. So, if she was going to connect to our system, we would know that there's problems with our system as it was built a long time ago. There was information that I got from the public works department that some of that water was likely to go back on the other property, but it was not necessarily going to be contained. So, in trying to resolve the problem for Mrs. Dorsey, whatever water was there would now be going over to the city system which was not necessarily complete. So, there was a discussion with the with Mr. Pietka that would you run a line down at your cost not the city's cost because I wasn't trying to get city involved to have to spend any money on this that would you go ahead and take care of it.

David Pietka
1225 W Washington
138 W Washington

I believe you've all had a chance to read I'm fully in support of Jeff's analysis of the appeal I would just like to add that there were two permits issued both were addressing storm water one was addressing Dorsey's storm water the other was addressing the city storm water with water flowing onto a private party's property. One was not appealed, and that work was just completed. The second was appealed that's the city's work. The two projects and permits were to operate together so that water wouldn't just pool in a new location where a probable driveway of a house would eventually go, so without the second permit. which you're discussing tonight the problem is simply moved. If you uphold this appeal my question would be what the timely alternative solution of the city is dumping water adjacent to and on private property.

Proponent
Comment

Mrs. Dorsey
1603 Forrest Lawn Road

She wanted to clarify that she and her mother built the home on Forrest Lawn, this was not an inherited problem. Her home was approved by the city once built. She has been told so many time that she needed to hook up to the city. She hooked up to the City, she wants it on record.

Jeff addressed and clarified some of Jan's concerns about the length of the drainage.

Bill explained how to determine if there needs to be motion to continue with a contingent continuation

Executive session with Attorney

What would the impact be to the wetland from a wetland expert....what is the intent and expected outcome

Bates wants to know about flood impact for the Forrest Lawn Area.

Bates believes a conditional use permit is required. Discussion insued regarding storm water discharge and wetland zones.

Bill explained the Land Use Law and zoning codes and how they are currently written.

Bill asked if we use the 777 day rule, any new information is the bearer of the applicant to get the requested information. Or continue until next meeting but can not go past 120 days...maybe 1477.

Bates says to take all the time we need to get the information. Applicant and City will need to get the information.

120 days from the day the application was submitted.

Will be contuned to February 23, 2023, meeting Cannon Beach City Hall, public discussion and comment will be opened at that time.

Motion:

Vote: All 6 agreed in consensus Sinclair, Bates, Moritz, Bennett and Chair Moritz voted AYE; the motion passed

WORK SESSION ITEMS

(4) Wetlands Discussion and Presentation by Cameron La Follette of Oregon Coast Alliance

Wetland information was omitted from packet

Acquatic resource center

What is considered a good wetland buffer? Will be determined based on City's goals

Washington department of ecology (can help with code audit)

Urban areas developed with natural landscape has been changed. Pervious pavement bio-swells...

Cameron to send information to Planning Group

Les asked how to value a wetland in order to determine the level of protection.

Green space values, wildlife habitat, flood control (think of them as sponges)

Mike Bates and Lisa Kerr took the code work for wetlands. Our wetland overlay buffer is greatly deficient. Do we want to rethink calculating the wetland into buildable space.

Bill spoke to Oregon Land Law with wetland and buffer zones. So when things happen outside of the wetland the regulations may not apply.

How do we recognize a stand of trees, compared to just one tree.

Does the Washington Dept of Ecology really look at Rural, may need expert comment from someone who has looked at Cannon Beach wetlands specifically.

Look at City of Eugene Home Building

Les was disappointed within Lieu of process. Need to have good oversight with

Work session between now and next meeting. Mickey suggest working with City Council.

INFORMATIONAL ITEMS

(5) Tree Report

(6) Ongoing Planning Items

Community Development Annual Review

TSP -want to go to City Council, hopefully in March

Shoreline Protection Ordinances

Code Audit-both planning commission, DRB and council to keep the code audit moving along.

Ecola North Creek has been funded

Cannon Beach Affordable Workforce Housing Program

(7) Good of the Order

Motion:

Vote: Sinclair, Bates, Moritz, Bennett and Chair Newton voted AYE; the motion passed

ADJOURNMENT

The meeting adjourned at 850 pm.

Emily Bare
Community Development
Administrative Assistant



Cannon Beach Planning Commission

Staff Report Addendum (Noon, February 16, 2023):

PUBLIC HEARING AND CONSIDERATION OF **AA 23-01**, DANA CARDWELL ADMINISTRATIVE APPEAL OF THE CITY'S APPROVAL OF A DEVELOPMENT PERMIT, DP# 22-19, FOR THE EXTENSION OF A STORMWATER MANAGEMENT SYSTEM IN THE FOREST LAWN RIGHT OF WAY ADJACENT TO TAXLOT# 51030DA04100, A RESIDENTIAL MEDIUM DENSITY (R2) ZONED PROPERTY. THE REQUEST WILL BE REVIEWED PURSUANT TO MUNICIPAL CODE, SECTION 17.88.180, REVIEW CONSISTING OF ADDITIONAL EVIDENCE OR DE NOVO REVIEW AND APPLICABLE SECTIONS OF THE ZONING ORDINANCE.

Agenda Date: January 26, 2023
Continued to February 23, 2023

Prepared By: Jeffrey S. Adams, PhD

ADDITIONAL EXHIBITS

The following Exhibits are attached hereto as referenced. All application documents were received at the Cannon Beach Community Development office on December 29, 2022 unless otherwise noted.

No additional "A" or "B" Exhibits

"C" Exhibits – Cannon Beach Supplements

- C-7** Forest Lawn Road – Potential for Stormwater, Jonathan Archibald & Shane Latimer, SCS Engineers, Received and dated February 16, 2023;
- C-8** Wetland functional assessment for 1603 Forest Lawn Road, Cannon Beach, Clatsop County, OR (T5N, R10W, Section 30DA, tax lot 4100), Kim Cartwright, Schott & Associates, Ecologists & Wetlands Specialists, received and dated February 16, 2023;

"D" Exhibits – Public Comment

No Additional Correspondence

SUMMARY & BACKGROUND

The appellant, Dana Cardwell, is appealing the administrative decision to approve a Development Permit (DP# 22-19), issued December 16, 2022, authorizing the extension of the City's stormwater management system, in the Forest Lawn right-of-way, adjacent to Taxlot# 51030DA0401.

The City of Cannon Beach received the notice of appeal for an administrative decision, on December 29, 2022, where it was stamped paid and received by the City on the same date, within the 14 consecutive day appeal period.

The Planning Commission, at the January meeting, requested an investigation of the impact of extending the stormwater line north, along Forest Lawn Rd. and whether such an extension would increase the risk of flooding in the area. The City sought advice from CREST's wetland specialist who referred the City to two other local

wetland specialist, since their staff could not handle such a request within the timeframe required. Those two wetland specialists could also not respond within the required time limits and forwarded two more recommendations.

From those conversations, the City contracted with SCS Engineers and Schott & Associates, for wetland and hydrodynamic analysis. SCS Engineers, Jonathan Archibald, P.E. and Shane Latimer, PhD, provided a report (C-7) and Kim Cartwright, of Schott and Associates (C-8), came to relatively the same conclusion:

“Based on wetland functional assessment, review of available information, and inquiry to DSL regarding indirect impacts to Wetland A from the proposed stormwater management project, I conclude that the proposed project will not affect the functions or values of Wetland A. Whether the size or extent of the wetland will be affected, cannot be concluded without re-delineation of the wetland in the years post-project, however, from a state wetland regulatory standpoint, this concern is minimal.” (Cartwright, C-8, pg. 5)

APPLICABLE PROCEDURE

17.88.160 Scope of review.

A. An appeal of a permit or development permit shall be heard as a de novo hearing.

17.88.180 Review consisting of additional evidence or de novo review.

A. The reviewing body may hear the entire matter de novo; or it may admit additional testimony and other evidence without holding a de novo hearing. The reviewing body shall grant a request for a new hearing only where it finds that:

1. The additional testimony or other evidence could not reasonably have been presented at the prior hearing; or

2. A hearing is necessary to fully and properly evaluate a significant issue relevant to the proposed development action; and

3. The request is not necessitated by improper or unreasonable conduct of the requesting party or by a failure to present evidence that was available at the time of the previous review.

B. Hearings on appeal, either de novo or limited to additional evidence on specific issue(s), shall be conducted in accordance with the requirements of Sections 17.88.010 through 17.88.100.

C. All testimony, evidence and other material from the record of the previous consideration shall be included in the record of the review. (Ord. 90-10 § 1 (Appx. A § 62); Ord. 89-3 § 1; Ord. 79-4 § 1 (10.084))

DECISION

MOTION: Having considered the evidence in the record, I move to ***tentatively*** (affirm, reverse or modify in whole or part) the administrative decision to approve Development Permit (DP# 22-19), with regards to the Cardwell appeal application, **AA# 23-01**, as discussed and requests that staff draft findings for review and adoption, at a special called meeting, next Thursday at 6PM, March 2nd, 2023 at City Hall.



Cannon Beach Planning Commission

Staff Report:

PUBLIC HEARING AND CONSIDERATION OF **AA 23-01**, DANA CARDWELL ADMINISTRATIVE APPEAL OF THE CITY'S APPROVAL OF A DEVELOPMENT PERMIT, DP# 22-19, FOR THE EXTENSION OF A STORMWATER MANAGEMENT SYSTEM IN THE FOREST LAWN RIGHT OF WAY ADJACENT TO TAXLOT# 51030DA04100, A RESIDENTIAL MEDIUM DENSITY (R2) ZONED PROPERTY. THE REQUEST WILL BE REVIEWED PURSUANT TO MUNICIPAL CODE, SECTION 17.88.180, REVIEW CONSISTING OF ADDITIONAL EVIDENCE OR DE NOVO REVIEW AND APPLICABLE SECTIONS OF THE ZONING ORDINANCE.

Agenda Date: January 26, 2023

Prepared By: Jeffrey S. Adams, PhD

GENERAL INFORMATION

NOTICE

Public notice for this January 26, 2023 Public Hearing is as follows:

A. Notice was mailed and posted at area Post Offices on January 6th, 2023;

DISCLOSURES

Any disclosures (i.e. conflicts of interest, site visits or ex parte communications)?

EXHIBITS

The following Exhibits are attached hereto as referenced. All application documents were received at the Cannon Beach Community Development office on December 29, 2022 unless otherwise noted.

"A" Exhibits – Application Materials

A-1 Administrative Appeal Application, dated December 28, 2022 and stamped Paid on December 29, 2022;

A-2 Administratively Approved Development Permit, DP# 22-19, signed and issued on December 16, 2022;

"B" Exhibits – Agency Comments

None received as of this writing;

"C" Exhibits – Cannon Beach Supplements

C-1 Wetlands Re-delineation, John van Staveren, Pacific Habitat Services, Inc., approved and issued by Department of State Lands on June 8, 2021;

C-2 Original Delineation, prepared by Shapiro and Associates, Inc., December 10, 1992;

- C-3** Van Staveren Comments Regarding Stormwater influence on southern portion of Tax Lot 4100 on Forest Lawn Drive, Cannon Beach, dated September 1, 2021;
- C-4** Karen La Bonte, Public Works Director, letter to neighboring property owner, Quail Cove, LLC, c/o Rosanne Dorsey, April 29, 2021;
- C-5** Administratively Approved Development Permit, DP# 22-17, signed and issued on ;
- C-6** Development Agreement between the City of Cannon Beach and DavePatrick, LLC, signed on November 29, 2022;

“D” Exhibits – Public Comment

- D-1** Mark Gibson, Email correspondence, received January 8, 2023;
- D-2** William Reiersgaard, Email correspondence, received January 16, 2023;
- D-3** David Pietka, Letter, received January 18, 2023;
- D-4** Susan Glarum, Letter via Email, received January 18, 2023;

SUMMARY & BACKGROUND

The appellant, Dana Cardwell, is appealing the administrative decision to approve a Development Permit (DP# 22-19), issued December 16, 2022, authorizing the extension of the City’s stormwater management system, in the Forest Lawn right-of-way, adjacent to Taxlot# 51030DA0401.

The City of Cannon Beach received the notice of appeal for an administrative decision, on December 29, 2022, where it was stamped paid and received by the City on the same date, within the 14 consecutive day appeal period.

Ms. Cardwell filed an appeal of the administrative decision, based on the five arguments of appeal which follow:

1. Efforts to Drain & Dry the Wetland, Supported by City Staff

The first issue raised in the appeal is a concern over perceived efforts to drain and dry the wetland. The appellant does not identify any specific criteria that is implicated by this concern and staff has not identified one either. As indicated by Exhibit C-1, the re-delineation report of the wetland, performed by John van Staveren, Pacific Habitat Services, Inc., approved and issued by Department of State Lands on June 8, 2021, the stormwater management project is not located in a wetland or wetland buffer area. As pointed out in the approved DP# 22-19, the wetland ordinance does not apply to this project. The stormwater extension work will not encroach within the buffer and at its closest point, falls approximately twenty feet from any portion of the delineated wetland.

When compared to the original Wetland Reconnaissance report, prepared by Shapiro and Associates, Inc., December 10, 1992, Exhibit C-2, the re-delineation submitted with this application (Exhibit C-1), and the comments provided by Pacific Habitat Services, Inc., John van Staveren, in Exhibit C-3, shows a movement, or reconfiguration of the wetland area, but there is no evidence that rerouting the illegal stormwater runoff from the neighboring property to an upland location will drain the wetlands. As Mr. van Staveren points out, “Although we know there is a shallow groundwater table associated with the wetland, its hydrology is being augmented by stormwater runoff flowing from developed areas to south and southwest. This is patently clear when comparing the additional wetland discovered in 2020 and the stormwater runoff from the downspout.”

The email correspondence from September 14, 2021, referenced and attached to the appeal, is taken from a lengthy correspondence between the DavePatrick, LLC team and City Staff, with regards to Cannon Beach Municipal Code (CBMC) 13.16.050, which states, “Any person responsible shall maintain nonpublic storm drainage facilities on his or her property so as to prevent flooding or damage to other property not owned or controlled by the person responsible and to prevent injury to any person on property not owned or controlled

by the person responsible.” As with any complaint from a property owner in Cannon Beach over concerns that a neighboring property is out of compliance with Municipal Code, the City contacts the offending property owner, as they did with the letter to the neighboring property owner (see Exhibit C-4) and asks that owner to seek on-site solutions or to hook-up to the City’s system. And just as the City would expect private property owners to deal with the situation, the City also responded to the complaint by the DavePatrick, LLC team that the City was contributing to stormwater runoff to their property, by exploring the existing system and routing options, via easements across private properties or perhaps, extending the stormwater management system north along the Forest Lawn right-of-way. For instance, as the correspondence between the DavePatrick, LLC team and the City indicates, the City began exploration where the stormwater could be removed from the wetland basin and conveyed to the stormwater management system running along Hemlock.

The appellant asks, “does the City have an obligation to move the stormwater?” As the City’s Land Use Attorney, Bill Kabeiseman, has stated, there isn’t a simple answer to such a question, since there are many variables at play, including potentially conflicting legal obligations and whether this stormwater runoff at issue actually contributes to this wetland (as discussed further below, the only expert information the City indicates that it does not contribute substantially). But just as our ordinances direct private property owners to deal with the situation, the City, in a good faith effort, should seek solutions to resolve the situation. The City asked the DavePatrick, LLC team whether a development agreement could alleviate the direct dumping of runoff onto their property from the neighboring property and city right-of-way. The identified solution was an extension of the stormwater management system to a more northerly location was amenable to all parties. DavePatrick, LLC and the City came to terms (see Exhibit C-6), on November 29, 2022, where the applicant agreed to pay the cost of extension of the City’s system to a point identified on the plan, some twenty feet from the delineated wetland and one-hundred and forty feet north, in conjunction with the neighboring property’s connection to the system.

The Agreement states that the “Developer and City believe the stormwater drainage issue could be addressed by extending a 100-foot drainage line to a different outfall location” and the “Developer has agreed to bear the cost of constructing the new drainage line and then dedicate the new infrastructure to the City.”

It should be noted that the applicant could just as well accomplish the same project ten feet to the east, on their own property, through the same development permit procedure, without intruding into the wetland zone and satisfy the same standards, and yet, that extension wouldn’t extend the City’s system and wouldn’t offer citizens future stormwater alternatives.

The contention that this appeal before the Planning Commission provides a ‘neutral body’ for review is indeed one of the reasons the appeal procedures are in place, however, Public Works Director, Karen La Bonte, the City staff identified in the correspondence, is not the reviewing party and has no oversight of the Development Permit decision.

2. Conditional-Use Permit Needed, not Development Permit

The second raised in the appeal is an argument that the extension of the stormwater system requires a conditional use permit and that a development permit was not sufficient. This is not consistent with the City code. As stated above, this project does not take place in the wetland zone; no activity will take place in the delineated wetland, nor will any activity take place in the buffer zone adjacent to the delineated wetland. The City is required to implement the development standards in the code and the City does not have the ability to subjectively make some judgment on whether one project or another has an impact on the wetland area. The Code requires a delineation and five-foot buffer as the zone of protection, not whatever the staff or Planning Commission deems some area as wetland or as area to be protected. If the activity is not within the delineated wetland or buffer zone, then it is not subject to the wetland zone. There must be some objective measure and unless the Cannon Beach Municipal Code is amended to extend such buffers or overlay areas, that distance is five feet from a delineated wetland. Moreover, ‘underground and aboveground utilities’ are permitted outright in the wetland zone and it is only ‘point-source stormwater discharge’ that is a conditional use, not discharge

that is over fifteen feet from the wetland zone. In fact, as shown in Figures 1 and 2 below, staff has monitored the current outfall location and has yet to find evidence that the stormwater flow reaches the existing grade.

Finally, even if the proposed project was located in the wetland, CBMC 17.43.050(I) specifically authorizes excavation for utilities in the delineated wetland and buffer zone, so long as certain standards are met.

17.43.050 Standards

1. Excavation. Excavation in protected wetlands and in wetland buffer areas for any purpose must meet the following standards:

** * * * **

2. Excavation for utility trenches in protected wetlands is subject to the following standards:

- a. Material removed from the trench is either returned to the trench (back-fill), or removed from the wetland area. Side-casting into a protected wetland for disposal of material is not permitted;*
- b. Topsoil shall be conserved during trench construction or maintenance, and replaced on the top of the trench; and*
- c. The ground elevation shall not be altered as a result of utility trench construction or maintenance. Finish elevation shall be the same as starting elevation.*

3. Lack of Information

The third issue identified in the appeal is entitled “lack of information” and identifies specific information that the appellant believes was not included in the record or with the application. However, the appeal does not identify which criteria the missing information would relate to and as discussed above, it does not appear that there are any. In particular, the appeal begins by asking the distance from the new discharge point to the wetland buffer boundary. Please see the map provided attached to the Development Permit, which provides a detailed plan in relation to the wetland areas. The appeal goes on to identify additional information that appears to be asking that the applicant provide a stormwater management plan. However, the code requires such plans only for new buildings, or additions covering more than two hundred square feet, or expansions of impervious areas. This project adds no new building, addition, or paved or impervious areas. Thus, even if the project were within the wetland overlay zone, which again it is not, a stormwater management plan would not be required.

4. Application of Wetland Protections

The fourth issue raised in the appeal is an argument that the wetlands protections that apply within the wetland overlay zone should apply outside of the zone. As discussed above, the standards in a particular zone apply within that particular zone; the City has no justification to apply those standards outside of that zone. This argument forms a mobius strip, where the City seems to be both aiding the applicant in ‘draining the wetland’ and yet, at one and the same time, ‘directly discharging into the wetland,’ by moving the point of discharge of the neighboring property’s stormwater from one location to another. How it drains the wetland while supposedly discharging the very same amount to another location is not supported by any evidence in the record.

At no point will the utility work be ‘5’ or less’ or in ‘extremely close proximity’ to the WO Zone as the appellant states. There will be erosion control fencing placed, as shown on the plan, an additional five feet from the WO Zone.

If the City wishes to protect areas twenty-feet from delineated wetlands, or areas that may contribute at some remove from the wetland zone, there are alternatives available to the City, such as amending the City’s ordinances or buying properties to prevent development in those areas. What the City cannot do is apply standards from a zone to a property that is not within that zone.

5. Point Source Discharge

The fifth and final issue raised in the appeal is that it is possible that the project could result in a point source discharge into the protected wetland. The evidence in the record indicates that the outfall will be located in the right-of-way for Forest Lawn Drive, well outside of the delineated wetland and any buffer zone. It is possible that water from the outfall would eventually make its way into the wetland, but that does not convert that surface flow into a point source discharge into the wetland or the wetland buffer.

Conclusion.

The appellant provides no new evidence that supports that this application falls within a wetland or its buffer zone, nor that it negatively impacts a wetland or drains a wetland. The proposed activity fully complies with the City code and the development permit decision should be upheld.

APPLICABLE PROCEDURE

17.88.160 Scope of review.

A. An appeal of a permit or development permit shall be heard as a de novo hearing.

17.88.180 Review consisting of additional evidence or de novo review.

A. The reviewing body may hear the entire matter de novo; or it may admit additional testimony and other evidence without holding a de novo hearing. The reviewing body shall grant a request for a new hearing only where it finds that:

1. The additional testimony or other evidence could not reasonably have been presented at the prior hearing; or

2. A hearing is necessary to fully and properly evaluate a significant issue relevant to the proposed development action; and

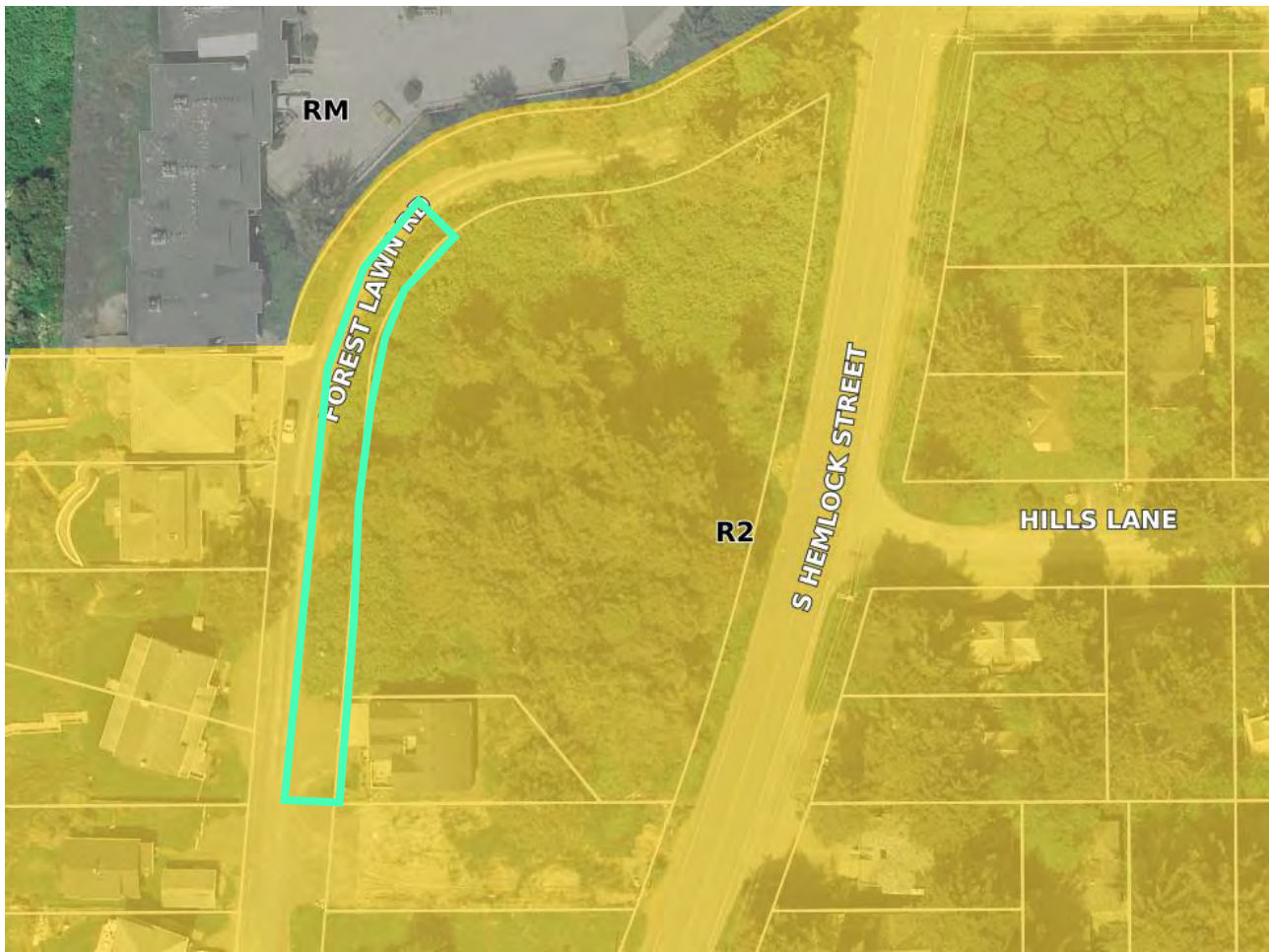
3. The request is not necessitated by improper or unreasonable conduct of the requesting party or by a failure to present evidence that was available at the time of the previous review.

B. Hearings on appeal, either de novo or limited to additional evidence on specific issue(s), shall be conducted in accordance with the requirements of Sections 17.88.010 through 17.88.100.

C. All testimony, evidence and other material from the record of the previous consideration shall be included in the record of the review. (Ord. 90-10 § 1 (Appx. A § 62); Ord. 89-3 § 1; Ord. 79-4 § 1 (10.084))

DECISION

MOTION: Having considered the evidence in the record, I move to ***tentatively*** (affirm, reverse or modify in whole or part) the administrative decision to approve Development Permit (DP# 22-19), with regards to the Cardwell appeal application, **AA# 23-01**, as discussed and requests that staff draft findings for review and adoption, at a special called meeting, next Thursday at 6PM, February 2nd, 2023 at City Hall.



Site Location Map



Street View, looking east, from the Forest Lawn right-of-way



Figure 1: Current Outfall



Figure 2: Close-up of Current Outfall



Figure 3: View from neighboring property to wetland zone



Figure 4. View along neighboring property walkway in setback



Figure 5: Neighboring property drainage outfall



DEC 29 2022

Received

CITY OF CANNON BEACH

NOTICE OF APPEAL - ADMINISTRATIVE DECISION

Appellant's Name: Dana Cardwell
Email Address: danacardwell@outlook.com
Mailing Address: P.O. Box 1305
Cannon Beach, OR 97110
Telephone: 303-941-9570

1. Appeal of Administrative Decision by Robert St. Clair, regarding: DP #22-19

as stated in letter dated December 16, 2022

2. Specific grounds relied upon for the appeal, including any Zoning Ordinance criteria or standards that you consider to be relevant:

This matter requires a conditional-use permit rather than a development permit. Please see attached 5 pages for additional grounds and reasoning.

Please attach additional pages, if needed, and any other relevant information.

FEE: \$600.00

Appellant Signature: Dana Cardwell Date: 12-28-22

For Staff Use Only:

Date Appeal Received: 12-11-2022 By: Jessie Pineda
Appeal Fee Paid: \$600 cash Receipt No.: 25-029841

Fee:

803 - Planning \$600

(Last revised March 2021)

PO Box 368 Cannon Beach, Oregon 97110 • (503) 436-8042 • TTY (503) 436-8097 • FAX (503) 436-2050
www.ci.cannon-beach.or.us • planning@ci.cannon-beach.or.us

City of Cannon Beach
Finance Department

DEC 29 2022

PAID

Background

This appeal is filed in connection with Development Permit #22-19, permitting the extension of the stormwater line adjacent to Taxlot #51030DA04100 which is a Wetland Lot of Record. DP #22-19 relates to a development permit administratively approved by City Staff on December 16, 2022, that allows the developer/owner of Taxlot #51030DA04100 to relocate the existing storm water discharge point 200' to the northern end of the Wetland Lot of Record. This action would redirect existing storm water discharge from the upland portion of the Wetland Lot of Record/ Wetland Overlay Zone to the lowland portion.

The concerns are many and noted below.

1. Efforts to Drain & Dry the Wetland, Supported by City Staff

The overreaching concern with any development on this lot and in particular with this permit is that the wetland will be systematically drained and destroyed over several years. An extension and relocation of existing stormwater to the far end of the lowland portion of the WO Zone would likely dry the upland portion and create more upland for the developer to build on over the next few years. The wetland can be re-delineated again in 2026, allowing for the possibility of an enlarged upland delineation and more buildable land in the wetland. Granting of this permit aids the efforts to dry the wetland and gain more buildable area.

There is email communication in the public record between the developer's agent and City Staff attesting to this effort. The email dated September 14, 2021 (copy attached) states "Obviously, the benefit of doing it [moving the stormwater discharge point] is we could tell if the work helps dry out the lot the way you had hoped..." This communication clearly demonstrates the developer's desire to dry the wetland and understanding and facilitation of that desire by the City Staff member.

I believe an appeal of this permit is necessary to ensure the matter is reviewed by a neutral body such as the Planning Commission and removed from the discretion of City staff. Review of this matter by the Planning Committee will resolve any ethical concerns and

appearance of favoritism towards the developer on the part of City staff.

2. Conditional-Use Permit Needed, not Development Permit

The work approved in the permit directly and exclusively impacts the Wetland Overlay Zone. With this permit, stormwater along Forest Law is being redirected from its current discharge spot (directly adjacent the upland area) to a new discharge spot (directly adjacent the lowland area). This relocation no doubt alters the hydrology of the WO Zone. The primary reason for this permit is to relocate water in the WO Zone. Because this permit directly and exclusively impacts the WO Zone a Conditional-Use permit is needed, not a mere Development permit. Cannon Beach Code provisions related to the protection of wetlands, including the necessity of conditional-use permitting for projects impacting wetlands should apply to the work approved under this permit.

I believe an appeal of this permit to the Planning Commission is necessary to ensure appropriate review and permitting of this proposed work. Specifically, a conditional-use permit should be required, not a mere development permit. City staff inappropriately granted approval of this work via a development permit when a conditional-use permit is needed.

3. Lack of Information

There is a lack of information and specificity regarding the intended work. In particular, how far from the wetland buffer boundary will the new discharge point be? From the drawings provided in the permit it looks to be 5' or less but it is difficult to tell. Will the wetland buffer be surveyed and located on-site prior to any work? Does McEwen intend to pipe or ditch the stormwater at it's outfall? Or are alternative stormwater management practices being put to use? Will there be a vault, pump or catchment basin? All of these questions are unanswered and have significant bearing on the impacts to the WO Zone.

There is also a lack of information as to why this permit or work is needed. Whatever the reason, it should be noted by both the developer and City staff.

The public record makes note of the developer's claim that the City is illegally discharging stormwater onto his property (the WO Zone). Without more information, it appears the developer is demanding the City resolve this issue by moving the stormwater to a location more agreeable to his development plans. If this is the case, any such brokered agreement should be reviewed by the Planning Commission not decided by City staff. Neutral body review is necessary.

Relatedly, does the City have an obligation to move the stormwater? What is the historical record related to this stormwater discharge? Perhaps City stormwater discharge onto a wetland is not illegal as claimed by the developer. Perhaps developer should not be granted a stormwater line extension or perhaps a 50'-75' stormwater line extension resolves the issue better than a 200' extension. Again, the reasoning behind this permit needs to be reviewed by a neutral body and not decided administratively.

For all of the reasons set forth in this Paragraph 3, I believe an appeal of this permit to the Planning Commission is necessary to ensure the matter is reviewed by a neutral body under the appropriate standards.

4. Application of Wetland Protections

The permit at issue states that all work will take place outside the WOZone and therefore the wetland protections set forth in the Cannon Beach Code do not apply. Because the work is being conducted in the right-of-way and slightly outside the WO Zone, City staff believe that conditional-use permitting is not required and Cannon Beach Code provisions 17.43.040 and 17.43.045 (pertaining to wetlands) don't apply. This interpretation of the Code seems disingenuous and contrary to the spirit of the law. Even though the actual work may be conducted outside the WO Zone (perhaps only by 5' or less), the direct impact of the work is within the WO Zone. The

stormwater will still discharge directly into the wetland. The new line and discharge point are purposefully outside the WO Zone in an attempt to avoid application of the wetland protections in the Code. The intent of the Code is to protect wetlands. The intent of this permit is to disregard and work-around the protections provided wetlands in the Code. Given the extremely close proximity of the proposed work to the WO Zone, the lack of detailed information in the permit, and the direct impact to the abutting WO Zone, I believe an appeal of this permit is necessary so that the matter can be reviewed by the Planning Commission as envisioned by the Code.

5. Point Source Discharge

As noted above, the permit is general in nature and missing specifics regarding the proposed project. The strip of land where the proposed work is to take place is a tight space that runs along Forest Lawn and the wetland. From observation, it seems near impossible that a discharge point will actually fit into this space and it seems likely that the discharge point may be much closer to the WO Zone than indicated in the drawing. It's a guessing game without more information. If McEwen intends to pipe or ditch the storm water it is considered point source at the outfall. Point source discharge of stormwater into the wetland is a conditional-use and cannot be approved with a mere development permit. Point source discharge, even if only a few feet or inches from a WOZone should be considered a conditional-use. For these reasons, this matter must be heard by the Planning Commission and warrants an appeal.

Summary

I strongly disagree with the assertions made by City staff in DP#22-19. The results of the proposed work wholly affect the WO Zone. As such, conditional-use permitting should be required for this work and Cannon Beach Code provisions pertaining to wetlands should apply. Please accept this appeal and allow the Planning Commission to review the merits of DP#22-19 and the proposed stormwater relocation.

WB2679/5
https://www.aarpmedicareplans.com/content/aarp
https://www.aarpmedicareplans.com/content/aarp
...possibility)

On Tue, Sep 14, 2021 at 12:00 PM Karen La Bonte <labonte@ci.cannon-beach.or.us> wrote:

Jaime,

Based on our last discussion when Jeff and I were out, I thought you were somewhat undecided as to having us start now or wait until you had a better idea as to how this was going to go based on your proposed building plans and the Planning Commission. Obviously, the benefit of doing it now is we could tell if the work helps dry out the lot the way you had hoped, and we could give the neighbor a specific time that she needed to be ready to have her work done (by McEwen I believe) so she could hook up to our storm system.

I guess I was waiting for you to give me the green light that you were ready for me to move forward, and you'd have the specific area marked as to where we were extending it to. If you're ready, then we'll make plans to do the work as quickly as we can work it into our schedule. *Please send me photos of the marked area so we are clear on where you want the drain extended to.*

Please confirm.

Karen



Karen La Bonte
Public Works Director

City of Cannon Beach
p: 503.436.8068 | tty: 503.436.8097 | f: 503.436.7
a: 163 E. Gower St. | PO Box 368 | Cannon Beach,
97110

w: www.ci.cannon-beach.or.us | e: labonte@ci.cannon-beach.or.us



BEFORE THE CITY OF CANNON BEACH

IN THE MATTER OF A DEVELOPMENT)	
PERMIT FOR AN EXTENSION OF THE)	
STORMWATER MANAGEMENT SYSTEM ADJACENT)	FINDINGS OF FACT,
TO TAXLOT# 51030DA04100 APPROVING THE)	CONCLUSIONS, AND
REQUEST AND ADOPTING FINDINGS)	ORDER DP #22-19

ZONE: Residential Medium Density (R2)


APPLICANT: Bob McEwan Construction Inc.
P.O. Box 2845
Gearhart, OR 97138

The above-named applicant applied to the City for review and approval of a development permit for the purpose of installing an extension of the stormwater management system adjacent to Taxlot 51030DA04101, along the Forest Lawn right-of-way.

The project area is adjacent to a delineated wetland, however the submitted plans indicate that all work will take place outside of the wetland and its buffer areas. The City of Cannon Beach orders that this request for approval of a development permit is granted subject to conditions, and adopts the findings of fact, conclusions and conditions contained in attachment A.

This decision may be appealed to the Planning Commission by an affected party by filing an appeal with the City within fourteen days of this date.

DATED: December 16, 2022



Robert St. Clair
Planner



EXHIBIT "A"

FINDINGS OF FACT

TAXLOT 4100, FOREST LAWN DR. STORMWATER MANAGEMENT SYSTEM – DP#22-19

PROPERTY DESCRIPTION:	Forest Lawn Right-of-Way, adjacent to Taxlot# 51030DA04100
PROPERTY LOCATION:	Non-addressed undeveloped parcel on Forest Lawn Dr.
APPLICANT:	Bob McEwan Construction Inc.
PROPERTY OWNER:	Patrick/Dave LLC
ACTION:	Approved

BACKGROUND

The approved project for the installation of no more than 200 linear feet of subsurface stormwater distribution piping, extending the City of Cannon Beach's stormwater management system. The purpose of this project is to relocate the stormwater outfall located approximately 30 feet north of the property's southwestern corner on Forest Lawn Dr. to a location 140 to 175 linear feet northward. This project will be carried out in conjunction with stormwater management system improvements at 1603 Forest Lawn Dr., authorized by Development Permit 22-17. No material will be removed as a result of this project and any displaced soils will be used to cover newly installed piping.

APPLICABLE CRITERIA

The following sections of the Cannon Beach Municipal Code are applicable to this application:

- 17.43.045 – Uses and Activities Permitted Outright in Wetland Buffer Areas
- 17.63.030 – Grading and Erosion Control Permit
- 17.92.010 – Development Permit
- 17.88.110 – Decision

FINDINGS

- (1) Section 17.43.030(C) states that underground or above ground utilities are an activity permitted outright in wetlands. The stormwater management system at Taxlot 4100 meets the definition of an underground utility. Based on the best available information provided in the Pacific Habitat Service's recent wetland study, dated March 19, 2021, which was prepared for an unrelated development proposal on the subject property this project is not within a delineated wetland or wetland buffer area.

17.43.035 Uses and Activities Permitted Outright in Wetland Buffer Areas



The following uses and activities may be permitted in wetland buffer areas of the WO zone, subject to the issuance of a development permit in accordance with Section 17.92.010, and subject to applicable standards, if permitted outright in the base zone.

C. Underground or above-ground utilities.

- (2) Section 17.62.030(A)(1)(a) states that a development permit is required for any amount of clearing, grading, filling within one hundred feet of a stream, watercourse, or wetland. Based on the wetland delineation prepared for the subject property, this project will be within 100 feet of a wetland and its buffer area.

17.62.030 Grading and Erosion Control Permit

A. Development Permit Required.

- 1. Persons proposing to clear, grade, excavate or fill land (regulated activities) shall obtain a development permit as prescribed by this chapter unless exempted by Section 17.62.040. A development permit is required where:*
 - a. The proposed clearing, grading, filling, or excavation is located within one hundred feet of a stream, watercourse or wetland.*

- (3) Section 17.92.010.C.2 defines the administrative review procedure for Type 2 Development Permits.

- 1. Administrative review of Type 2 development permits shall follow the following procedure:*
 - a. The development permit application shall be reviewed by planning department against the applicable standards contained in this title and the application shall either be approved, approved with conditions, or denied.*
 - b. A decision shall be made within twenty days of the receipt of a complete application.*
 - c. The decision of the planning department shall be by signed written order. The order shall comply with Section 17.88.110(B). The written order is the final decision on the matter and the date of the order is the date that it is signed. The order becomes effective on the expiration of the appeal period, unless an appeal has been filed.*
 - d. The applicant shall be notified of the decision in accordance with the provisions of Section 17.88.130. Property owners within one hundred feet of the exterior boundary of the subject property shall likewise be notified.*
 - e. A decision on the development permit may be appealed to the planning commission in accordance with Section 17.88.140.*

- (4) Section 17.88.110 defines the decision making process for land use applications.

Following the procedure described in Section 17.88.060, the hearing body shall approve, approve with conditions



or deny the application or if the hearing is in the nature of an appeal, affirm, affirm with modifications or additional conditions, reverse or remand the decision that is on appeal.

- A. The decision of the hearing body shall be by a written order signed by the chair or designee.*
- B. The order shall incorporate finding of facts and conclusions that include:*
 - 1. A statement of the applicable criteria and standards against which the proposal was tested;*
 - 2. A statement of the facts which the hearing body relied upon in establishing compliance or noncompliance with each applicable criteria or standards and briefly state how those facts support the decision;*
 - 3. In the case of a denial, it shall be sufficient to address only those criteria upon which the applicant failed to carry the burden of proof or, when appropriate, the facts in the record that support denial.*
- C. The written order is the final decision on the matter and the date of the order is the date that it is signed. The order becomes effective on the expiration of the appeal period, unless an appeal has been filed. (Ord. 90-10 § 1 (Appx. A § 64); Ord. 89-3 § 1; Ord. 79-4 § 1 (10.070))*

CONCLUSIONS

The Community Development Department has reviewed the application and determined that it meets the applicable criteria, upon the following conditions:

CONDITIONS

- 1. Work shall be restricted to upland portions of the subject property and not take place within the delineated wetland on Taxlot 4100 or its buffer areas;
- 2. A site plan of the erosion control measures shall be approved by the Public Works Director prior to ground disturbance;
- 3. Any tree removal applications or any tree protection zone fencing, where necessary, shall be approved and established prior to ground disturbance;
- 4. Work shall be completed prior to January 1, 2023, where possible, and any ground disturbance of exposed surfaces during the wet season (November 1 through April 30) should be temporarily planted with grasses, or protected with erosion control blankets, hydro-mulch, or hand broadcast straw a minimum of 3 inches thick and punched into the soil;
- 5. The use of motorized equipment shall be limited to the hours of 7:00am and 7:00pm per Municipal Code Section 8.16.
- 6. The City shall be notified 48 hours prior to on-site disturbance.

Wetland Delineation
Tax Lot 4100
Cannon Beach, Oregon
(Township 5N, Range 10W, Section 30DA,
Tax Lot 4100, Clatsop County)

Prepared for

Patrick/Dave, LLC
Attn: Patrick Gemma
2575 38th Avenue West
Seattle, WA 98199

Prepared by

Caroline Rim
Shawn Eisner
John van Staveren, SPWS
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, Oregon 97070
(503) 570-0800
(503) 570-0855 FAX
PHS Project Number: 6978

March 19, 2021



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I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) identified and delineated the limits of wetland on Tax Lot 4100, which is located southwest of the intersection of Forest Lawn Drive and South Hemlock Street in the western portion of Cannon Beach, Oregon (Township 5 North, Range 10 West, Section 30DA, Clatsop County). This report describes the results of PHS's wetland delineation fieldwork at the site. Figures, including a map depicting the location of wetland, are in Appendix A. Data sheets documenting existing conditions are provided in Appendix B. Ground-level photos of the study area are included in Appendix C. A discussion of the wetland delineation methodology (for the client) is provided in Appendix D.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The subject site is an undeveloped 1.10-acre property located within a residential area of west Cannon Beach. Forest Lawn Drive borders the western edge of the site and South Hemlock Street is located along the eastern edge of the property. These two roads intersect at the northeastern corner of the property. A house is located offsite and adjacent to the southwestern edge of the property, and a mowed lawn borders the southeastern edge. Site topography gradually slopes downward from the southwestern corner of the property to the northern portion of the site. The southern half of the site includes a mature stand of Sitka spruce and red alder, whereas the northern half of the property primarily consists of a scrub-shrub plant community.

B. Site Alterations

As noted above, the parcel is undeveloped. PHS did not note any recent alterations at the time of the wetland delineation fieldwork.

C. Precipitation Data and Analysis

PHS conducted the wetland delineation fieldwork and collected data to document the presence/absence of jurisdictional wetlands on the site on December 9, 2020. Table 1 compares the average monthly precipitation to the observed monthly precipitation as recorded at the Seaside, Oregon WETS station, in the months prior to the fieldwork. This table also compares the observed precipitation to the average precipitation range as identified in the NRCS WETS table for the Seaside, Oregon WETS station.

Table 1. Comparison of average and observed monthly precipitation at the Seaside, Oregon WETS station prior to the December 2020 wetland delineation fieldwork.

Month	Average Precipitation ¹	30% Chance Will Have		Observed Precipitation ²	Percent of Normal
		Less Than Average ¹	More Than Average ¹		
September	2.84	1.03	3.43	4.39	155
October	6.07	3.37	7.40	6.33	104
November	11.32	8.25	13.33	9.19	81

¹ NRCS WETS Table for the Seaside, Oregon WETS Station source: <http://agacis.rcc-acis.org/?fips=41007>

² Observed precipitation source: <http://agacis.rcc-acis.org/?fips=41007>

As shown in Table 1, observed precipitation was above average and above the normal range for September. In October, the observed precipitation was slightly above average and on the higher end of the normal range. Observed precipitation in November was slightly below average and closer to the lower end of the normal range. Total observed precipitation for the water-year (October 1, 2019 through September 30, 2020) was 70.92 inches, which is approximately 94 percent of normal for this same period (75.30 inches). Consistent with the high and near normal amounts of precipitation in the months preceding the wetland delineation fieldwork, precipitation for the water-year was also near normal.

D. Methods

PHS identified jurisdictional wetland within the subject site based on the presence of wetland hydrology, hydric soils and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* (“The 1987 Manual”) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. PHS conducted the wetland delineation fieldwork and collected data to document the presence/absence of jurisdictional wetland on the site on December 9, 2020. PHS dug and examined soil pits throughout the study area, and based on the investigation, determined that there is one wetland present within the property.

E. Description of All Wetlands

PHS identified one wetland primarily located within the northern half of the site, which also extended into the southwestern and southeastern portions of the property. A description of the wetland is provided below.

Wetland A

Wetland A (29,618 sf / 0.68 ac) occurs within topographically low-lying areas in the northern half of the site, and as a mosaic wetland adjacent to slightly higher portions of the property in the southern half of the site. In a couple of areas along the eastern edge of the site, the wetland extends beyond the eastern property boundary and continues along South Hemlock Street. The Cowardin classification of the wetland is palustrine scrub-shrub (PSS) in the northern half of the site, and a mosaic of PSS and palustrine emergent (PEM) wetland in the southwestern and southeastern portions of the site; the hydrogeomorphic (HGM) classification is Slope.

Sample Points 1, 4 and 5 characterize the wetland plant community within Wetland A. The canopy layer includes Sitka spruce (*Picea sitchensis*, FAC) and red alder (*Alnus rubra*, FAC). The shrub understory and groundcover include Hooker’s willow (*Salix hookeriana*, FACW), four-line honeysuckle (*Lonicera involucrata*, FAC), Himalayan blackberry (*Rubus armeniacus*, FAC), tall false rye grass (*Schedonorus arundinaceus*, FAC), Western lady fern (*Athyrium cyclosorum*, FAC), field horsetail (*Equisetum arvense*, FAC), slough sedge (*Carex obnupta*, OBL), and water parsley (*Oenanthe sarmentosa*, OBL).

Soils within the wetland meet the criteria for the following indicators: redox dark surface, depleted matrix, and histic epipedon (muck). Soils within the wetland were generally saturated to the surface at the time of PHS’s site visit. A high water table, saturation and geomorphic position provided evidence

of wetland hydrology. A seasonally high water table, precipitation and surface runoff from the adjacent surrounding areas contribute to the hydrology of this wetland.

It should be noted that other factors contributing to the hydrology of this wetland include the following:

- Stormwater runoff from the roof of a house that is located immediately to the south of the site appears to drain directly onto the site (see Photo E in Appendix C).
- A City stormwater pipe that is connected to a catch basin on the west side of Forest Lawn Drive extends beneath the road and drains stormwater onto the site. This stormwater comes from several houses along Forest Lawn Drive and the road itself. The stormwater flows into a couple of catch basins along Forest Lawn Drive, south of the site, then continues to flow to the north through a storm pipe and drains into the catch basin on the west side of the road that outfalls onto the site.
- Another City storm pipe is located at the north end of the property along South Hemlock Street. This is a 12-inch storm pipe that extends from the site, is culverted beneath the road to the east side of the street where it is connected to the City's storm system. The storm pipe has been clogged with dirt and debris, which does not allow stormwater to drain off the site, as intended, and as such, likely impounds stormwater at the northern end of the site.

Sample Points 2, 3, 6 and 7 characterize non-wetland areas adjacent to Wetland A. The plant communities in these areas include Sitka spruce, Western hemlock (*Tsuga heterophylla*, FACU), salal (*Gaultheria shallon*, FACU), Evergreen huckleberry (*Vaccinium ovatum*, FACU), English Holly (*Ilex aquifolium*, FACU), Western sword fern (*Polystichum munitum*, FACU), Northern bracken fern (*Pteridium aquilinum*, FACU), false lily-of-the-valley (*Maianthemum dilatatum*, FAC), Pacific dewberry (*Rubus ursinus*, FACU), and English ivy (*Hedera helix*, FACU). With the exception of Sample Point 3, the soils at these sample points are not hydric, and evidence of wetland hydrology was not observed at any of these sample points.

F. Deviation from Local Wetland Inventory

The Local Wetland Inventory map shows one large wetland area, with the southern portion consisting of a wetland/upland mosaic. PHS also found the southern portion of the wetland to contain a mosaic; however, the overall size of our delineated wetland is smaller than that shown in the LWI. This discrepancy, in part may be because the LWI mapping may have been limited to off-site determinations because of a lack of site access authorization, which limits "ground-truthing" to confirm interpretations derived from off-site maps and information.

G. Mapping Method

PHS flagged the wetland boundaries with blue flagging tape and sample points with lime-green flagging tape. The boundary and sample point flags were survey-located by S & F Land Services. The accuracy of the survey, sample points and tax lot boundaries is sub-centimeter.

H. Additional Information

None.

I. Results and Conclusions

PHS delineated one jurisdictional wetland (Wetland A: 29,618 sf / 0.68 ac) within Tax Lot 4100.

J. Required Disclaimer

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

III. REFERENCES

Adamus, P.R. and D. Field. 2001 *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Study areas. Willamette Valley Ecoregion, Riverine Impounding and Slopes/Flats Subclasses*. Oregon Division of State Lands, Salem, OR.

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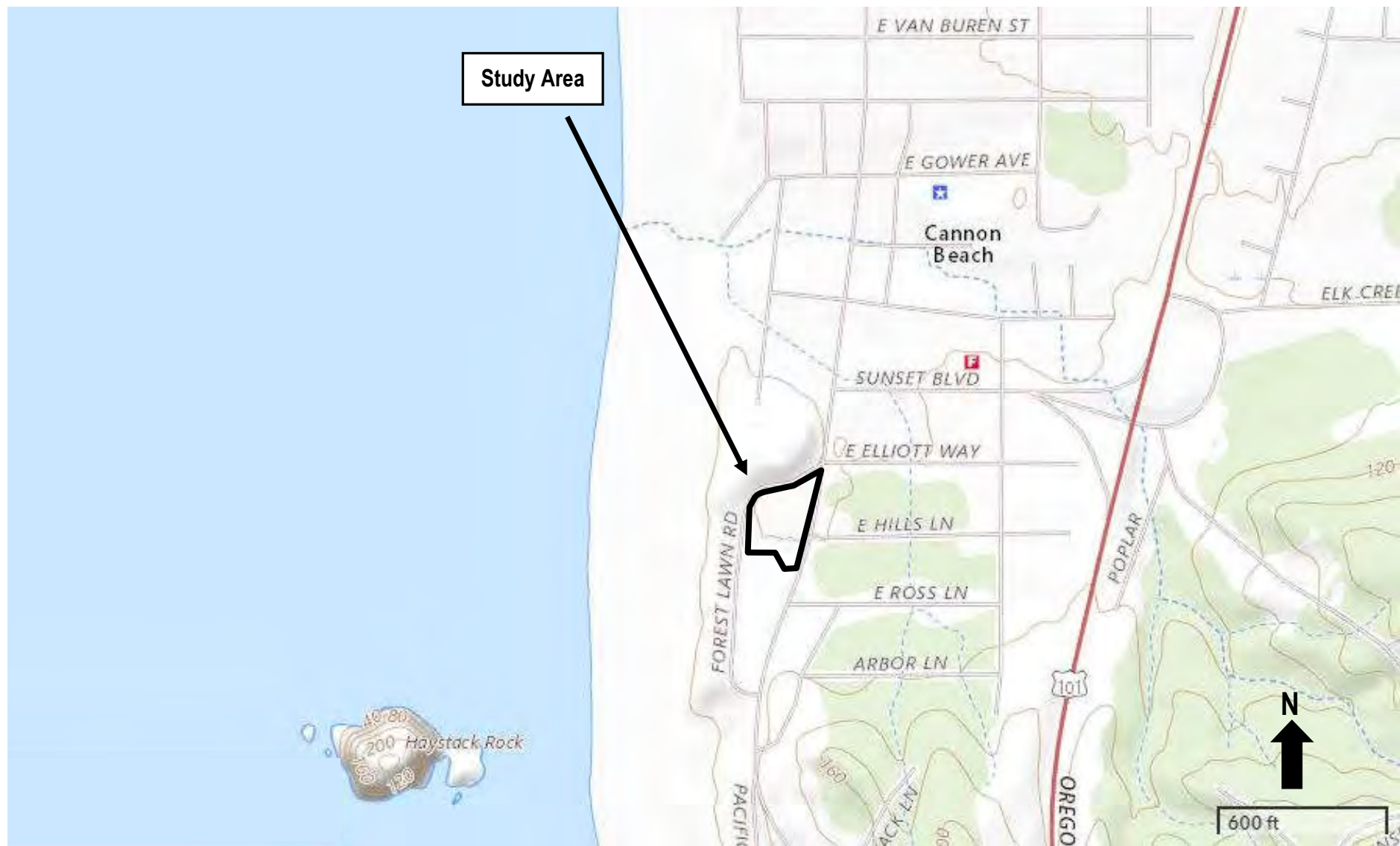
US Department of Agriculture, Natural Resources Conservation Service, 2020. *Web Soil Survey*.

US Geological Survey, 2020. *7.5-minute topographic map, Tillamook Head, Oregon Quadrangle*.

Appendix A

Figures





Project #6978
2/16/2021

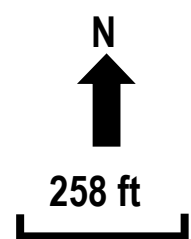
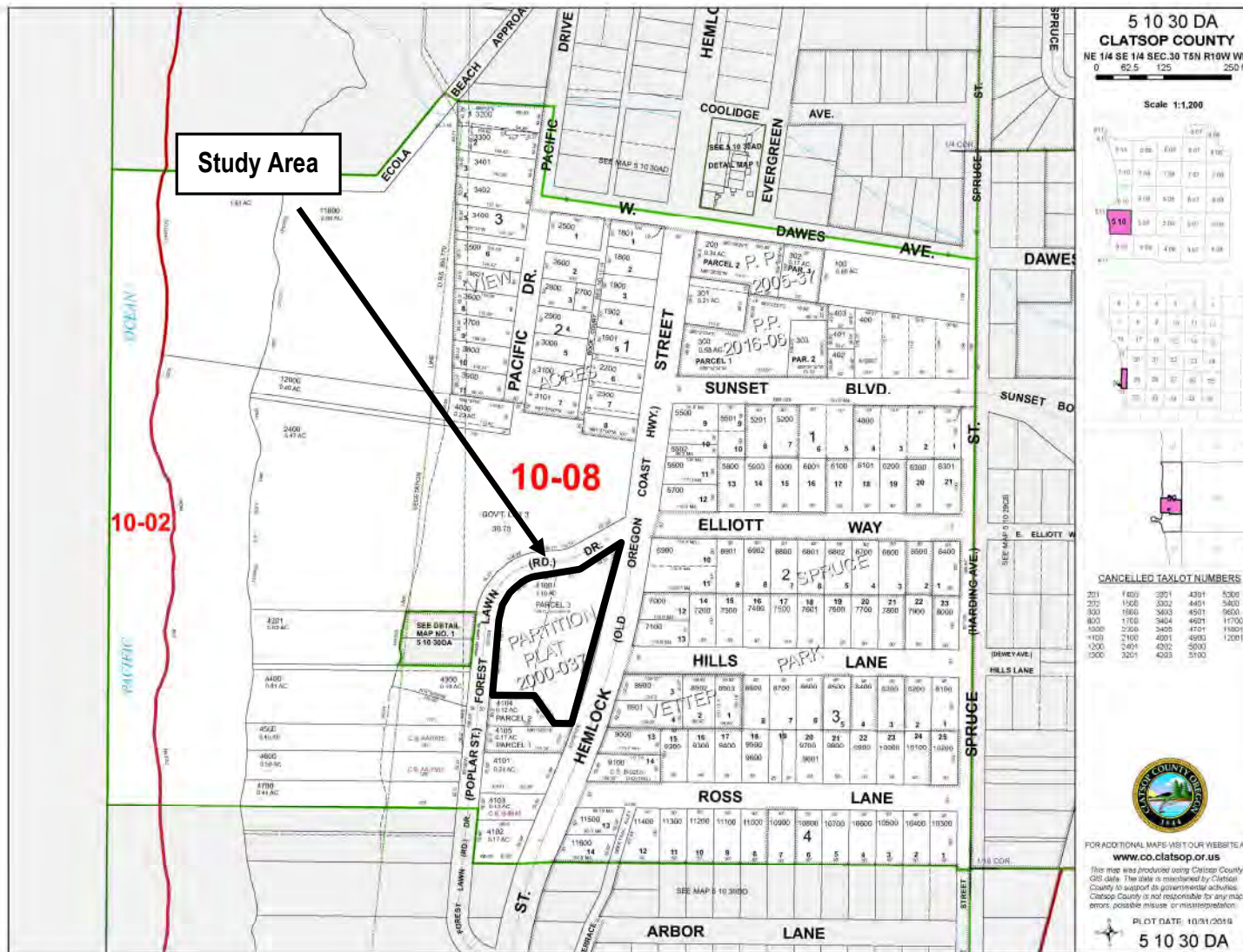


Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Tax Lot 4100 - Cannon Beach, Oregon
United States Geological Survey (USGS) Tillamook Head, Oregon 7.5 quadrangle, 2020
(viewer.nationalmap.gov/basic)

FIGURE

1



Project #6978
 2/16/2021

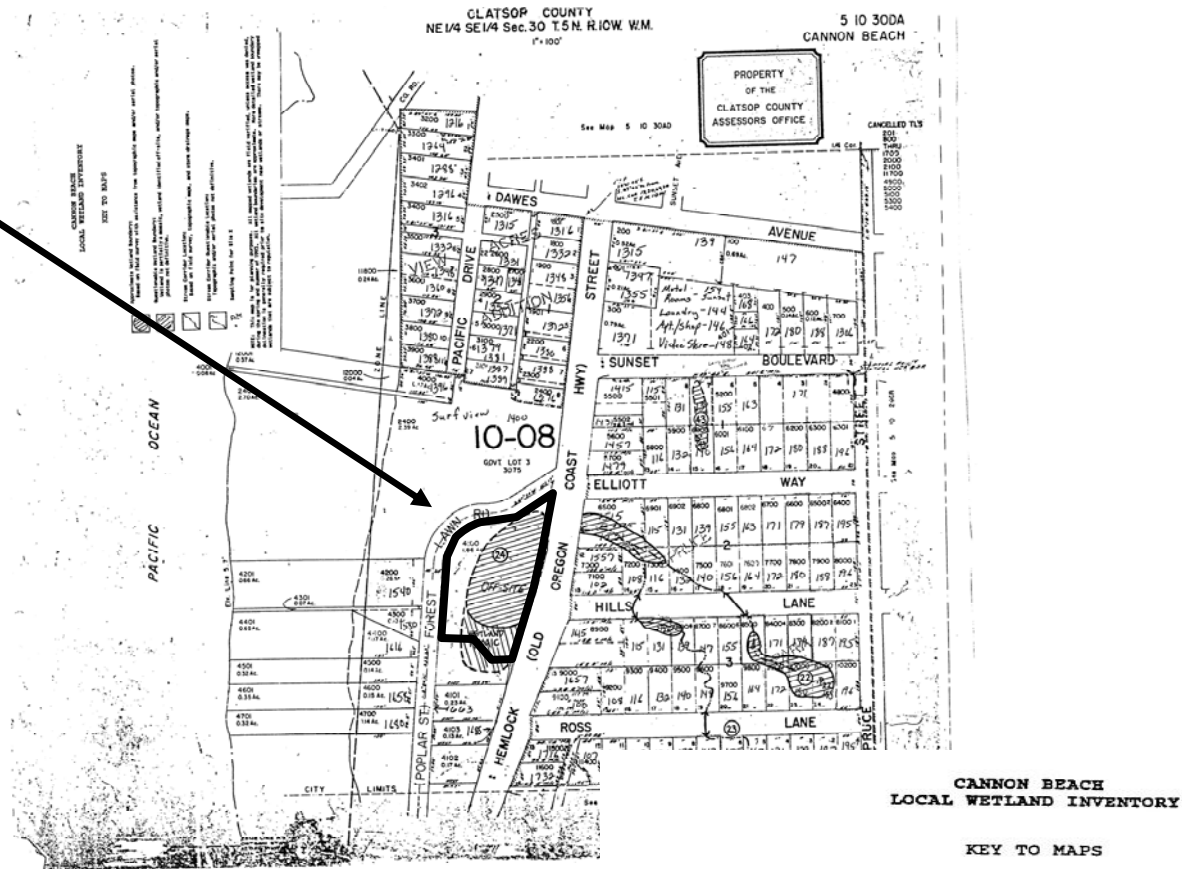


Pacific Habitat Services, Inc.
 9450 SW Commerce Circle, Suite 180
 Wilsonville, OR 97070

Tax Lot Map
 Tax Lot 4100 - Cannon Beach, Oregon
 The Oregon Map (ormap.net)

FIGURE
2

Study Area



- KEY TO MAPS**
- Approximate Wetland Boundary:**
Based on field survey with assistance from topographic maps and/or aerial photos.
 - Questionable Wetland Boundary:**
Wetland is partially a mosaic, wetland identified off-site, and/or topographic and/or aerial photos not definitive.
 - Stream Corridor Location:**
Based on field survey, topographic maps, and storm drainage maps.
 - Stream Corridor Questionable Location:**
Topographic and/or aerial photos not definitive.
 - Sampling Point for Site X**

Project #6978
2/16/2021



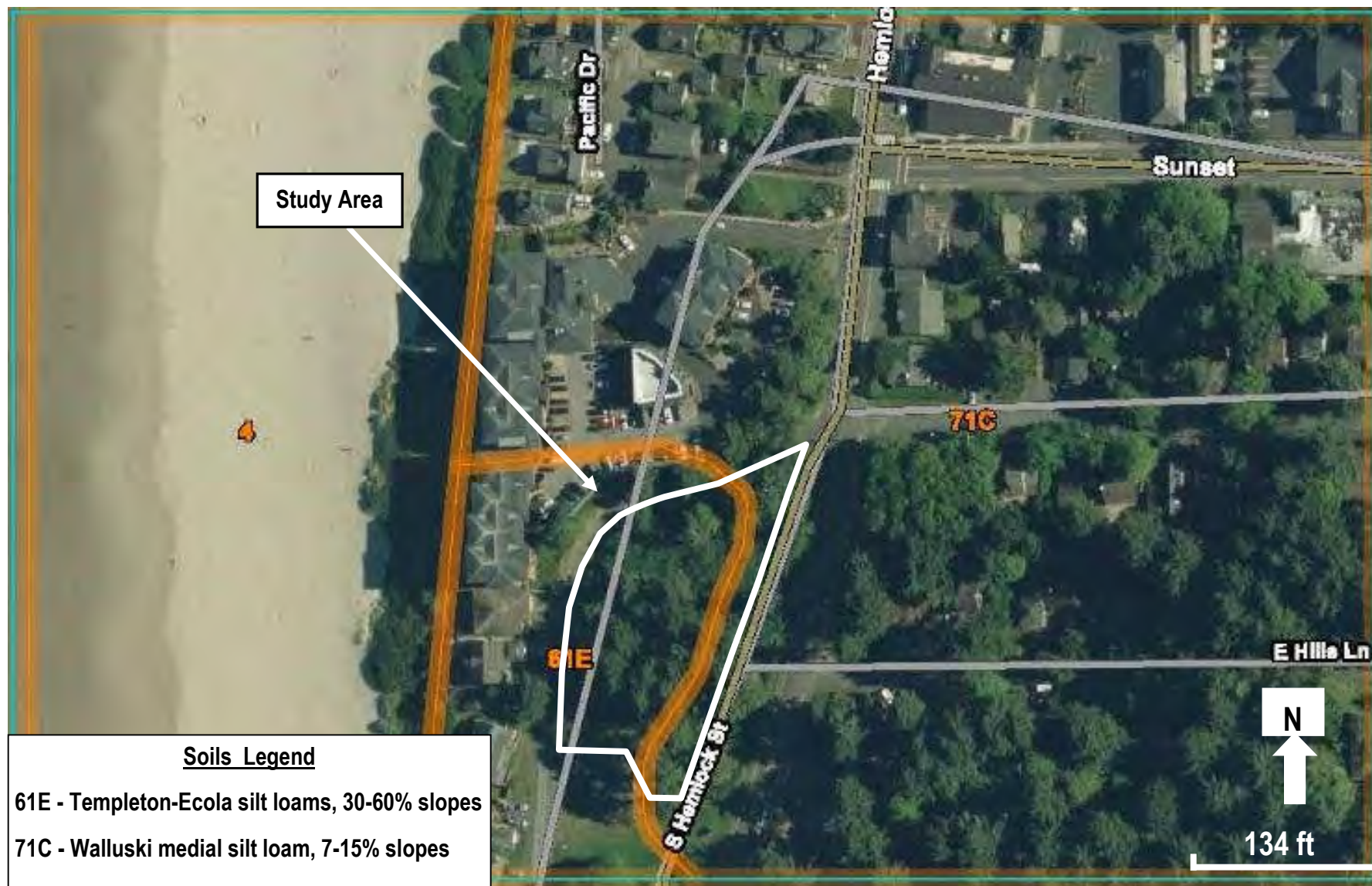
Pacific Habitat Services, Inc.
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Wilsonville, OR 97070

LWI

Tax Lot 4100 - Cannon Beach, Oregon
Fishman Environmental Services, 1994

FIGURE

3



Project #6978
2/16/2021



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Soils
Tax Lot 4100 - Cannon Beach, Oregon
Natural Resources Conservation Services, Web Soil Survey, 2020
(websoilsurvey.sc.egov.usda.gov)

FIGURE

4



Project #6978
2/16/2021

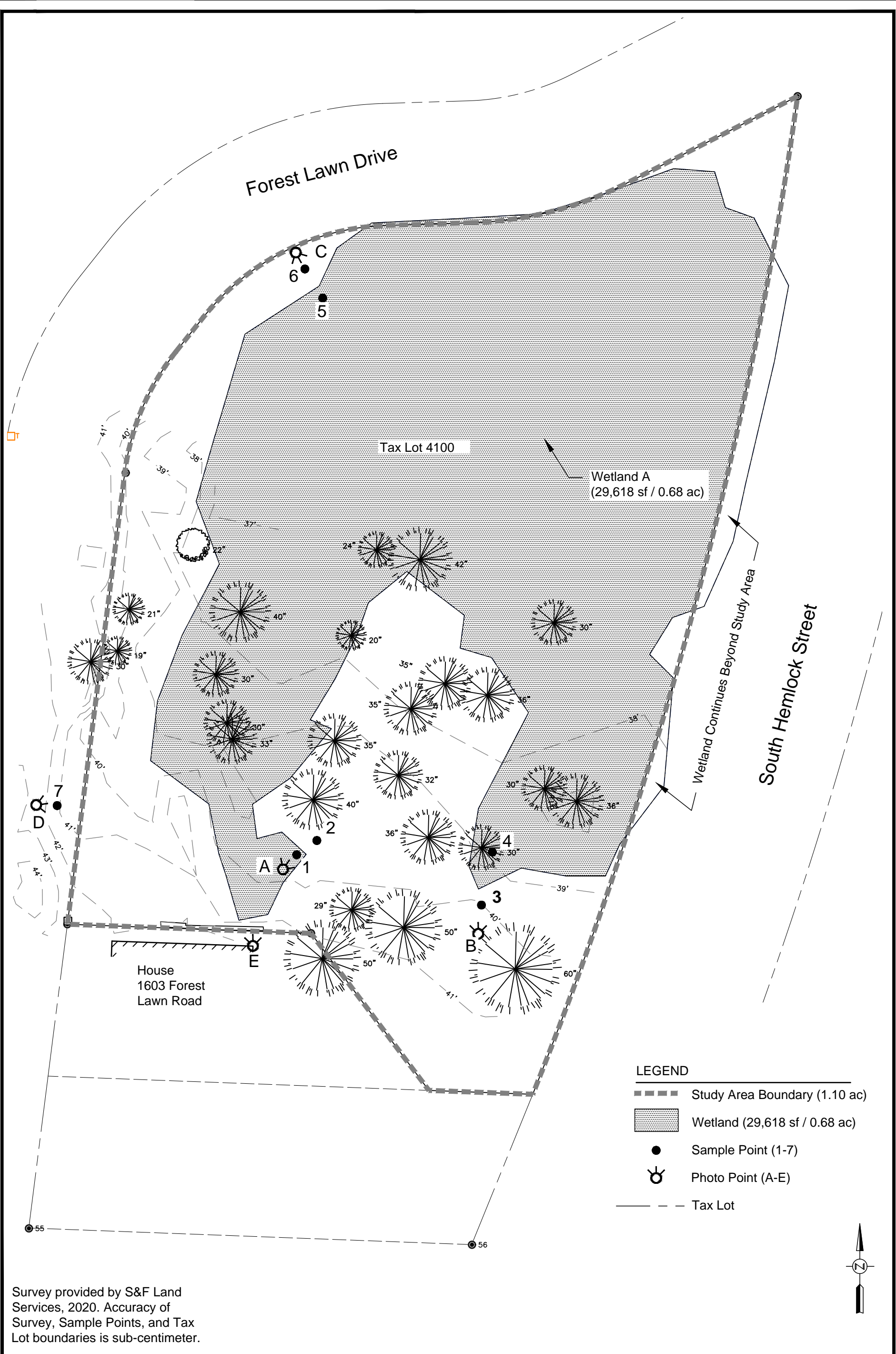


Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Aerial Photo
Tax Lot 4100 - Cannon Beach, Oregon
GoogleEarth, 2020

FIGURE

5



Wetland Delineation
Tax Lot 4100 - Cannon Beach, Oregon

FIGURE
6

3-19-2021

Appendix B

Wetland Determination Data Sheets



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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020

Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 1

Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): LRR A Lat: 45.8864 Long: -123.9631 Datum: WGS84

Soil Map Unit Name: Templeton-Ecola Silt Loams NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (if no, explain in Remarks)

Are vegetation Soil or Hydrology X significantly disturbed? Are "Normal Circumstances" present? (Y/N) N

Are vegetation Soil or Hydrology naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>	
Remarks: Stormwater runoff from the roof of a house, located offsite immediately to the south, contributes to the hydrology of this area.			

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u> </u>)				Dominance Test worksheet:
1 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	That are OBL, FACW, or FAC: <u>3</u> (A)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Species Across All Strata: <u>4</u> (B)
	<u>0</u>	= Total Cover		Percent of Dominant Species
Sapling/Shrub Stratum (plot size: <u>15</u>)				That are OBL, FACW, or FAC: <u>75%</u> (A/B)
1 <u>Lonicera involucrata</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	Prevalence Index Worksheet:
2 <u>Rubus armeniacus</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	Total % Cover of <u> </u> Multiply by: <u> </u>
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL Species <u> </u> x 1 = <u>0</u>
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u> x 2 = <u>0</u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC Species <u> </u> x 3 = <u>0</u>
	<u>15</u>	= Total Cover		FACU Species <u> </u> x 4 = <u>0</u>
Herb Stratum (plot size: <u>5</u>)				UPL Species <u> </u> x 5 = <u>0</u>
1 <u>Schedonorus arundinaceus</u>	<u>60</u>	<u>X</u>	<u>FAC</u>	Column Totals <u>0</u> (A) <u>0</u> (B)
2 <u>Oenanthe sarmentosa</u>	<u>10</u>	<u> </u>	<u>OBL</u>	Prevalence Index =B/A = <u>#DIV/0!</u>
3 <u>Gaultheria shallon</u>	<u>5</u>	<u> </u>	<u>FACU</u>	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
	<u>75</u>	= Total Cover		
Woody Vine Stratum (plot size: <u>15</u>)				Hydrophytic Vegetation Indicators:
1 <u>Hedera helix</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	<u> </u> 1- Rapid Test for Hydrophytic Vegetation
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>X</u> 2- Dominance Test is >50%
	<u>15</u>	= Total Cover		<u> </u> 3-Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum <u> </u>				<u> </u> 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)
				<u> </u> 5- Wetland Non-Vascular Plants ¹
				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					Silt Loam	High organics
4-12	10YR 2/1	100					Sandy Loam	High organics

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :			
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input checked="" type="checkbox"/> Other (explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)		<input type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Thick Dark Surface (A12)		<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Redox Depressions (F8)					

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes☒No☐

Remarks:
Soils are very dark with no evidence of oxidation. Hydric criteria satisfied by presence of hydrology for at least 14 days during the growing season.

HYDROLOGY

Wetland Hydrology Indicators:							
Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (2 or more required)			
<input checked="" type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)		<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)			
<input checked="" type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Salt Crust (B11)		<input type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)		<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)		<input type="checkbox"/> Fac-Neutral Test (D5)			
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)		<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)			
<input type="checkbox"/> Surface Soil Cracks (B6)		<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Frost-Heave Hummocks (D7)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)							
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)							

Field Observations:

Surface Water Present? Yes☐No☒Depth (inches):

Water Table Present? Yes☒No☐Depth (inches):

8

Saturation Present? Yes☒No☐Depth (inches):

4

Wetland Hydrology Present? Yes☒No☐

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

Remarks:

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020

Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 2

Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): LRR A Lat: 45.8864 Long: -123.9631 Datum: WGS84

Soil Map Unit Name: Templeton-Ecola Silt Loams NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (if no, explain in Remarks)

Are vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet:
1 <u>Picea sitchensis</u>	<u>70</u>	<u>X</u>	<u>FAC</u>	Number of Dominant Species
2 _____	_____	_____	_____	That are OBL, FACW, or FAC: <u>3</u> (A)
3 _____	_____	_____	_____	Total Number of Dominant
4 _____	_____	_____	_____	Species Across All Strata: <u>5</u> (B)
	<u>70</u>	= Total Cover		Percent of Dominant Species
Sapling/Shrub Stratum (plot size: <u>15</u>)				That are OBL, FACW, or FAC: <u>60%</u> (A/B)
1 <u>Gaultheria shallon</u>	<u>70</u>	<u>X</u>	<u>FACU</u>	Prevalence Index Worksheet:
2 <u>Picea sitchensis</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	Total % Cover of _____ Multiply by: _____
3 _____	_____	_____	_____	OBL Species _____ x 1 = <u>0</u>
4 _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>
5 _____	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>
	<u>100</u>	= Total Cover		FACU Species _____ x 4 = <u>0</u>
Herb Stratum (plot size: <u>5</u>)				UPL Species _____ x 5 = <u>0</u>
1 <u>Schedonorus arundinaceus</u>	<u>85</u>	<u>X</u>	<u>FAC</u>	Column Totals <u>0</u> (A) <u>0</u> (B)
2 <u>Pteridium aquilinum</u>	<u>10</u>	_____	<u>FACU</u>	Prevalence Index =B/A = <u>#DIV/0!</u>
3 <u>Equisetum arvense</u>	<u>5</u>	_____	<u>FAC</u>	Hydrophytic Vegetation Indicators:
4 _____	_____	_____	_____	_____ 1- Rapid Test for Hydrophytic Vegetation
5 _____	_____	_____	_____	<u>X</u> 2- Dominance Test is >50%
6 _____	_____	_____	_____	_____ 3-Prevalence Index is ≤ 3.0 ¹
7 _____	_____	_____	_____	_____ 4-Morphological Adaptations ¹ (provide supporting
8 _____	_____	_____	_____	_____ data in Remarks or on a separate sheet)
	<u>100</u>	= Total Cover		_____ 5- Wetland Non-Vascular Plants ¹
Woody Vine Stratum (plot size: <u>15</u>)				_____ Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Hedera helix</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless
2 _____	_____	_____	_____	disturbed or problematic.
	<u>15</u>	= Total Cover		Hydrophytic
% Bare Ground in Herb Stratum _____				Vegetation Yes <u>X</u> No _____
Remarks:				Present?

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100					Silt Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No X
Water Table Present? Yes X No
Saturation Present? Yes X No (includes capillary fringe)

Depth (inches):
Depth (inches):
Depth (inches):

Wetland Hydrology Present? Yes No X

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

Remarks:

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020
 Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 3
 Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): LRR A Lat: 45.8864 Long: -123.9628 Datum: WGS84
 Soil Map Unit Name: Walluski Medial Silt Loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (if no, explain in Remarks)

Are vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>43%</u> (A/B)
1 <u><i>Picea sitchensis</i></u>	<u>60</u>	<u>X</u>	<u>FAC</u>	
2 <u><i>Tsuga heterophylla</i></u>	<u>15</u>	<u>X</u>	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
	<u>75</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u>)				
1 <u><i>Lonicera involucrata</i></u>	<u>25</u>	<u>X</u>	<u>FAC</u>	
2 <u><i>Gaultheria shallon</i></u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
3 <u><i>Vaccinium ovatum</i></u>	<u>5</u>	_____	<u>FACU</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>50</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u>)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u><i>Polystichum munitum</i></u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
2 <u><i>Athyrium cyclosorum</i></u>	<u>25</u>	<u>X</u>	<u>FAC</u>	
3 <u><i>Mianthemum dilatatum</i></u>	<u>1</u>	_____	<u>FAC</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
	<u>56</u>	= Total Cover		
Woody Vine Stratum (plot size: <u>15</u>)				
1 <u><i>Hedera helix</i></u>	<u>80</u>	<u>X</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
	<u>80</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Indicators:

- 1- Rapid Test for Hydrophytic Vegetation
- 2- Dominance Test is >50%
- 3-Prevalence Index is ≤ 3.0 ¹
- 4-Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- 5- Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	7.5YR 2.5/2	100					Loam	High organics
6-13	5YR 2.5/1	95	7.5YR 2.5/2	5	C	M	Sandy Loam	High organics
13-18	10YR 2/1	100						Fine sandy loam
18-19	10YR 3/3	95	10YR 4/4	5	C	M	Sand	Medium

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes ☐ No ☒

Water Table Present? Yes ☒ No ☐

Saturation Present? Yes ☒ No ☐

(includes capillary fringe)

Depth (inches):

Depth (inches):

17

Depth (inches):

1

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020

Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 4

Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR A Lat: 45.8864 Long: -123.9628 Datum: WGS84

Soil Map Unit Name: Walluski Medial Silt Loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (if no, explain in Remarks)

Are vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation Soil or Hydrology naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet:
1 <u>Picea sitchensis</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	Number of Dominant Species
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	That are OBL, FACW, or FAC: <u>4</u> (A)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Species Across All Strata: <u>7</u> (B)
	<u>30</u>	= Total Cover		Percent of Dominant Species
Sapling/Shrub Stratum (plot size: <u>15</u>)				That are OBL, FACW, or FAC: <u>57%</u> (A/B)
1 <u>Lonicera involucrata</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	Prevalence Index Worksheet:
2 <u>Picea sitchensis</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	Total % Cover of
3 <u>Gaultheria shallon</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	Multiply by:
4 <u>Ilex aquifolium</u>	<u>5</u>	<u> </u>	<u>FACU</u>	OBL Species <u> </u> x 1 = <u>0</u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u> x 2 = <u>0</u>
	<u>70</u>	= Total Cover		FAC Species <u> </u> x 3 = <u>0</u>
Herb Stratum (plot size: <u>5</u>)				FACU Species <u> </u> x 4 = <u>0</u>
1 <u>Carex obnupta</u>	<u>100</u>	<u>X</u>	<u>OBL</u>	UPL Species <u> </u> x 5 = <u>0</u>
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Column Totals <u>0</u> (A) <u>0</u> (B)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index =B/A = <u>#DIV/0!</u>
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators:
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 1- Rapid Test for Hydrophytic Vegetation
6 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>X</u> 2- Dominance Test is >50%
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 3-Prevalence Index is ≤ 3.0 ¹
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 4-Morphological Adaptations ¹ (provide supporting
	<u>100</u>	= Total Cover		data in Remarks or on a separate sheet)
Woody Vine Stratum (plot size: <u>15</u>)				<u> </u> 5- Wetland Non-Vascular Plants ¹
1 <u>Hedera helix</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Rubus ursinus</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless
	<u>15</u>	= Total Cover		disturbed or problematic.
% Bare Ground in Herb Stratum <u> </u>				Hydrophytic
				Vegetation
				Yes <u>X</u> No <u> </u>
				Present?
Remarks:				

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 2/2	100					Silt Loam	
7-16	10YR 2/1	60	7.5YR 3/4	40			Silt Loam	Fine-Medium

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

X

No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? YesNo

X

Water Table Present? Yes

X

No

Saturation Present? Yes

X

No

(includes capillary fringe)

Depth (inches):

Depth (inches):

10

Depth (inches):

10

Wetland Hydrology Present? Yes

X

No

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

Remarks:

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020
 Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 5
 Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR A Lat: 45.8869 Long: -123.9632 Datum: WGS84
 Soil Map Unit Name: Templeton-Ecola Silt Loams NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (if no, explain in Remarks)

Are vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				
1 <u>Salix hookeriana</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
	<u>90</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u>)				
1 <u>Rubus armeniacus</u>	<u>90</u>	<u>X</u>	<u>FAC</u>	Prevalence Index Worksheet: Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>90</u>	= Total Cover		
Herb Stratum (plot size: _____)				
1 _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 ¹ _____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Woody Vine Stratum (plot size: <u>15</u>)				
1 <u>Hedera helix</u>	<u>70</u>	<u>X</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
	<u>70</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5YR 2.5/1	100					Sandy Loam	
3-6	10YR 2/1	100					Sandy Loam	High organics
6-8	10YR 2/1	85	5YR 3/3	15	C	M	Sandy Loam	Medium mottles
8-17	10YR 4/3	99	10YR 4/1	1	C	M	Sand	Fine sand, fine mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes☒No☐

Remarks:

Depleted matrix soils begin within 6 inches, but as they are underlain by sand, there is insufficient thickness to satisfy that criteria. Would likely if not all sand beneath.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes☐No☒Depth (inches):

Water Table Present? Yes☒No☐Depth (inches):

12

Saturation Present? Yes☒No☐Depth (inches):

11

(includes capillary fringe)

Wetland Hydrology Present? Yes☒No☐

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

Remarks:

Pit was open for 3 hours.

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020

Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 6

Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): LRR A Lat: 45.8869 Long: -123.9632 Datum: WGS84

Soil Map Unit Name: Templeton-Ecola Silt Loams NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (if no, explain in Remarks)

Are vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation Soil or Hydrology naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet:
1 <u><i>Alnus rubra</i></u>	<u>60</u>	<u>X</u>	<u>FAC</u>	Number of Dominant Species
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	That are OBL, FACW, or FAC: <u>2</u> (A)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Species Across All Strata: <u>3</u> (B)
	<u>60</u>	= Total Cover		Percent of Dominant Species
Sapling/Shrub Stratum (plot size: <u>15</u>)				That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1 <u><i>Rubus armeniacus</i></u>	<u>75</u>	<u>X</u>	<u>FAC</u>	Prevalence Index Worksheet:
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total % Cover of
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Multiply by:
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL Species <u> </u> x 1 = <u>0</u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u> x 2 = <u>0</u>
	<u>75</u>	= Total Cover		FAC Species <u> </u> x 3 = <u>0</u>
Herb Stratum (plot size: <u> </u>)				FACU Species <u> </u> x 4 = <u>0</u>
1 <u> </u>	<u> </u>	<u> </u>	<u> </u>	UPL Species <u> </u> x 5 = <u>0</u>
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Column Totals <u>0</u> (A) <u>0</u> (B)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index =B/A = <u>#DIV/0!</u>
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators:
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 1- Rapid Test for Hydrophytic Vegetation
6 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>X</u> 2- Dominance Test is >50%
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 3-Prevalence Index is ≤ 3.0 ¹
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> 4-Morphological Adaptations ¹ (provide supporting
	<u>0</u>	= Total Cover		<u> </u> data in Remarks or on a separate sheet)
Woody Vine Stratum (plot size: <u>15</u>)				<u> </u> 5- Wetland Non-Vascular Plants ¹
1 <u><i>Hedera helix</i></u>	<u>40</u>	<u>X</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless
	<u>40</u>	= Total Cover		disturbed or problematic.
% Bare Ground in Herb Stratum <u>50</u>				Hydrophytic
Remarks:				Vegetation
				Present? Yes <u>X</u> No <u> </u>

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 2/2	100					Sandy Loam	
9-16	10YR 4/2	80					Sand	
	10YR 2/2	20					Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No X
Water Table Present? Yes No X
Saturation Present? Yes No X (includes capillary fringe)

Depth (inches):
Depth (inches):
Depth (inches):

Wetland Hydrology Present? Yes No X

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

Remarks:

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

Project/Site: Tax Lot 4100 City/County: Cannon Beach/Clatsop Sampling Date: 12/9/2020
 Applicant/Owner: Patrick/Dave, LLC State: OR Sampling Point: 7
 Investigator(s): CR, SE Section, Township, Range: Section 30DA, Township 5N, Range 10W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): LRR A Lat: 45.8865 Long: -123.9634 Datum: WGS84
 Soil Map Unit Name: Templeton-Ecola Silt Loams NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (if no, explain in Remarks)

Are vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y

Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1 <u><i>Salix hookeriana</i></u>	<u>75</u>	<u>X</u>	<u>FACW</u>	Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>75</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u>)				
1 <u><i>Gaultheria shallon</i></u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>10</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u>)				
1 <u><i>Equisetum arvense</i></u>	<u>50</u>	<u>X</u>	<u>FAC</u>	
2 <u><i>Mianthemum dilatatum</i></u>	<u>30</u>	<u>X</u>	<u>FAC</u>	
3 <u><i>Ranunculus repens</i></u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
	<u>100</u>	= Total Cover		
Woody Vine Stratum (plot size: <u>15</u>)				
1 <u><i>Hedera helix</i></u>	<u>80</u>	<u>X</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
	<u>80</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% 3-Prevalence Index is ≤ 3.0 ¹ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) 5- Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Remarks:

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/2						Silt Loam	
4-11	10YR 3/2	98	10YR 3/3	1	C	M	Silt Loam	
			10YR 3/6	1	C	M	Silt Loam	
11-16	10YR 4/3	90	5YR 3/4	10	C	M	Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No X
Water Table Present? Yes No X
Saturation Present? Yes No X (includes capillary fringe)

Depth (inches):
Depth (inches):
Depth (inches):

Wetland Hydrology Present? Yes No X

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

Remarks:

Appendix C

Site Photos (ground level)



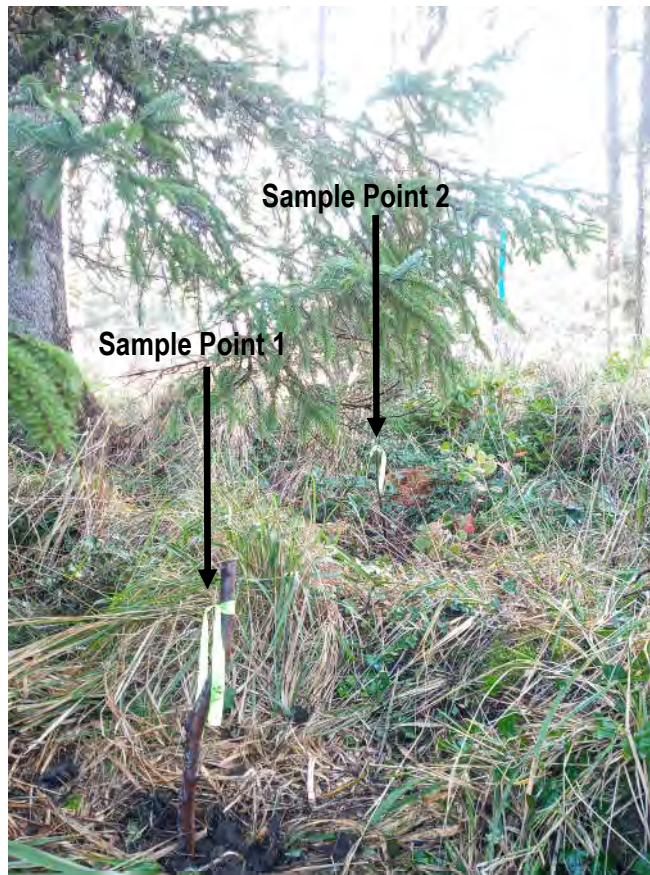


Photo A

Looking northeast at Sample Points 1 and 2 in the southwestern portion of Wetland A.

Photo B

Looking north at Sample Points 3 and 4 in the southeastern portion of Wetland A.



#6978

3/19/2021



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
Tax Lot 4100, Cannon Beach, Oregon
Both photos taken on December 9, 2020

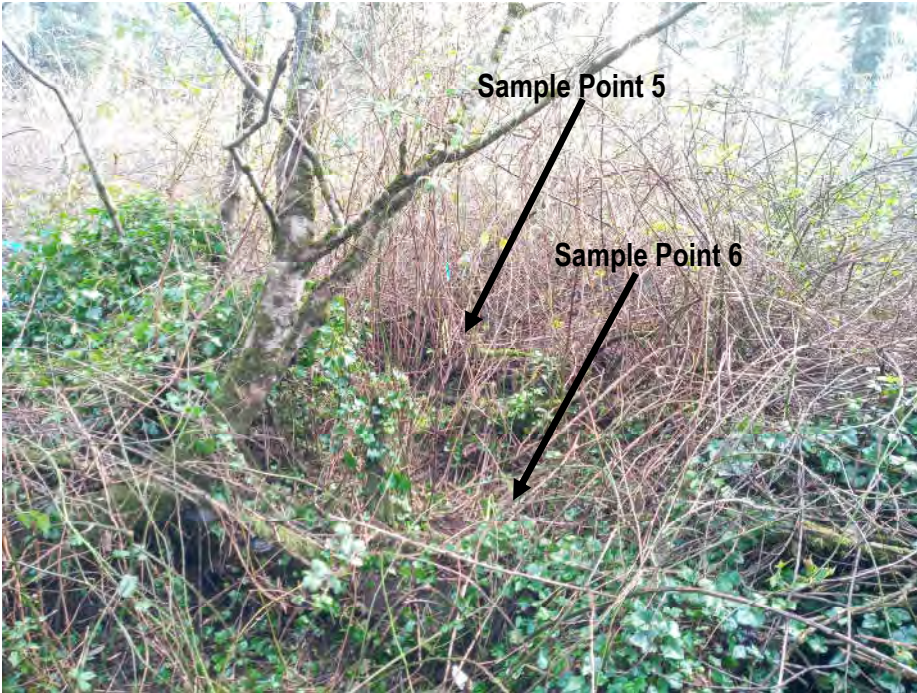


Photo C

Looking southeast at Sample Points 5 and 6 in the northwestern portion of Wetland A.

Photo D

Looking east at Sample Point 7, to the west of the southwestern portion of Wetland A.



#6978

3/19/2021



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
Tax Lot 4100, Cannon Beach, Oregon
Both photos taken on December 9, 2020



Photo E

Looking north at the southwestern portion of Wetland A, where the house to the south drains stormwater onto the site.

#6978

3/19/2021



Pacific Habitat
Services, Inc.
9450 SW Commerce

Photodocumentation
Tax Lot 4100, Cannon Beach, Oregon
Photo taken on December 9, 2020

Appendix D

Wetland Definitions, Methodology



WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

Regulatory Jurisdiction

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

Waters of The State and Wetland Definition

Waters of The State are defined as “all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore ...” (DSL, 2009).

Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (DSL 2009).

Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a “problem soil” in the Regional Supplement.

Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Plants that always occur in standing water or in saturated soils.
FACW	Facultative wetland. Plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands.
FAC	Facultative. Plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils.
FACU	Facultative upland. Plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils.
UPL	Obligate upland. Plants that rarely occur in water or saturated soils.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets which contain the information specified in the 1987 Corps Manual and the Regional Supplement.



Oregon

Kate Brown, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

June 8, 2021

Patrick/Dave, LLC
Attn: Patrick Gemma
2575 38th Avenue West
Seattle, WA 98199

Kate Brown
Governor

Shemia Fagan
Secretary of State

Re: WD # 2021-0153 **Approved**
Wetland Delineation Report for Tax Lot 4100 on Forest Lawn Drive
Clatsop County; T5N R10W 30DA TL4100
Cannon Beach Local Wetlands Inventory, Wetland 24

Tobias Read
State Treasurer

Dear Mr. Gemma:

The Department of State Lands has reviewed the wetland delineation report prepared by Pacific Habitat Services for the site referenced above. Based upon the information presented in the report, we concur with the wetland boundaries as mapped in revised Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, one wetland (Wetland A, totaling approximately 0.68 acres) was identified. This wetland is subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

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

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

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

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator, Jessica Imbrie, at (503) 986-5250.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Ryan", written in a cursive style.

Peter Ryan, SPWS
Aquatic Resource Specialist

Enclosures

ec: John van Staveren, SPWS, Pacific Habitat Services
City of Cannon Beach Planning Department (Maps enclosed for updating LWI)
Brad Johnson, Corps of Engineers
Dan Cary, SPWS, DSL
Oregon Coastal Management Program (coast.permits@state.or.us)

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

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

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover from and report, minimum 300 dpi resolution) and submit to, **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to Wetland_Delineation@dsl.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☒ Applicant ☒ Owner Name, Firm and Address:

Patrick Gemma
Patrick/Dave, LLC
2575 38th Avenue West
Seattle, WA 98199

Business phone #

Mobile phone # (optional) **206.419.2218**

E-mail: **pgemma@prologis.com**

☒ Authorized Legal Agent, Name and Address:


Business phone #

Mobile phone #

E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: **Patrick Gemma**

Signature: 

Date: **3/19/2021**

Special instructions regarding site access:

Project and Site Information

Project Name: **Tax Lot 4100 on Forest Lawn Drive**

Latitude: **45.8864**

Longitude: **-123.9628**

decimal degree - centroid of site or start & end points of linear project

Tax Map # **5 10 30 DA**

Tax Lot(s) **4100**

Proposed Use:

Residential subdivision

Tax Map #

Tax Lot(s)

Project Street Address (or other descriptive location):

SW of the intersection of Forest Lawn Dr and South Hemlock Street

Township **5N** Range **10W** Section **30** QQ **DA**

Use separate sheet for additional tax and location information

Waterway: **N/A**

River Mile: **N/A**

City: **Cannon Beach**

County: **Clatsop**

NWI Quad(s): **Tillamook Head, Oregon**

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:


Pacific Habitat Services
Attn: John van Staveren
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Phone # **503-570-0800**

Mobile phone # **503-708-8320**

E-mail: **jvs@pacifichabitat.com**

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: 

Date: **3/19/2021**

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: **1.10 acres** Total Wetland Acreage: **0.68**

Check Applicable Boxes Below

☐ R-F permit application submitted

☒ Fee payment submitted **\$475**

☐ Mitigation bank site

☐ Fee (\$100) for resubmittal of rejected report

☐ Industrial Land Certification Program Site

☐ Request for Reissuance. See eligibility criteria (no fee)

☐ Wetland restoration/enhancement project (not mitigation)

DSL # _____ Expiration Date _____

☐ Previous delineation/application on parcel?

☒ LWI shows wetlands or waters on parcel?

If Known, previous DSL #

Wetland ID Code **W24**

For Office Use Only

DSL Reviewer: **JJ**

Fee Paid Date: ____ / ____ / ____

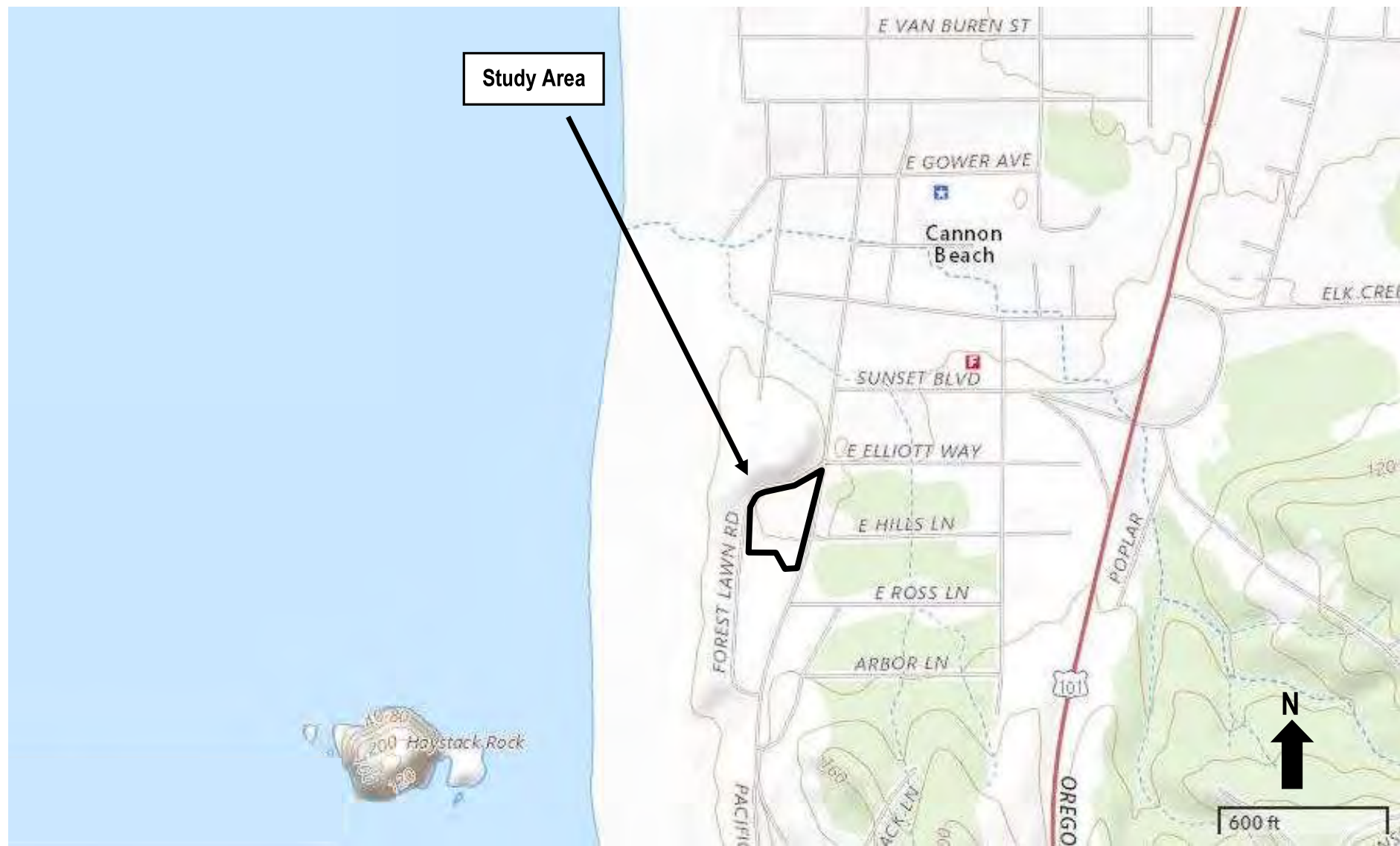
DSL WD # **2021-0153**

Date Delineation Received: **3 / 23 / 21**

Scanned: ☐ Final Scan: ☐

DSL App. # _____

Electronic Submittal



Project #6978
2/16/2021

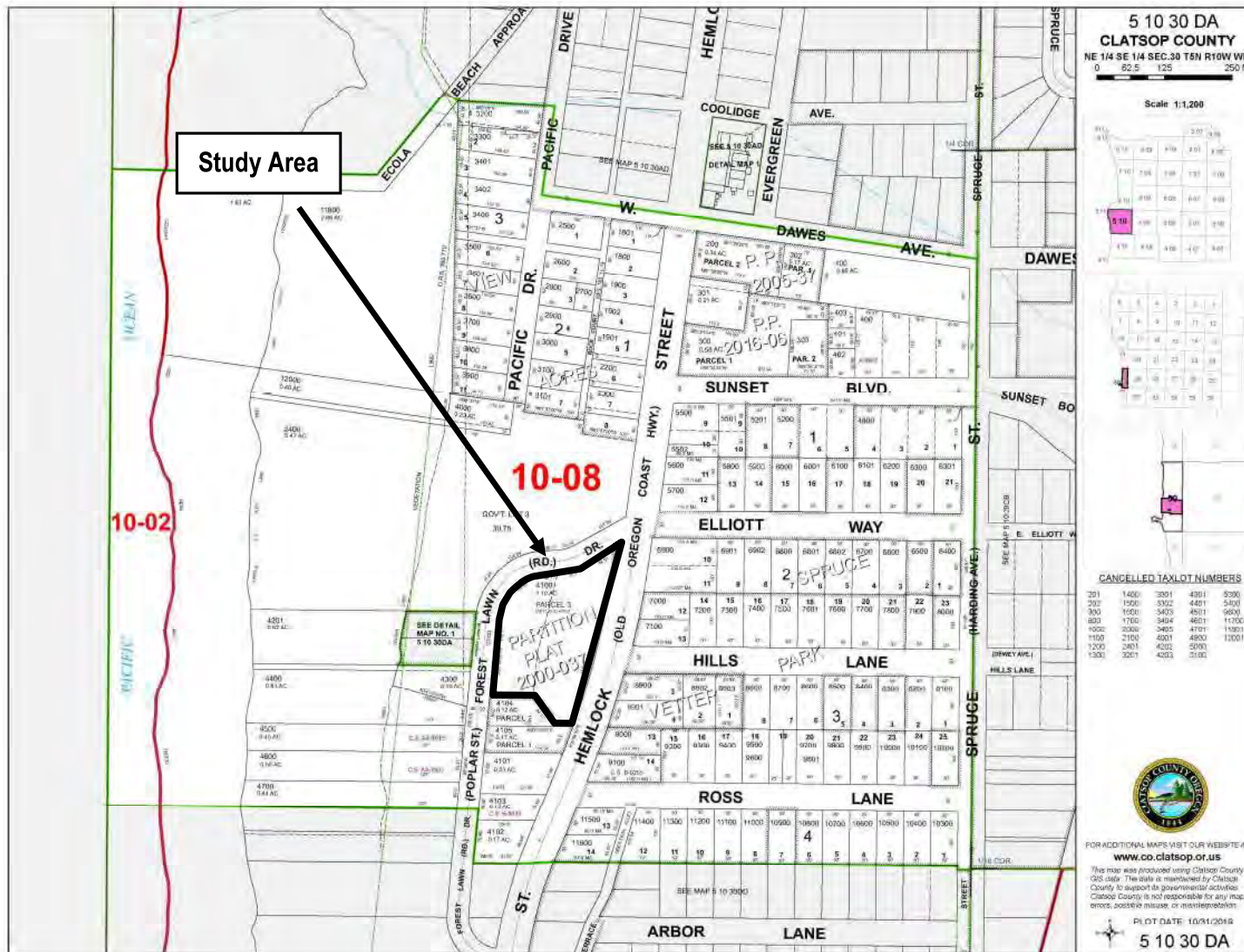


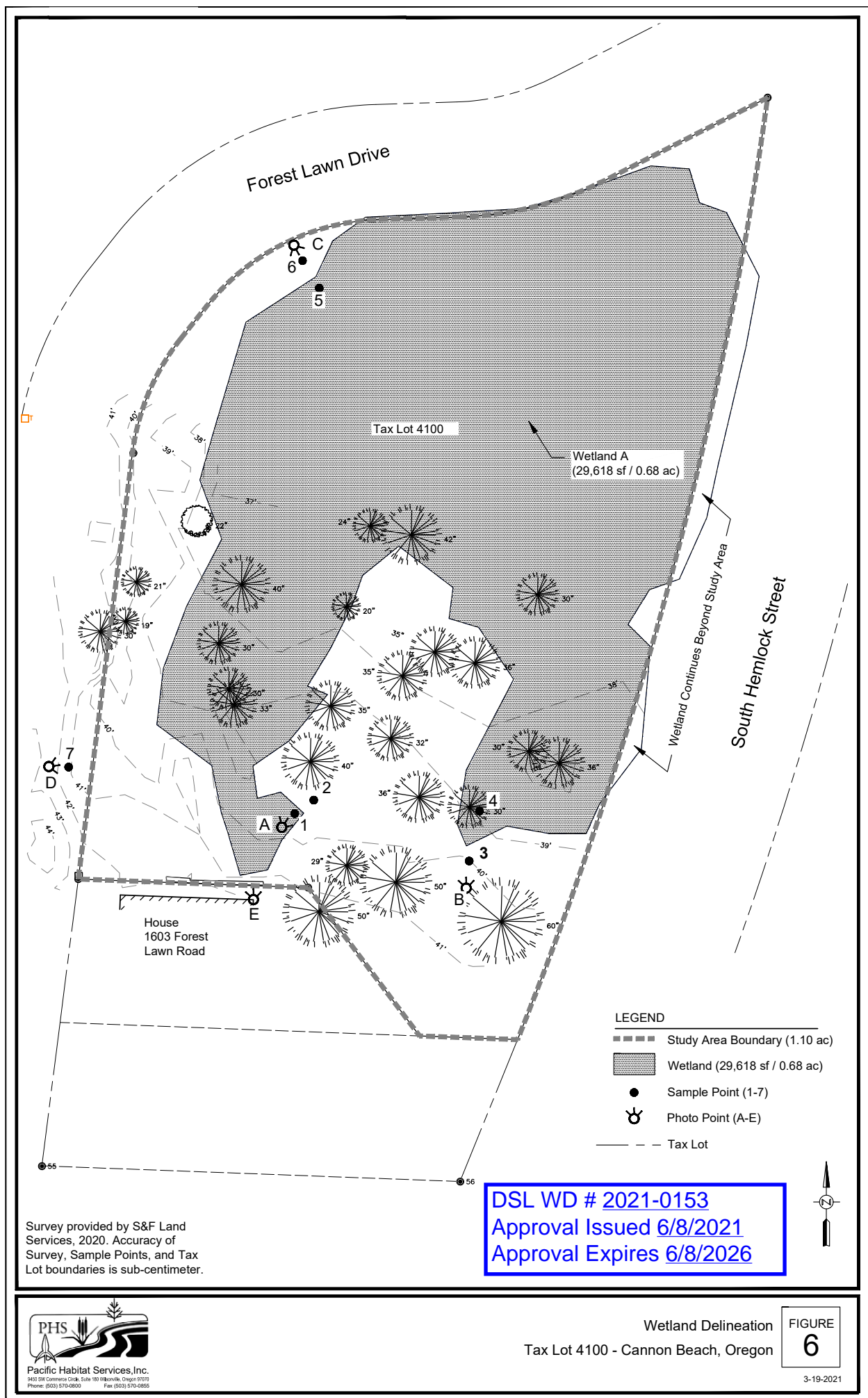
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Tax Lot 4100 - Cannon Beach, Oregon
United States Geological Survey (USGS) Tillamook Head, Oregon 7.5 quadrangle, 2020
(viewer.nationalmap.gov/basic)

FIGURE

1





P.O. Box 19313
Portland, OR 97280-0313
February 19, 1993

Rainmar Bartyl, City Planner
City of Cannon Beach
P.O. Box 368
Cannon Beach, OR 97110

Re: Wetland Reconnaissance on Janet McMahon lot on Forest Lawn Road, Cannon Beach

Dear Rainmar,

As we discussed on the phone yesterday, I am sending you a copy of the Wetlands report that Shapiro and Associates performed on my lot this past November, which shows the property to be void of any wetland area.

You mentioned that you would pass the report on to the Building Department so that they will have it when I fill out the excavation permit prior to having the property cleared. Thank you.

I plan to leave all trees standing, as you and I discussed, including leaving the root areas undisturbed. Any fill added along the Hemlock side as a berm will be done so as not to restrict vision when exiting Forest Lawn onto Hemlock, which I will indicate on the permit.

Thanks once again for your help.

Sincerely,



Janet L. McMahon
(503) 246-3282 home
(503) 598-8500 office

WETLAND RECONNAISSANCE
TOWNSHIP 5, RANGE 10, SECTION 30 PORTION DA, TAX LOT 4101
CANNON BEACH, CLATSOP COUNTY, OREGON

Prepared for
Ms. Janet McMahon

Prepared by:
R. Dale Graff

SHAPIRO AND ASSOCIATES, INC.
1020 S.W. Taylor Street, Suite 620
Portland, Oregon 97205

December 10, 1992

SHAPIRO & ASSOCIATES^{PC}

1020 S.W. Taylor
Suite 610

Portland
Oregon 97205

Tel: 503/223-7490
Fax: 503/228-4731

December 10, 1992

Ms. Janet McMahon
P.O. Box 19313
Portland, OR 97280


Re: Wetland Reconnaissance of a 0.23-acre parcel in Cannon Beach, Clatsop County, Oregon
(Shapiro #950060).

Dear Janet:

Enclosed is a wetland reconnaissance report for your 0.23-acre parcel located on Forest Lawn Road in Cannon Beach, Oregon. SHAPIRO appreciates the opportunity to be of service to you on this important project. We do not anticipate further work on this project, but look forward to being of service to you for any future needs. Please do not hesitate to call us regarding questions you may have concerning this report.

Sincerely,

SHAPIRO AND ASSOCIATES, INC.


R. Dale Graff
Wetland Scientist

Enclosures

INTRODUCTION

Shapiro and Associates, Inc. (SHAPIRO) performed a wetland reconnaissance on November 30, 1992, of a 0.23-acre parcel in Cannon Beach, Clatsop County, Oregon. The property is located near the shore of the Pacific Ocean, directly east of Haystack Rock on the east side of Forest Lawn Road. The parcel slopes gently (2 to 3%) toward the north and is covered primarily with scrub-shrub vegetation. Property locator maps are presented in Appendix A.

A wetland reconnaissance was performed to determine if wetlands were present on the site and, if wetlands were present, to provide information concerning their location, size, and relative value.

METHODS

The analysis of wetlands conducted on this site was based on methods developed by the U.S. Army Corps of Engineers (Corps) and other federal agencies for implementation of Section 404 of the Clean Water Act. The methods are commonly referred to as the Unified Federal Method (Federal Interagency Committee for Wetland Delineation, 1989) and the Triple Parameter Approach (U.S. Army Corps of Engineers, 1987). Use of the Unified Federal Method (1989) is required by the Oregon Division of State Lands, while use of the Triple Parameter Approach (1987) is required by the Corps. Using these methods, vegetation, soils, and hydrologic indicators were evaluated to determine if the site contained wetlands.

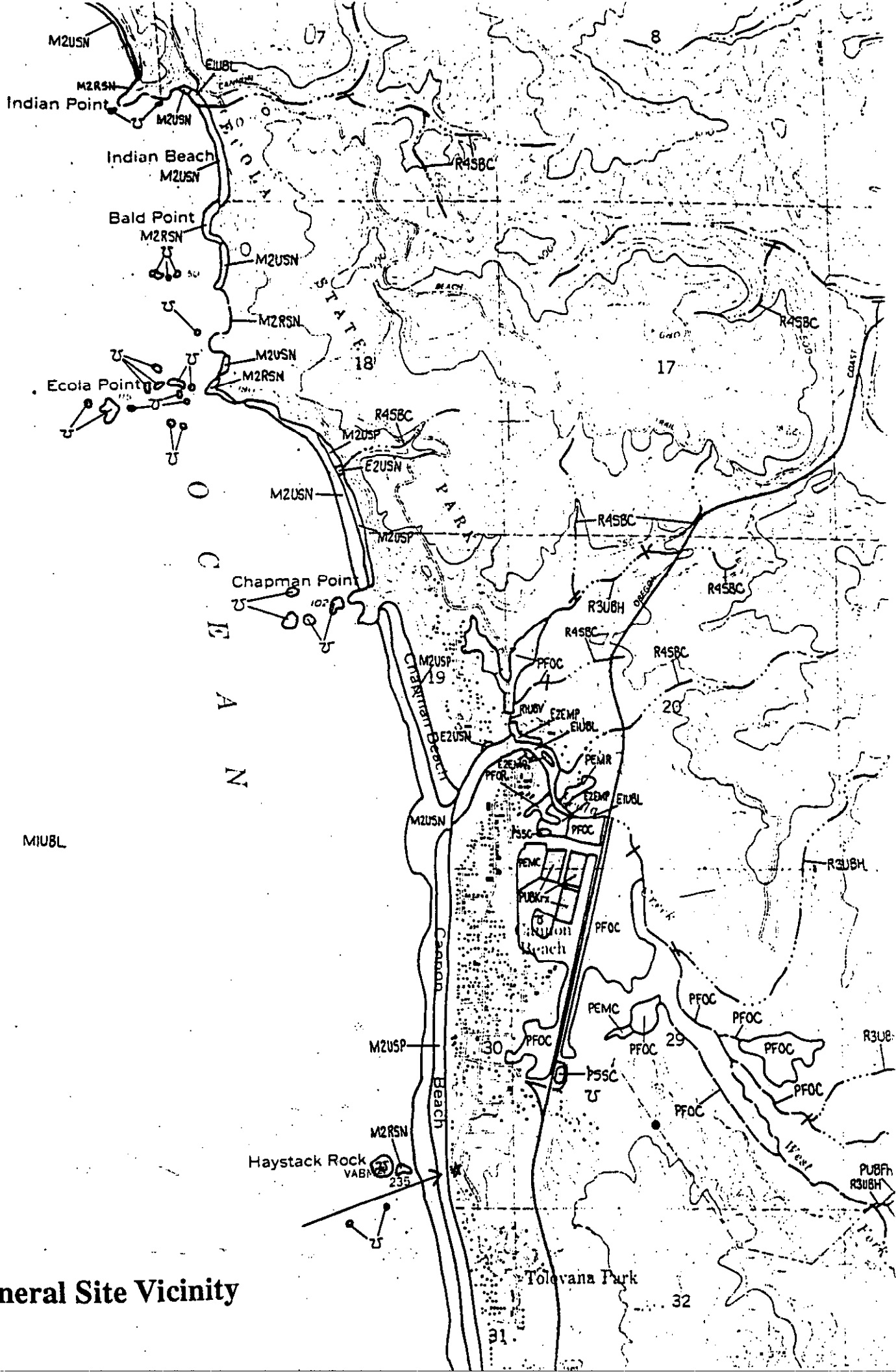
Prior to the wetland reconnaissance, available information on the site was reviewed including a site map provided by the property owner, the Clatsop County Soil Survey, an aerial photograph, and the National Wetland Inventory (NWI). Field work was conducted by traversing the property on an approximately 40-foot grid, noting the plant communities and hydrologic indicators. Soil samples to a depth of approximately 18 inches were collected by using an auger to verify the presence or absence of hydric soil indicators.

RESULTS

Based on this reconnaissance and review of the NWI, no wetlands are present on the study site. Vegetation in the eastern portion of the property is dominated by Himalayan blackberry (*Rubus discolor* - FACU-) (definitions of indicator status, such as "FACU-", are found in Appendix B) while the western portion is dominated by twin-berry (*Lonicera involucrata* - FAC). Other species present include Sitka spruce (*Picea sitchensis* - FAC), blue elderberry (*Sambucus cerulea* - FAC-), swordfern (*Polystichum munitum* - FACU), bracken fern (*Pteridium aquilinum* - FACU), pig-a-back (*Tolmia menziesii* - FAC), and seawatch (*Angelica lucida* - FAC). In spite of the fact that many of the species present at the site are hydrophytic (wetness adapted), neither the soils nor the hydrologic indicators support the designation of the site as containing wetlands. One small area (approximately 6 feet by 2 feet) had an understory dominated by slough sedge (*Carex obnupta* - OBL). The soil at this location, however, as well as the soil elsewhere on the property, had high chromas (10YR 3/3 and 10 YR 4/3), which are typical of non-wetland soils. No oxidized rhizospheres were observed in the soil in the vicinity of the small slough sedge patch. The soil type is mapped as being of the Walluski series, which are very deep (greater than 60 inches) non-hydric silt loams. No direct or indirect hydrology indicators, such as standing water or high water marks, were observed at the site and no free water was encountered by the soil auger. The soil and hydrology indicators confirm that no wetlands are present at the site.

APPENDIX A

APPENDIX B



General Site Vicinity

FOUND 1" IRON PIPE, TOP 0.5' BELOW SURFACE.
ACCEPTED AS ORIGINAL MONUMENT AT STA
6+15.15, MAP A-229
(S 3796.35) OF SEC. COR. 19 20
(N 975.18)

19 20
30 29

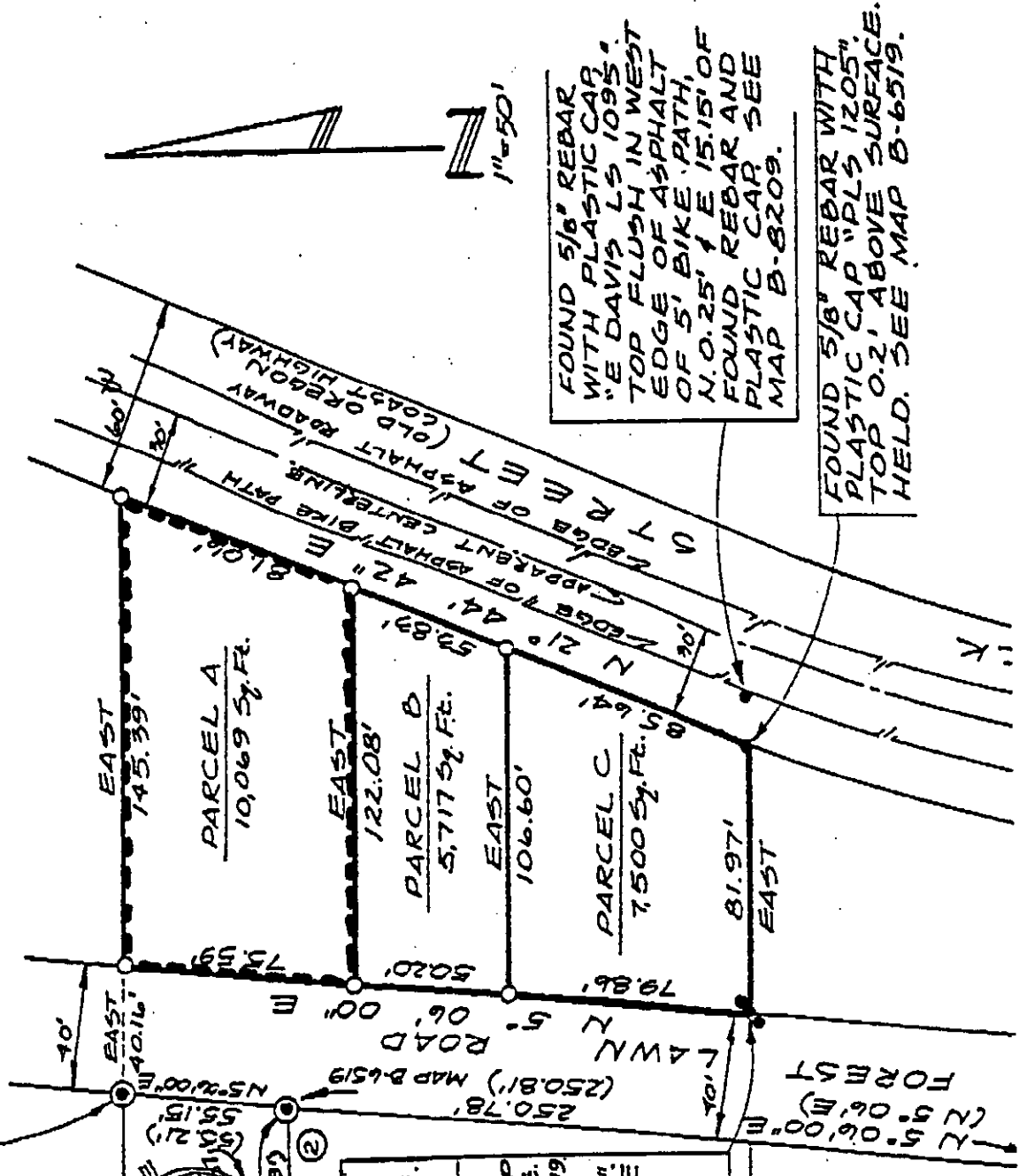
FOUND 1 1/4" IRON
PIPE, TOP 0.7'
BELOW SURFACE
ACCEPTED AS
ORIGINAL
MONUMENT AT
STA. 6+70.36,
MAP A-229.
A-229, 11.15'
A-229, 11.15'

77.74' (17.99)
EAST ②

FOUND 1" GALV.
IRON PIPE, TOP
0.2' ABOVE SURFACE.
SEE MAP A-229

FOUND 5/8" REBAR
W/ CAP "PLS 1205" TOP
0.2' BELOW SURFACE.
HELD. SEE MAP B-6519
FOUND REBAR WITH
CAP "E. DAVIS LS 1095".
N 0.32' E 0.17'. SEE
MAP B-8209.
ALSO FOUND 3/4"
IRON PIPE
3.0.17' E W. 0.19'

(SEE MAP
B-6519)



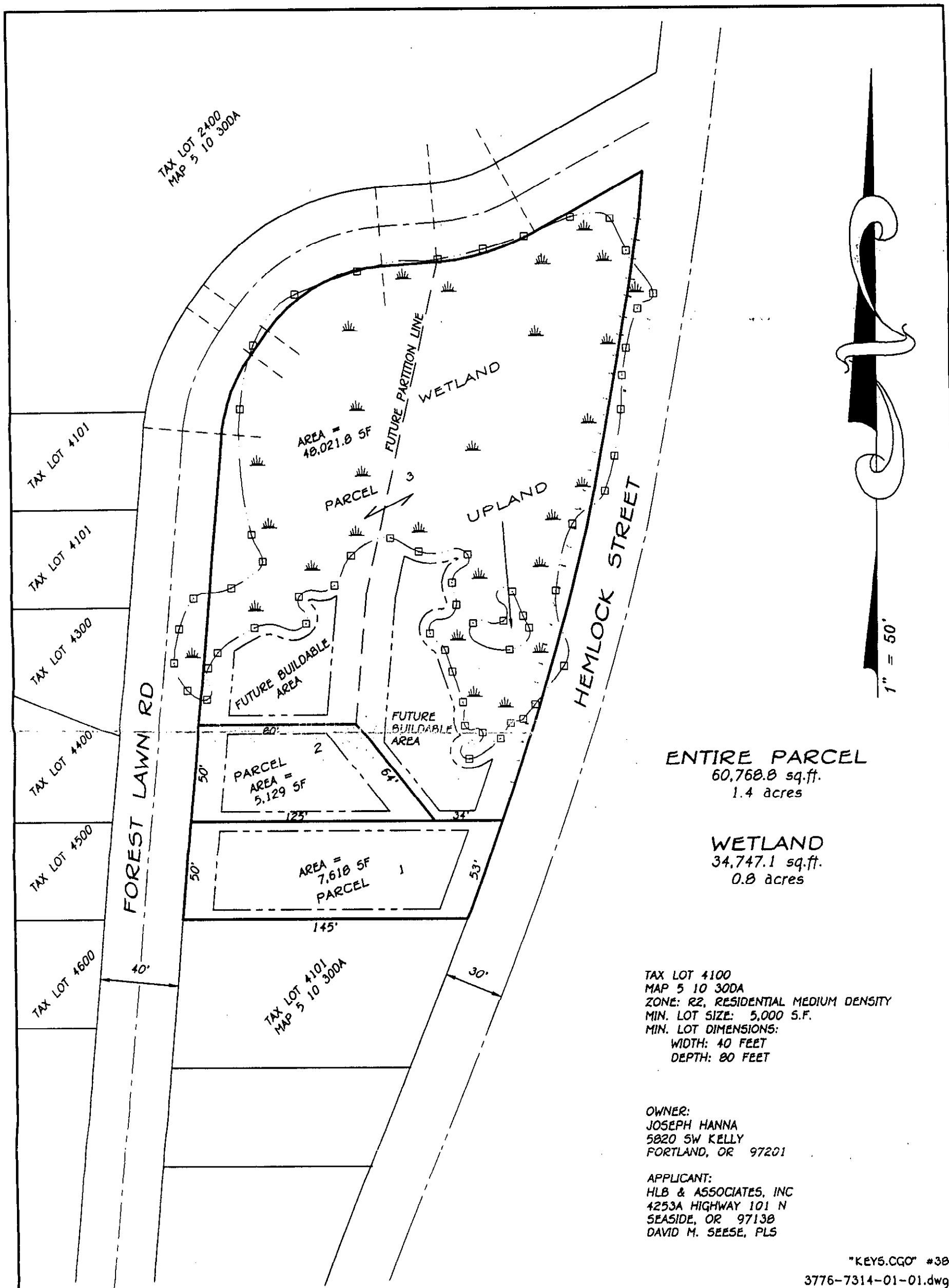
FOUND 5/8" REBAR
WITH PLASTIC CAP
"E DAVIS LS 1095".
TOP FLUSH IN WEST
EDGE OF ASPHALT
OF 5' BIKE PATH,
N. 0.25' E 15.15' OF
FOUND REBAR AND
PLASTIC CAP SEE
MAP B-8209.

FOUND 5/8" REBAR WITH
PLASTIC CAP "PLS 1205".
TOP 0.2' ABOVE SURFACE.
HELD. SEE MAP B-6519.

TABLE 1 DEFINITIONS OF INDICATOR STATUS

Indicator Symbol	Definition
OBL	Obligate. Species that occur almost always (estimated probability >99%) in wetlands under natural conditions.
FACW	Facultative wetland. Species that usually occur in wetlands (estimated probability 67 to 99%), but occasionally are found in nonwetlands.
FAC	Facultative. Species that are equally likely to occur in wetlands or nonwetlands (estimated probability 34 to 66%).
FACU	Facultative upland. Species that usually occur in nonwetlands (estimated probability 67 to 99%), but occasionally are found in wetlands.
UPL	Upland. Species that occur almost always in nonwetlands under normal conditions (estimated probability >99%).
NI	No indicator. Species for which insufficient information was available to determine an indicator status.

Sources: Federal Interagency Committee for Wetland Delineation, 1989.
Reed, 1988.



PRELIMINARY PARTITION MAP FOR:

JOEY HANNA

TAX LOT 4100
MAP 5 10 30DA

SE1/4 SECTION 30, T5N, R10W, W.M.
CLATSOP COUNTY, OR

SURVEY BY:

HLB & Associates
INCORPORATED
Surveying • Engineering • Planning

TILLAMOOK COUNTY
160 LANEDA AVE.
MANZANITA, OR 97130
(503) 368-5394
FAX: (503) 368-5847

CLATSOP COUNTY
4253A HWY 101 N.
GEARHART, OR 97138
(503) 738-3425
FAX: (503) 738-7455

REGISTERED
PROFESSIONAL
LAND SURVEYOR

David M. Seese
OREGON
July 10, 1998
2762
DAVID M. SEESE
RENEWAL DATE: JULY 1, 2000

DATE Nov. 30, 1999	JOB NO. 7314-3776	EQUIPMENT n.d.	FIELD n.d.	DRAWN DM5	CHECKED DNB
-----------------------	----------------------	-------------------	---------------	--------------	----------------

2400
2.39 Ac

(24)

10-08

GOVT LOT 3
30.75

COAST

E

LAWN RD.

4100
1.86 Ac

Wetland

Approximate
upland/wetland
boundary

upland

OREGON

7000
7100
Culvert
13 110.0

1180
890

13 9000

9100
136.58
(52.0 M/L)

ROSS

11500
11600
11700
11800
11900
12000

See

EIV. Line 5.7'

4201
0.66 Ac.

4301
0.07 Ac.

4401
0.65 Ac.

Parcel 1
4200
0.28 Ac

(42)

4300
0.10 Ac

(43)

4400
0.17 Ac.

(44)

4501
0.32 Ac.

4500
0.14 Ac.

(45)

4601
0.35 Ac.

4600
0.15 Ac.

(46)

4701
0.32 Ac.

4700
0.14 Ac.

(47)

FOREST
(POPLAR ST.)

(OLD)

HEMLOCK

CITY

LIMITS

EAST 145.87'

4101
0.23 Ac.

EAST 122.00'

4103
0.13 Ac.

WEST 106.11'

4102
0.17 Ac.

WEST 81.97'



KEY TITLE COMPANY

THIS COPY OF ASSESSOR'S MAP IS
PROVIDED SOLELY TO ASSIST IN LO-
CATING SUBJECT PROPERTY. NO
LIABILITY IS ASSUMED BY KEY F
DISCREPANCIES IN THIS MAP AS OUT-
LINED AND THE ACCOMPANYING
LEGAL DESCRIPTION.

ZONE LINE AS SET
ON OREGON STREET



PACIFIC HABITAT SERVICES, INC

9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

(800) 871-9333 • (503) 570-0800 • Fax (503) 570-0855

September 1, 2021

Patrick/Dave, LLC
Patrick Gemma and Dave Pietka
pgemma@prologis.com
dpietka@msn.com

**In Re: Stormwater influence on southern portion of Tax Lot 4100 on Forest Lawn Drive,
Cannon Beach
PHS project number: 6978**

Dear Patrick and Dave:

In 1999, Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation within tax lot 4100. The attached Figure 5 shows the results of that wetland delineation. We revisited the property in December 2020 to re-delineate the property, which is shown on Figure 6. In general, the location of the wetlands did not significantly change, however, we did observe additional wetlands in the southwest portion of the property.

Wetland delineations need to be updated every five years because it is assumed that hydrologic conditions can change. To underscore this, when we updated the wetland delineation in 2020, it was obvious that stormwater flowing from a downspout attached to a new house to the south of the lot had created additional wetlands within Tax Lot 4100. In addition to the downspout, water is running into the property from a catch basin on Forest Lawn Road, which is also in the southwest corner of the property.

Although we know there is a shallow groundwater table associated with the wetland, its hydrology is being augmented by stormwater runoff flowing from developed areas to south and southwest. This is patently clear when comparing the additional wetland discovered in 2020 and the stormwater runoff from the downspout. It is highly recommended that all stormwater flows from adjacent developed areas be piped around the wetland. In the future, an updated wetland delineation should occur to document any changes to the wetland boundary.

Let me know if you have any questions.

Thanks

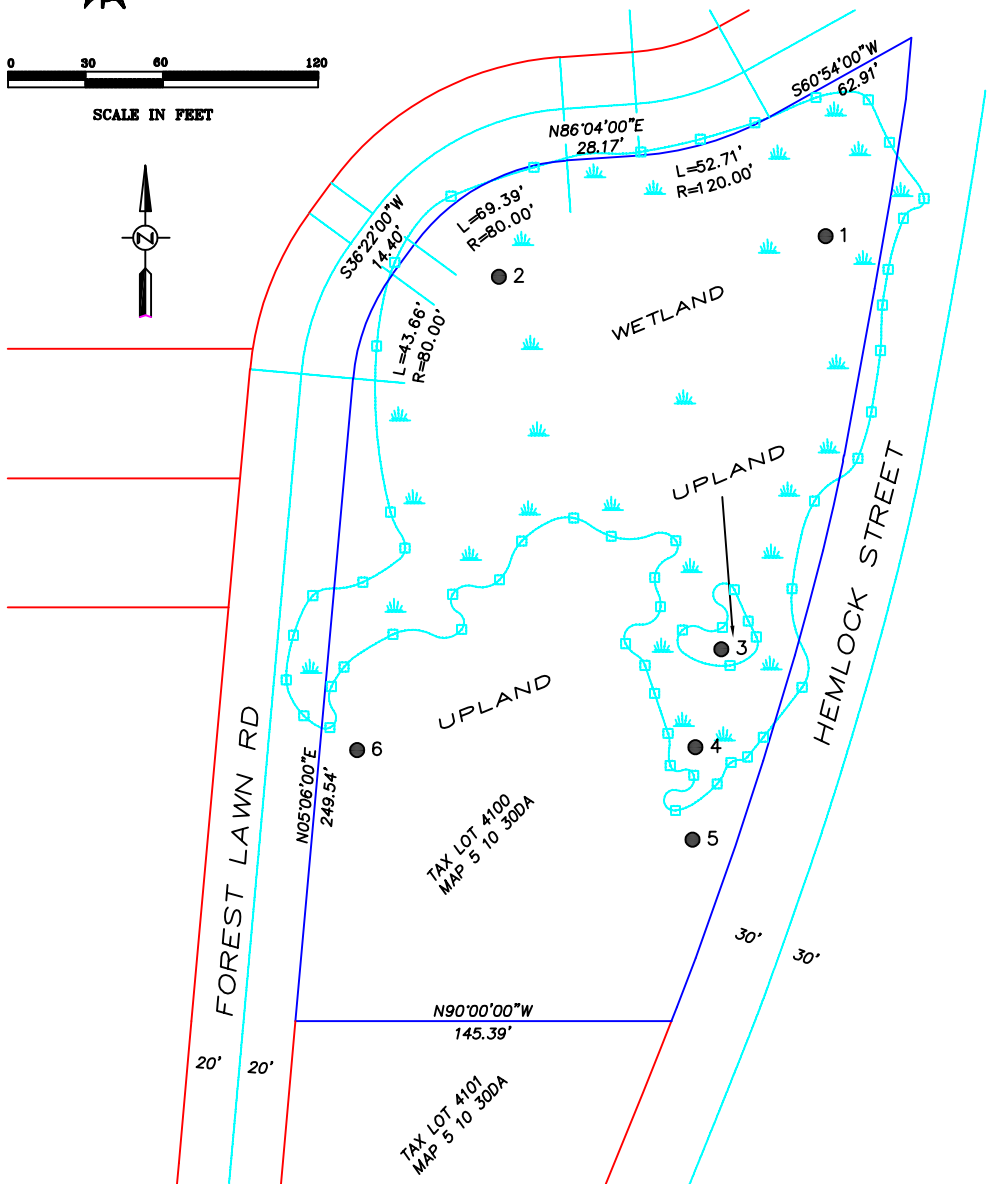
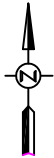
Sincerely,

John van Staveren, SPWS
Project Manager



0 30 60 120

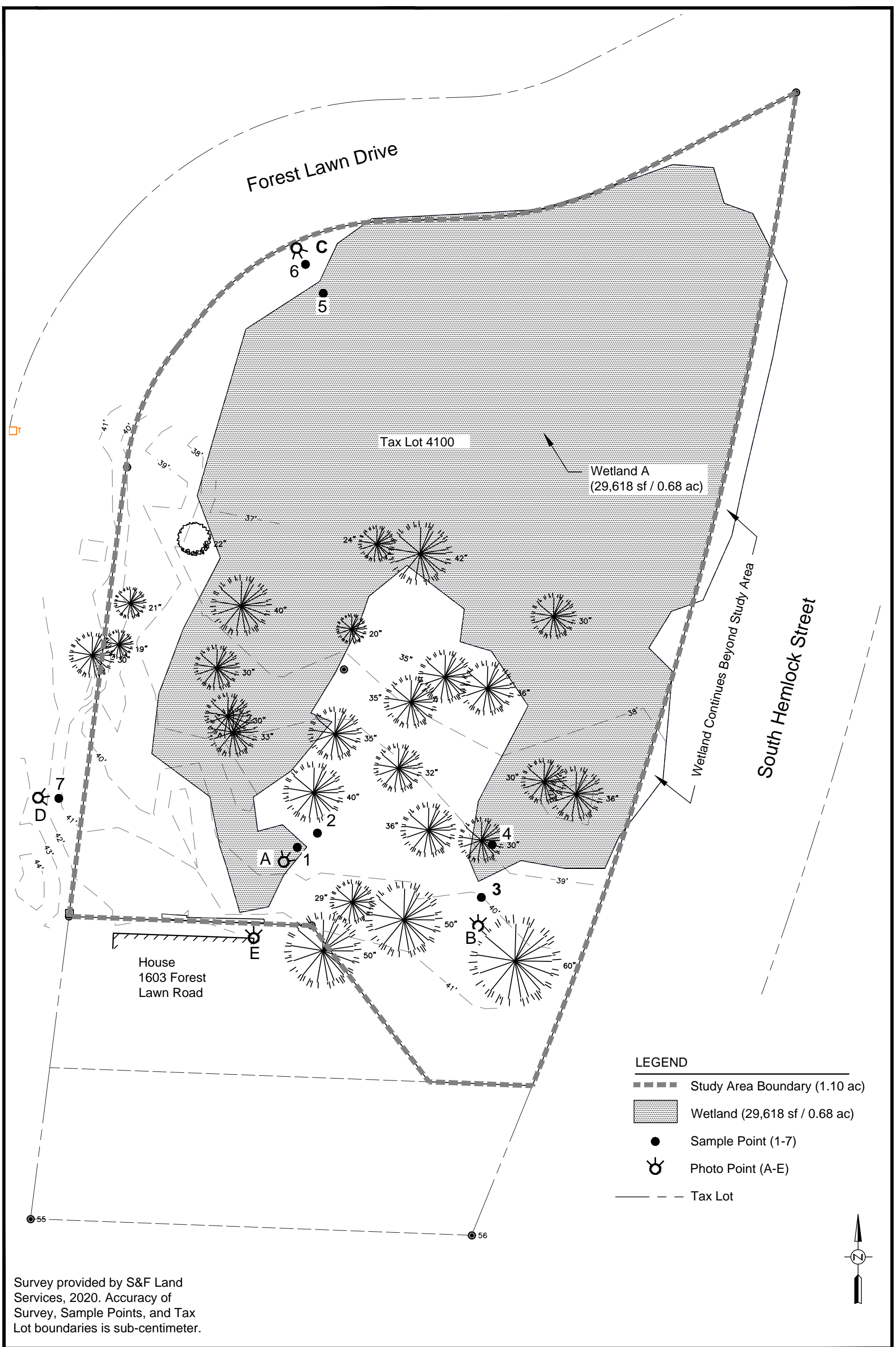
SCALE IN FEET



7/22/99

8-1680

Figure 5: Location of potentially jurisdictional wetlands and sample points for the Forest Lawn Road property in Cannon Beach, Oregon (base map supplied by HLB & Associates).





CITY OF CANNON BEACH

April 29, 2021

Quail Cove, LLC
c/o Rosanne Dorsey
4344 SW Hillside Drive
Portland, OR 97221

Dear Rosanne,

Per Municipal Code 13.16.050 of the City of Cannon Beach, every property owner within City limits is required to control any storm water runoff.

Any person responsible shall maintain nonpublic storm drainage facilities on his or her property so as to prevent flooding or damage to other property not owned or controlled by the person responsible and to prevent injury to any person on property not owned or controlled by the person responsible.

Your property at 1603 Forest Lawn Road appears to have open pipes disposing runoff water onto the neighboring vacant lot to the north. See the enclosed photos for reference. Based on the aforementioned municipal code, you are required to rectify this problem. Please resolve this issue by Thursday, June 3, 2021. Failure to comply with this request may result in a fine.

You have the option to hook up to the City's stormwater system to direct your runoff water away from your property as well as the neighboring properties.

If you have any questions, please feel free to contact me at (503) 436-8068.

Sincerely,

Karen La Bonte
Public Works Director
City of Cannon Beach

enclosure







BEFORE THE CITY OF CANNON BEACH

IN THE MATTER OF A DEVELOPMENT)	
PERMIT FOR A STORMWATER MANAGEMENT)	
SYSTEM AT TAXLOT# 51030DA04104)	
APPROVING THE REQUEST AND ADOPTING)	FINDINGS OF FACT,
FINDINGS)	CONCLUSIONS, AND
		ORDER DP #22-17

ZONE: Residential Medium Density (R2)


APPLICANT: Bob McEwan Construction Inc.
P.O. Box 2845
Gearhart, OR 97138

The above-named applicant applied to the City for review and approval of a development permit for the purpose of installing a stormwater management system servicing 1603 Forest Lawn Rd., Taxlot 51030DA04104.

The project area is adjacent to a delineated wetland, however the submitted plans indicate that work will take place outside of the wetland or its buffer area. The City of Cannon Beach orders that this request for approval of a development permit is granted subject to conditions, and adopts the findings of fact, conclusions and conditions contained in attachment A.

This decision may be appealed to the Planning Commission by an affected party by filing an appeal with the City within fourteen days of this date.

DATED: November 29, 2022



Robert St. Clair
Planner



EXHIBIT "A"

FINDINGS OF FACT

1603 FOREST LAWN RD. STORMWATER MANAGEMENT SYSTEM – DP#22-17

PROPERTY DESCRIPTION:	Taxlot# 51030DA04104
PROPERTY LOCATION:	1603 Forest Lawn Rd.
APPLICANT:	Bob McEwan Construction Inc.
PROPERTY OWNER:	Quails Cove LLC
ACTION:	Approved

BACKGROUND

The approved project is the installation of approximately 100 linear feet of subsurface stormwater distribution piping and its connection to the City of Cannon Beach's stormwater management system. The purpose of this project is to resolve identified stormwater management issues at the subject property and prevent unpermitted discharge onto adjacent properties. No material will be removed as a result of this project and any displaced soils will be used to cover newly installed piping.

APPLICABLE CRITERIA

The following sections of the Cannon Beach Municipal Code are applicable to this application:

- 17.43.045 – Uses and Activities Permitted Outright in Wetland Buffer Areas
- 17.63.030 – Grading and Erosion Control Permit
- 17.92.010 – Development Permit
- 17.88.110 – Decision

FINDINGS

- (1) Section 17.43.030(C) states that underground or above ground utilities are an activity permitted outright in wetlands. The stormwater management system at 1603 Forest Lawn Rd. meets the definition of an underground utility. Based on the best available information provided in the Pacific Habitat Service's recent wetland study, dated March 19, 2021, for the adjacent property to the north, this project is not within a delineated wetland or wetland buffer area.

17.43.035 Uses and Activities Permitted Outright in Wetland Buffer Areas

The following uses and activities may be permitted in wetland buffer areas of the WO zone, subject to the issuance of a development permit in accordance with Section 17.92.010, and subject to applicable standards, if permitted outright in the base zone.

C. Underground or above-ground utilities.



- (2) Section 17.62.030(A)(1)(a) states that a development permit is required for any amount of clearing, grading, filling within one hundred feet of a stream, watercourse, or wetland. Based on a wetland delineation prepared for Taxlot 51030DA04100, immediately to the north of the subject property, this project will be within 100 feet of a wetland and its buffer area.

17.62.030 Grading and Erosion Control Permit

A. Development Permit Required.

- 1. Persons proposing to clear, grade, excavate or fill land (regulated activities) shall obtain a development permit as prescribed by this chapter unless exempted by Section 17.62.040. A development permit is required where:*
 - a. The proposed clearing, grading, filling, or excavation is located within one hundred feet of a stream, watercourse or wetland.*

- (3) Section 17.92.010.C.2 defines the administrative review procedure for Type 2 Development Permits.

- 1. Administrative review of Type 2 development permits shall follow the following procedure:*
 - a. The development permit application shall be reviewed by planning department against the applicable standards contained in this title and the application shall either be approved, approved with conditions, or denied.*
 - b. A decision shall be made within twenty days of the receipt of a complete application.*
 - c. The decision of the planning department shall be by signed written order. The order shall comply with Section 17.88.110(B). The written order is the final decision on the matter and the date of the order is the date that it is signed. The order becomes effective on the expiration of the appeal period, unless an appeal has been filed.*
 - d. The applicant shall be notified of the decision in accordance with the provisions of Section 17.88.130. Property owners within one hundred feet of the exterior boundary of the subject property shall likewise be notified.*
 - e. A decision on the development permit may be appealed to the planning commission in accordance with Section 17.88.140.*

- (4) Section 17.88.110 defines the decision making process for land use applications.

Following the procedure described in Section 17.88.060, the hearing body shall approve, approve with conditions or deny the application or if the hearing is in the nature of an appeal, affirm, affirm with modifications or additional conditions, reverse or remand the decision that is on appeal.

- A. The decision of the hearing body shall be by a written order signed by the chair or designee.*



B. The order shall incorporate finding of facts and conclusions that include:

- 1. A statement of the applicable criteria and standards against which the proposal was tested;*
- 2. A statement of the facts which the hearing body relied upon in establishing compliance or noncompliance with each applicable criteria or standards and briefly state how those facts support the decision;*
- 3. In the case of a denial, it shall be sufficient to address only those criteria upon which the applicant failed to carry the burden of proof or, when appropriate, the facts in the record that support denial.*

C. The written order is the final decision on the matter and the date of the order is the date that it is signed. The order becomes effective on the expiration of the appeal period, unless an appeal has been filed. (Ord. 90-10 § 1 (Appx. A § 64); Ord. 89-3 § 1; Ord. 79-4 § 1 (10.070))

CONCLUSIONS

The Community Development Department has reviewed the application and determined that it meets the applicable criteria, upon the following conditions:

CONDITIONS

1. Work shall be restricted to upland portions of the subject property and not take place within the delineated wetland on Taxlot 4100 or its buffer area;
2. A site plan of the erosion control measures shall be approved by the Public Works Director prior to ground disturbance;
3. Any tree removal applications or any tree protection zone fencing which may be required shall be approved and established prior to ground disturbance;
4. Work shall be completed prior to January 1, 2023, where possible, and any ground disturbance of exposed surfaces during the wet season (November 1 through April 30) should be temporarily planted with grasses, or protected with erosion control blankets, hydro-mulch, or hand broadcast straw a minimum of 3 inches thick and punched into the soil;
5. The use of motorized equipment shall be limited to the hours of 7:00am and 7:00pm per Municipal Code Section 8.16.



Site Map



**DEVELOPMENT AGREEMENT
CITY OF CANNON BEACH, OREGON**

This Development Agreement (the "Agreement") is made and entered into this the 29 day of November, 2022 by and between the **CITY OF CANNON BEACH, OREGON**, a municipal corporation of the State of Oregon (the "City") and Patrick Davis, LLC ("Developer" and together "Parties").

WITNESSETH:

WHEREAS, Developer is seeking to develop property located at the unaddressed, Taxlot# 51030DA04100;

WHEREAS, Developer's property is located adjacent to property owned by Roseanne Dorsey, at 1603 Forest Lawn Rd. (Taxlot# 51030DA04104);

WHEREAS, Dorsey has applied for a development permit to connect to the City's drainage system;

WHEREAS, Developer is concerned that Dorsey's connection will not address a stormwater drainage issue existing between Developer and Dorsey;

WHEREAS, Developer and City believe the stormwater drainage issue could be addressed by extending a 100-foot drainage line to a different outfall location;

WHEREAS, Developer has agreed to bear the cost of constructing the new drainage line and then dedicate the new infrastructure to the City;

WHEREAS, Developer will construct and install infrastructure as described in Exhibit "A" and depicted in Exhibit "B," attached hereto and incorporated herein by reference (hereinafter referred to as the "Development");

WHEREAS, the City desires that Developer construct the Development in conformance with all applicable laws and regulations;

WHEREAS, upon completion and final inspection, Developer will dedicate the Development to the City.

NOW THEREFORE, for and in consideration of the mutual covenants contained herein, the parties agree as follows:

1. DEVELOPMENT BONDS. Developer shall provide to the City development bonds as required by the City. In the event that the City is required to invoke any of said bonds due to the failure of the Developer to comply with the terms contained therein, the Developer agrees to reimburse the City for all costs, including but not limited to court costs and attorneys fees, that the City may incur in procuring performance of the obligations required by any such bond.

2. INSTALLATION OF DEVELOPMENT. Developer shall construct and maintain the Development in conformance with all applicable federal and state laws and with all applicable City regulations, including but not limited to the Cannon Beach Municipal Code in force as of the date of said approval.

3. TIMING. Construction shall commence upon execution and be complete by January 1, 2023.

4. INSPECTION AND DEDICATION. Once the Development is complete, the City's Public Works Department shall conduct a final inspection and ensure the Development complies with all applicable regulations.

5. OUTFALL LOCATION. Parties will mutually agree on the location of the northern outfall and, as a result, both Parties are released from any liability regarding the location and impact of the outfall. After construction and dedication to the City, if the Developer is not satisfied with the location of northern outfall, the Developer may request a Development Permit for any future extensions. Developer would be responsible for any future costs associated with these changes.

6. OTHER TERMS AND CONDITIONS

- A. Effective Date. This Agreement is effective on the last date signed by the Parties below.
- B. Recitals: The recitals of and exhibits to this Agreement are material terms of the Agreement and are binding upon the Parties.
- C. Indemnification: Developer shall indemnify and hold the City harmless from and against any and all losses, costs, damages, expenses, or claims (including, without limitation, any and all reasonable attorneys' fees and expenses of litigation actually incurred) arising from or out of Developer's: 1) construction or maintenance of the Development or any portion thereof; 2) failure to construct or maintain the Development or any portion thereof; or 3) improper construction or maintenance of the Development or any portion thereof.
- D. Default: A party shall be deemed to be in default if it fails to comply with any provisions of this Agreement. Any party shall provide any other party with written notice of default and allow thirty (30) days within which to cure the defect.
- E. Modification of Agreement: No waiver, consent, modification or change of terms of this Agreement shall be binding unless in writing and signed by all Parties.
- F. Disputes: The Parties shall attempt to informally resolve any dispute concerning any Party's performance or decisions under this Agreement, or regarding the terms, conditions or meaning of this Agreement. The Parties agree that in the event of an impasse in the resolution of any dispute, a neutral third party may be used to facilitate these negotiations if the Parties agree.
- G. Applicable Law, Remedies, Personal Jurisdiction: This Agreement is subject to and shall be construed under the laws of the State of Oregon. Any Party may institute legal action to cure, correct or remedy any default, to specifically enforce any covenant or agreement herein, or to enjoin any threatened or attempted violation of this Agreement. All legal actions shall be

initiated in Clatsop County Circuit Court. The Parties, by signature of their authorized representatives below, consent to the personal jurisdiction of that court.

- H. **Excused Performance:** In addition to the specific provisions of this Agreement, performance by any Party shall not be in default where delay or default is due to a pandemic, war, insurrection, strikes, walkouts, riots, floods, drought, earthquakes, fires, casualties, acts of God, governmental restrictions imposed or mandated by governmental entities other than the Parties, enactment of conflicting state or federal laws or regulations, new or supplementary environmental regulation, litigation or similar bases for excused performance that are not within the reasonable control of the Party to be excused.
- I. **Severability:** If any one or more of the provisions contained in this Agreement is determined to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of the Agreement will not be affected or impaired in any way.
- J. **Integration:** This Agreement, Exhibit A and Exhibit B constitute the entire agreement of the Parties on the subject and supersede any prior discussions or agreements regarding the same subject.
- K. **Notice:** Any notice required or permitted under this Agreement shall be addressed and given in writing as follows: (i) by first Class U.S. Mail and shall be effective when actually delivered in person or 72 hours after having been deposited in the United States mail, whichever occurs first; (ii) by personal delivery, which shall be effective on the date of delivery; (iii) by email (including by .pdf attachment) if successful delivery is confirmed by electronic delivery receipt provided that the addressee acknowledges in writing (including by return email) that the addressee has received the emailed notice, which shall be effective on the date of electronic delivery receipt; or (iv) by FedEx and similar reputable overnight delivery service, which shall be effective on delivery.
- L. **Nonwaiver:** Failure by either party at any time to require performance by the other party of any of the provisions hereof shall in no way affect the party's rights hereunder to enforce the same, nor shall any waiver by the party of the breach hereof be held to be a waiver of any succeeding breach or a waiver of this no waiver clause.
- M. **Counterparts:** This Agreement may be executed in any number of counterparts and by different parties hereto on separate counterparts, and each counterpart, when so executed and delivered, shall be deemed to be an original and all of the counterparts, taken together, shall constitute but one and the same agreement. A party's properly executed and authorized signature may be given in .pdf format and transmitted by email and upon receipt by the other party shall constitute an original signature.
- N. **Authority:** Each of the parties and signatories to this Agreement represents and warrants that each has the full right, power, legal capacity and authority to enter into and perform the parties' respective obligations hereunder and that no other approval or consents of any other persons are necessary in connection therewith.

- O. Legal Compliance: Nothing contained herein shall be construed to require the commission of any act contrary to law, and wherever there is any conflict between any provisions contained herein and any present or future statute, law, ordinance, or regulation contrary to which the parties have no legal right to contract, the latter shall prevail. Any provision of this Agreement that is contrary to law or is affected by a change in the law shall be severed or limited only to the extent necessary to bring the remainder of the Agreement within the requirements of the law.
- P. Modification;: This Agreement may be modified, amended or terminated only with the written consent of all of the Parties, which consent shall not be unreasonably withheld.

Q. IN WITNESS WHEREOF, the parties have hereunto executed this Agreement as of the date first above written.

DEVELOPER

CITY OF CANNON BEACH,

Acting by and through its Director of the
Department of Public Works

By David Pieth
Its manager of
Patrick Dev. LLC

[Signature]

Attest: Brett S. Carson
Printed Name: Brett S. Carson
Title: Attorney

STATE OF OREGON
COUNTY OF CLATSOP

Signed and sworn to (or affirmed) before me on

this 19th day of December, 2022

by Bruce St. Denis

Valerie D. Mannix
Signature of Notary Public - State of Oregon

[CORPORATE SEAL]

(00825325; 1)

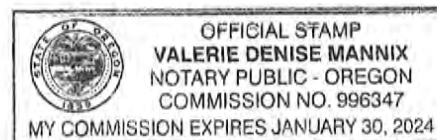


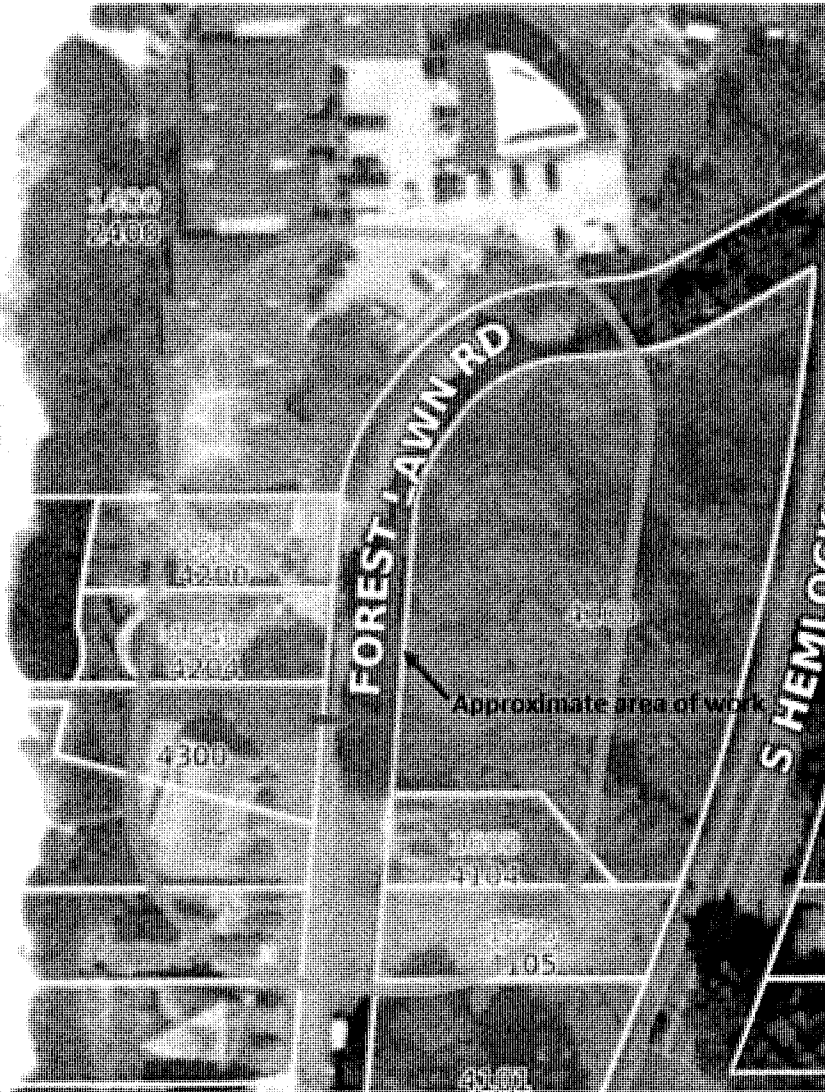
Exhibit A:

1. The Developer will provide approximately 100' of storm water infrastructure from the southern connection point near Taxlot# 51030DA04105, 1625 Forest Lawn Rd., to the northern outfall along the Forest Lawn right-of-way, (as detailed in Exhibit B), upon agreement of the Developer and Director of Public Work's specified location.
2. The Developer will pay for all improvements.

{00825325; 1 }

Exhibit B:

Forest Lawn Right-of-Way



After recording, return to:
City of Cannon Beach
Attn: City Recorder
163 E. Gower Street
Cannon Beach, Oregon 97110

PUBLIC UTILITY TEMPORARY CONSTRUCTION EASEMENT

The City of Cannon Beach ("Grantor"), for good and fair consideration the receipt of which is hereby acknowledged, does hereby grant Patrick Dowe LLC ("Grantee"), a **non-exclusive public utility temporary construction easement** ("Temporary Construction Easement Area") over, across and through the real property depicted in EXHIBIT A ("Easement Area") for the purpose of installing, public storm drainage facilities.

The parties further agree as follows:

1. Consideration. The true and actual consideration paid for easement consists of the mutual rights and obligations set forth herein.
2. Temporary Construction Easement. Grantor does hereby grant unto Grantee a temporary construction easement for the construction of the stormwater drainage facilities over, under, and across the area designated for the temporary construction easement, depicted in EXHIBIT A ("Temporary Construction Easement Area") The purpose of the Temporary Construction Easement is to facilitate the construction of the stormwater drainage facility described herein. This Temporary Construction Easement will expire on January 1, 2025. Upon the expiration of the Temporary Construction Easement, the Grantee will no longer be allowed or granted the right to use the Temporary Construction Easement Area for the purposes of construction of stormwater infrastructure.
3. Temporary Easement Condition. Within thirty days of the issuance of any Development Permit for the Temporary Construction Easement, Grantee shall return the Temporary Construction Easement Area to as good a condition as it was prior to the activities (i.e. repair/replace soil disturbance and/or vegetation; removal of construction debris, rocks/gravel and other materials; etc.) with all damage resulting from or arising out of said use to be repaired by Grantee at Grantee's cost.
4. Liability and Indemnity. Grantee shall indemnify, defend, and hold harmless Grantor against all claims, losses and litigation expenses resulting from property damage and/or personal injuries that occur or are alleged to occur as a result of the use and or maintenance of the Temporary Construction Easement Area by Grantee, its contractors, agents or employees. As used in this

section: the word "losses" means any liability, loss, claim, settlement payment, cost and expense, interest, award, judgment, damages (including punitive damages), diminution in value, fines, fees, and penalties or other charge other than a litigation expense; the term "litigation expenses" means any court filing fee, court cost, arbitration fee or cost, witness fee, and each other fee and cost of investigating and defending or asserting any claim of violation or for indemnification under this Easement including in each case, attorneys' fees, other professionals' fees, and disbursements.

5. Compliance with Laws. In utilizing the Temporary Construction Easement Area, Grantor and Grantee both agree to comply with any applicable State, local, or Federal laws or regulations for public health or safety, construction or environmental protection.

6. Grantor's Representations. Grantor represents and warrants that to the best of its knowledge, Grantor owns the entire fee simple interest in the Property and has the full power and lawful authority to grant this Temporary Construction Easement.

7. Entire Agreement. This Easement is the final and complete agreement between the parties concerning the rights granted herein, and supersedes all prior understandings with respect to it. Except as otherwise set forth in this Temporary Construction Easement, this Temporary Construction Easement may not be modified or terminated, nor may any obligations under it be waived, except by written instrument signed by all parties to the Temporary Construction Easement.

8. Further Cooperation. Each party agrees to execute such other documents and to perform such other acts as may be reasonably necessary or desirable to further the expressed and intent purpose of this Temporary Construction Easement.

IN WITNESS WHEREOF, the parties have executed this easement, this 27 day of November, 2022.

GRANTOR:

City of Cannon Beach

By:

BRUCE ST. DENIS

Title:

CITY MGR

Date:

12/19/22

GRANTEE:

Patrick Davis LLC

By:

David Seith

Title:

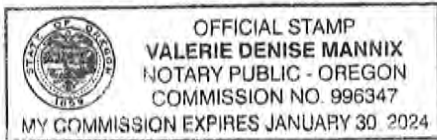
Manager

Date:

11/29/22

STATE OF OREGON
County of Clatsop

This instrument was acknowledged before me on December 19 ²⁰²²~~2020~~, by
Bruce St-Denis as city manager of the City of Cannon Beach, an Oregon
municipal corporation.



Valerie D Mann
Notary Public for Oregon

STATE OF OREGON
County of Clatsop

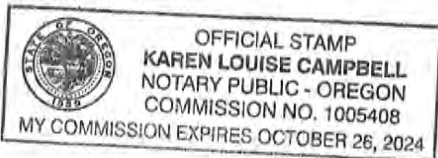
This instrument was acknowledged before me on November 27 2020, by
David Pietka as Manager of Patrick Dorey, a(n) Oregon
Limited Liability Company

Notary Public for Oregon

Karen Campbell

{00824994; 1 }

Page 3 of 4



This is an aerial map of a residential area in Portland, Oregon. The map shows several streets and lots. The main street running vertically is Forest Lawn Rd. To the right of Forest Lawn Rd is S Hemlock Street. The map includes several lots with owner names and acreage. The lots are numbered 1 through 10. The owners and their acreage are: Lot 1: Patricia Gave, 1.12, 40.50; Lot 2: 1.28, 4.05; Lot 3: 1.00, 4.00; Lot 4: 1.00, 4.00; Lot 5: 1.00, 4.00; Lot 6: 1.00, 4.00; Lot 7: 1.00, 4.00; Lot 8: 1.00, 4.00; Lot 9: 1.00, 4.00; Lot 10: 1.00, 4.00.

February 16, 2023
File No. 04223011.00

MEMORANDUM

TO: Jeffrey Adams, City of Cannon Beach

FROM: Jonathan Archibald, P.E.
Project Director

Shane Latimer, PhD
VP/Senior Environmental Planner

SUBJECT: Forest Lawn Road – Potential for Stormwater Impacts

The purpose of this memorandum is to discuss potential impacts and solutions of development along Forest Lawn Road. In particular, the Planning Commission has requested an investigation of the impact of extending a storm sewer line north along Forest Lawn Road and whether such an extension would increase the risk of flooding in the area.

Project Understanding

SCS has been asked to address the particular issue of potential flooding associated with routing stormwater to the north along Forest Lawn Road via an approximate 140-foot underground pipe to a yet-to-be determined point that would discharge indirectly to the wetland east of Forest Lawn Road.

This project is associated with development of Tax Lot 51030DA04100 (Subject Property) in an area south of and generally adjacent to the aforementioned wetland, as well as other adjacent properties that could contribute stormwater run-on to both the Subject Property and other properties. We have used the attached figure as reference: Preliminary Forest Lawn Partition Plat (S&F Land Services; May 13, 2022).

Opinion

When dealing with potential stormwater impacts, one generally needs to consider three hydraulic elements: volume (gallons), peak flow¹ (cubic feet per second), and water quality. Each of these have associated considerations.

¹ Peak Flow: Storms exhibit peak flows, which is a relatively short portion of time during a storm when the vast majority of water moves through the system, usually at a much higher rate than the average flow.



Local flooding (Volume and Peak Flow)

Concentrating stormwater from a given area into a pipe will tend to increase potential for temporary flooding, particularly during peak flows, in proximity to the discharge point. Temporary flooding of inlet areas may also occur during larger storms if inlets or piping are too small to accommodate peak flows.

It is likely that the wetland is large enough to accommodate the volume of water shed from the Subject Property, since that same volume would be shed to the wetland, regardless. Flow control, i.e., attenuation of higher velocity peak flows, might still be an issue, as high flows may cause localized erosion or related problems without proper armoring or other mitigation at inlets and outlets.

Water Quality

We understand that discharge from the aforementioned pipe would be to uplands adjacent to wetlands that are likely jurisdictional and subject to both state and federal regulation. Discharges of untreated stormwater to jurisdictional wetlands and wetland buffers may constitute a wetland fill depending on the specifics of the discharge. For instance, if suspended solids carried by stormwater build up and detrimentally effect the wetland, this may be considered a wetland fill by state and federal agencies. However, untreated stormwater discharges to wetlands via uplands is currently not generally regulated by state or federal authorities and constitutes a “gap” in regulation. Recent court rulings indicate that this gap may be closed in time, but not necessarily in the foreseeable future. Regardless, we recommend that our clients plan accordingly. Best management practices for addressing this problem in municipal storm systems will likely include using pretreatment devices prior to discharge, such as hydrodynamic separators, filter systems, settlement vaults, or combinations, thereof. Other administrative controls would include requiring *in situ* treatment (see below) at source properties (residential or commercial) such as water gardens, vegetated infiltration planters, and similar Low Impact Development (LID) type structures.

Discharge of untreated stormwater may also constitute a violation of the Clean Water Act and require some form of National Pollutant Discharge Elimination System (NPDES) permitting, although this is generally considered to be covered via local code promulgated from state and federal guidance.

Lastly, direct discharges to wetlands may require a Conditional Use Permit (CUP) per Cannon Beach Municipal Code 17.43.040 and 17.43.045. Our understanding is that this requirement will not apply to the proposed outfall/discharge.

Recommendations

In situations such as this, we generally recommend that stormwater controls be implemented at the source properties using private, “*in situ*” facilities to control and/or treat stormwater runoff, regardless of whether this stormwater may eventually reach a municipal stormwater system. Such facilities are now in common use (required by many jurisdictions) because they are cost-effective, do not incur permanent public infrastructure maintenance costs, eliminate peak flows, treat discharge, and may allow for infiltration, e.g., back to adjacent wetlands. Such facilities may include above-ground LID-type structures (ornamental planters, water features, etc., as stated above) or below-ground dry wells.



SCHOTT & ASSOCIATES

Ecologists & Wetlands Specialists

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

February 16, 2023

Jeffrey Adams
City of Cannon Beach
PO Box 368
Cannon Beach, OR 97110
503-436-8040
adams@ci.cannon-beach.or.us

Re: Wetland functional assessment for 1603 Forest Lawn Road, Cannon Beach, Clatsop County, OR (T5N, R10W, Section 30DA, tax lot 4100)

Dear Mr. Adams,

Schott & Associates (S&A) was contracted to provide wetland functional assessment for the above-referenced subject site. The purpose of the assessment was to estimate the nature and extent of impacts that the proposed stormwater management project will have to the onsite wetland (Wetland A) as delineated by Pacific habitat Services (WD#2021-0153) in 2020. The project is intended to service the residence to the south of the site (1603 Forest Lawn Road) and will re-route roof runoff from the residence into the municipal stormwater system. Currently, the residence discharges runoff directly into the wetland. No grading or disturbance within the wetland is proposed.

Methods

Wetland functional assessment was conducted according to the Oregon Rapid Wetland Assessment Protocol (Adamus, P., K. Verble, and L. McCallister. 2020. *Oregon Rapid Wetland Assessment Protocol (ORWAP, revised): Version 3.2 Calculator spreadsheet, databases, and data forms.* Oregon Dept. of State Lands, Salem, OR.). ORWAP is a standardized protocol for assessing wetland functions and values in the state of Oregon and is designed to be used for multiple purposes by multiple agencies. It is often used for assessing wetland impacts and determining appropriate mitigation for permitting purposes. ORWAP scores a wetland relative to other wetlands within Oregon and so utilizes ratings of 'higher', 'moderate', and 'lower'. The protocol assesses both ecological functions of wetlands as well as values, or the opportunities for a wetland to provide a particular function. The values are based on the wetland's location in the watershed and the nature and conditions of its surroundings, as well as the local significance of that function. Wetland services are the combinations of functions and the values of the functions, thus for optimal service, both the functions and values of a wetland should be high. In cases where value is rated lower, the ability of the wetland to provide that function is less important. The assessment evaluates twelve specific functions and values grouped into five service groups: 1) Hydrologic Function; 2) Water Quality Support; 3) Fish Habitat; 4) Aquatic Habitat; 5) Ecosystem support. The ORWAP manual including background and purpose, application, and rationale can be accessed at https://www.oregon.gov/dsl/WW/Documents/ORWAP_3_1_Manual_Nov_2016.pdf.

S&A reviewed existing data and information including a recent wetland delineation report (WD2021-0153), aerial imagery, topographic maps, 2021 runoff analysis conducted by Morgan Civil Engineering, and other available information to complete the functional assessment of the wetland as it currently exists and its predicted state post-project. In addition, S&A contacted the Department of State Lands Senior Aquatic

Resource Coordinator for Clatsop County, Dan Cary, via email for input on potential indirect wetland impacts due to the proposed project from a state regulatory standpoint.

S&A did not attempt to quantify or analyze the change in stormwater inputs that may be caused by the proposed project. Instead, S&A provided an estimate of any changes in overall functions and values of the wetland resulting from the project and an evaluation of implications from a state wetland regulatory standpoint.

Results

Existing conditions

According to WD2021-0153, Wetland A is a 0.68-acre seasonally saturated, palustrine forested/scrub-shrub (PSSE/PFOE) wetland. It is vegetated by Sitka spruce (*Picea sitchensis*, FAC), red alder (*Alnus rubra*, FAC), Hooker's willow (*Salix hookeriana*, FACW), four-line honeysuckle (*Lonicera involucrata*, FAC), Himalayan blackberry (*Rubus armeniacus*, FAC), tall fescue (*Schedonorus arundinaceus*, FAC), Western lady fern (*Athyrium cyclosorum*, FAC), field horsetail (*Equisetum arvense*, FAC), slough sedge (*Carex obnupta*, OBL), and water parsley (*Oenanthe sarmentosa*, OBL).

Wetland hydrology was attributed to a combination of groundwater discharge, precipitation, and stormwater runoff from surrounding areas. According to the delineation report, as well as drainage calculations provided by Morgan Civil Engineer, Inc. in a report dated August 26, 2021, stormwater runoff inputs into the wetland include the following sources:

- Direct runoff from the roof at 1603 Forest Lawn Road (1,600 sq. ft.)
- Indirect runoff from the Forest Lawn Road drainage area (36,700 sq. ft.)
- Indirect runoff from the adjacent portion of Hemlock Street (9,000 sq. ft.)

Wetland hydrology indicators observed during delineation fieldwork, which occurred in December during a water year of normal-to-slightly elevated precipitation, included high-water table and soil saturation. No indicators of recent or seasonal flowing or ponding surface water were noted, such as water marks, drift deposits, drainage patterns, water-stained leaves, erosion/scour, or sediment deposition. The lack of surface water indicators suggest that surface water is not present within the wetland during typical seasonal precipitation conditions.

In addition to hydrological inputs from the above-described sources, delineation of the wetland's "runoff contribution area" (RCA), which is the drainage or catchment area upslope of the wetland that contributes either surface runoff or shallow subsurface seepage according to ORWAP, results in a relatively large 29-acre RCA as shown in the attached project site map.

Functional Assessment

The results of functional assessment for Wetland A including both existing conditions and estimated post-project conditions are discussed below by service group. Ratings for each function and value are summarized in Tables 1 and 2. Data forms, ORWAP report, and project site map are attached to this letter.

Hydrologic Function

Pre-project hydrologic function, as represented by water storage and delay function, was rated 'higher' based on the lack of seasonally or permanently ponded water (and thus the potential to detain additional runoff), lack of surface water outflow, low surface gradient, low cover of bare substrate, and intermediate microtopography. Value was rated 'lower' as the HUC12 that the wetland is in does not have a water storage deficit, there is no nearby nontidal river which would contribute flooding, the wetland's RCA is mostly vegetated, the wetland is relatively small in size compared to its RCA, and it is located in the lower third of its watershed. However, if

analyzed in a more local setting, and based on the considerable quantity of stormwater runoff that is directed into the wetland from the surrounding area according to the runoff calculations provided by Morgan Civil Engineering, this value could arguably be presented as locally 'moderate'.

The proposed project is not anticipated to affect wetland attributes related to hydrologic function or value. While the reduction of the amount of direct stormwater runoff discharging into the wetland may somewhat diminish its "opportunity" to provide the function of water storage and delay locally, it will continue to receive indirect stormwater inputs from the significantly larger Forest Lawn Road and Hemlock Street drainage areas (1,600 sq. ft. of runoff area from 1603 Forest Lawn Road versus 45,700 sq. ft. of runoff area from the adjacent roadways), as well as the 29-acre RCA delineated according to ORWAP. As indicated by ORWAP, this function and value are anticipated to remain unchanged.

Water Quality Support

Pre-project water quality support function, as represented by sediment retention and stabilization function, was rated 'higher' based on the wetland's lack of an outlet, high potential water storage, low gradient, presence of tall, dense vegetation to trap sediment and protect soil from erosion, and intermediate microtopography. The value was also rated as 'higher' based on its location in the lower third of its watershed, development within its RCA, and a severe erosion hazard rating of upslope soils.

As indicated by ORWAP, the proposed project is not anticipated to affect wetland attributes related to water quality support function or value.

Fish Habitat

Pre-project fish habitat function and value, as represented by anadromous fish habitat function, were both rated lower due to the lack of fish access to wetlands and the lack of water quantity or duration necessary to support fish.

The proposed project is not anticipated to affect wetland attributes related to fish habitat function or value.

Aquatic Habitat

Pre-project aquatic habitat function, as represented waterbird nesting habitat function, was rated 'moderate' due to moderate proximity to large patches of perennial cover, stable water levels, low gradient, and little human disturbance, but lack of surrounding herbaceous openland, little connectivity to other wetlands, and lack of herbaceous vegetation or ponded water. The value was also rated 'moderate' based on the intermediate rating of the region for Nesting Water Species of Conservation Concern, development zoning designation of the surrounding area, and high visibility for humans, but presence of nearby high-traffic road, and lack of herbaceous cover.

The proposed project is not anticipated to affect wetland attributes related to aquatic habitat function or value.

Ecosystem Support

Pre-project ecosystem support function, as represented by pollinator habitat, was rated 'moderate' due to proximity to large patches of perennial cover, lack of surface water, presence of mostly native vegetation species and mixed size trees, intermediate microtopography, some bare substrate, but lack of surrounding herbaceous openland, lack of nearby cliffs or banks, and narrow vegetated upland buffer width. The value was rated 'moderate' based on an intermediate rating of the region for Plant Species of Conservation Concern, development zoning designation of the surrounding area, and presence of trees and shrubs along the perimeter of the wetland.

The proposed project is not anticipated to affect wetland attributes related to ecosystem support function or value.

Other Attributes

Wetland A rated ‘moderate’ for sensitivity and ecological condition and ‘higher’ for wetland stressors. The proposed project is not anticipated to affect these wetland attributes.

Sensitivity is defined as a lack of intrinsic resistance and resilience to human and natural stressors. This rating is related to proximity to a ponded body of freshwater, proximity to large patches of perennial vegetation, connectivity to other wetlands, development within the RCA, and vegetation community composition.

Ecological condition is defined as integrity or health, as indicated by the wetland’s vegetation composition. This rating is related to presence of native vs non-native plant and animal species, diversity of plant species, disturbance of vegetation through mowing, burning, or grazing, and presence of rare species in the area.

Stressors are the degree to which the wetland has been altered by human-related factors. This rating is related to proximity and extent of patches of perennial cover, proximity to busy roads, connectivity to other wetlands, upslope soil erodibility, and development within the RCA.

Table 1. Summary of Functions and Values Ratings for Wetland A – Existing and Predicted Post-Project

Group Services	Specific Functions		Existing Rating	Predicted Post-Project Rating	Change
Hydrologic Function	Water Storage & Delay	Function	Higher	Higher	Same
		Value	Lower	Lower	Same
Water Quality Support	Sediment Retention and Stabilization	Function	Higher	Higher	Same
		Value	Higher	Higher	Same
	Phosphorus Retention	Function	Higher	Higher	Same
		Value	Moderate	Moderate	Same
	Nitrate Removal and Retention	Function	Higher	Higher	Same
		Value	Moderate	Moderate	Same
Fish Habitat	Anadromous Fish Habitat	Function	Lower	Lower	Same
		Value	Lower	Lower	Same
	Resident Fish Habitat	Function	Lower	Lower	Same
		Value	Lower	Lower	Same
Aquatic Habitat	Amphibian & Reptile Habitat	Function	Moderate	Moderate	Same
		Value	Lower	Lower	Same
	Waterbird Nesting Habitat	Function	Moderate	Moderate	Same
		Value	Moderate	Moderate	Same
	Waterbird Feeding Habitat	Function	Moderate	Moderate	Same
		Value	Moderate	Moderate	Same
Ecosystem Support	Aquatic Invertebrate Habitat	Function	Lower	Lower	Same
		Value	Lower	Lower	Same

	Songbird, Raptor, Mammal Habitat	Function	Lower	Lower	Same
		Value	Moderate	Moderate	Same
	Water Cooling	Function	Moderate	Moderate	Same
		Value	Lower	Lower	Same
	Native Plant Diversity	Function	Moderate	Moderate	Same
		Value	Moderate	Moderate	Same
Other Services	Pollinator Habitat	Function	Moderate	Moderate	Same
		Value	Higher	Higher	Same
	Organic Nutrient Export	Function	Lower	Lower	Same
		Value	-	-	Same
	Carbon Sequestration	Function	Higher	Higher	Same
		Value	-	-	Same
	Public Use & Recognition	Function	-	-	Same
		Value	Lower	Lower	Same

Table 2. Other Attribute Ratings

Other Attributes:	Existing Rating	Predicted Post-Project Rating	Change
Wetland Sensitivity (SEN)	Moderate	Moderate	Same
Wetland Ecological Condition (EC)	Moderate	Moderate	Same
Wetland Stressors (STR)	Higher	Higher	Same

Dan Cary, DSL, replied to inquiry about indirect wetland impacts due to the project in an email dated February 13, 2023, with the following:

“Hydrology is the poorest understood aspect of wetlands and usually not documented quantitatively to identify sources of hydrology. Stormwater is a flashy water source and tends to diminish diversity in wetland plant species to species that can handle the boom/bust hydrology. Though we do consider cutting off the hydrology to a wetland as impact, it is hard to prove the losses, especially if the surface [runoff] water is not the only source of hydrology....A wetland will stay a wetland even with less water as long as it has enough water.”

As demonstrated above, Wetland A has multiple sources of wetland hydrology apart from the roof runoff of 1603 Forest Lawn Road.

Conclusion

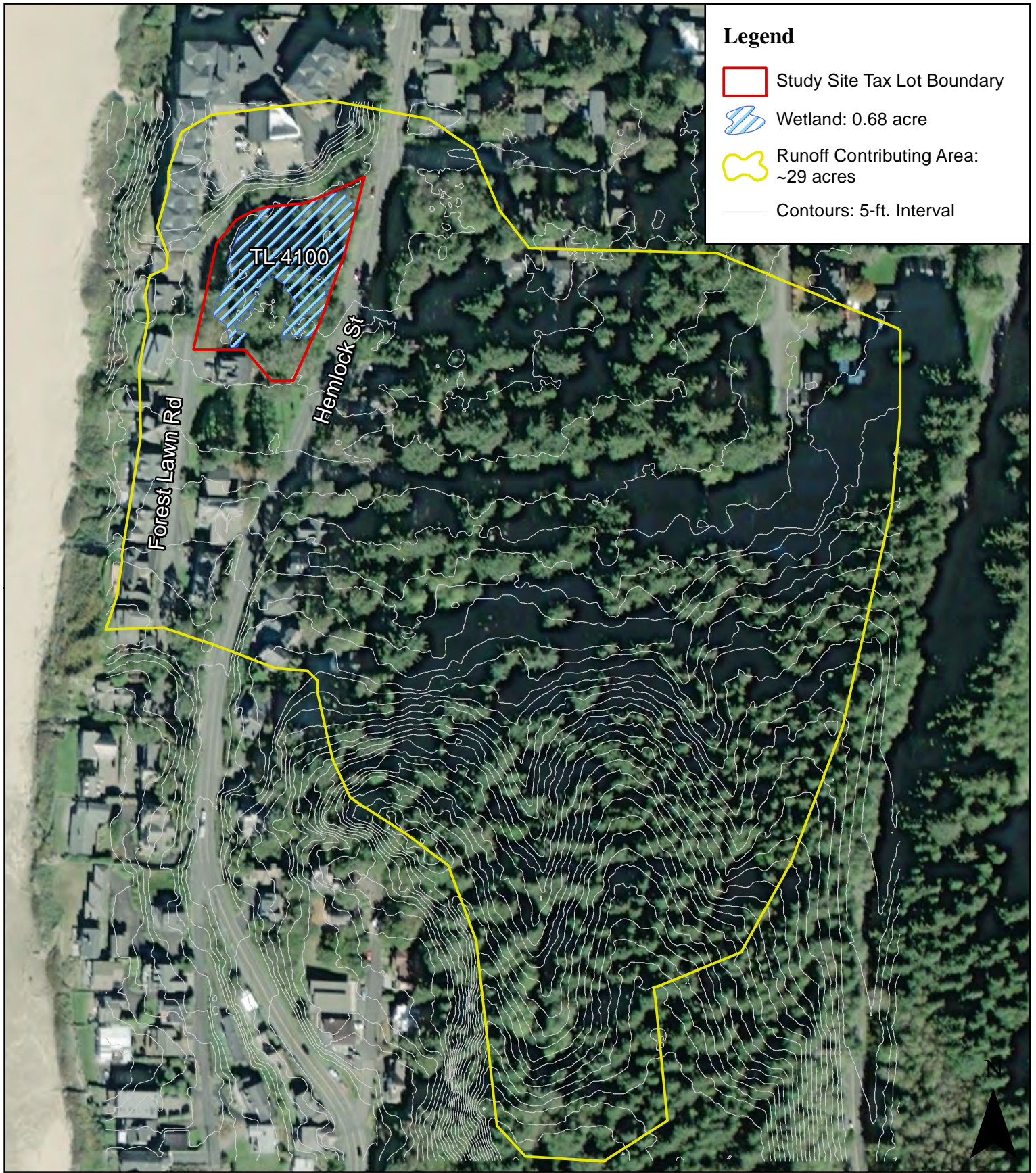
Based on wetland functional assessment, review of available information, and inquiry to DSL regarding indirect impacts to Wetland A from the proposed stormwater management project, I conclude that the proposed project will not affect the functions or values of Wetland A. Whether the size or extent of the wetland will be affected, cannot be concluded without re-delineation of the wetland in the years post-project, however, from a state wetland regulatory standpoint, this concern is minimal.

Please let me know if you have any questions.

Sincerely,

Kim Cartwright
Wetland Ecologist & GIS Analyst
kim@schottandassociates.com
503-678-6028

Attachments: Functional assessment documents



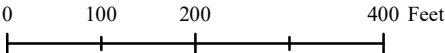
Date: 2/15/2023

Data Source: ESRI, 2023; Clatsop County
GIS Dept, 2023; DOGAMI, 2009

Project Site Map



Forest Lawn Road Project Site: S&A # 3048



Oregon Rapid Wetland Assessment (ORWAP) V.3.2.*	Cover Page: Basic Description of Assessment
Site Name:	Forest Lawn Rd
Investigator Name:	K Cartwright
Date of Field Assessment:	12/9/2020
County:	Clatsop
Nearest Town:	Cannon Beach
Latitude (decimal degrees):	45.886663°
Longitude (decimal degrees):	-123.963168°
TRS, quarter/quarter section and tax lot(s):	
Approximate size of the Assessment Area (AA, in acres):	0.68
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	99%
If delineated, DSL file number (WD #) if known:	2021-0153
Cowardin Systems & Classes (indicate all present, based on field visit and/or aerial imagery): <u>Systems:</u> Palustrine =P, Riverine =R, Lacustrine =L, Estuarine =E <u>Classes:</u> Emergent =EM, Scrub-Shrub =SS, Forested =FO, Aquatic Bed (incl. SAV) =AB, Open Water =OW, Unconsolidated Bottom =UB, Unconsolidated Shore =US	PSS
Predominant HGM Class: Estuarine=E, Lacustrine=L, Riverine=R, S= Slope, F= Flats, D= Depressional	Slope
Soil Unit Mapped in Most of the AA:	Templeton-Ecola silt loams
If tidal, the tidal phase during most of visit:	n/a
What percent (approximate) of the wetland were you able to visit?	n/a-remote assessment
What percent (approximate) of the AA were you able to visit?	n/a-remote assessment
Have you attended an ORWAP training session? If so, indicate approximate month & year.	no
How many wetlands have you assessed previously using ORWAP (approximate)?	15
Comments about the site or this ORWAP assessment (attach extra page if desired):	Assessment of existing conditions based on wetland delineation report, aerials, topography, soil maps, site photos, and other available documents and materials

Date:		Name:		Site:		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment <u>only after reading the accompanying Manual and explanations in column E below</u> . Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. For each affirmative answer, change the 0 in the "Data" column to a "1" . Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a "W" MUST be answered for the ENTIRE wetland and bordering waters .		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
OF1	Distance to Extensive Perennial Cover (DistPerCov)	The distance from the <u>AA edge</u> to the edge of the closest patch or corridor of perennial cover (see definition in <u>column E</u>) larger than 100 acres is:		Corridor - is simply an elongated patch of perennial cover that is not narrower than 150 ft at any point.		
		<100 ft.	0	Perennial cover - is vegetation that includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands in which the ground is disturbed less than annually, such as hayfields, lightly grazed pastures, timber harvest areas, and rangeland. <u>It does not</u> include water, row crops (e.g., vegetable, orchards, Christmas tree farms), lawns, residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [AM, WBN, PD, PDv, POL, SBM, Sens, STR]		
		100 to <300 ft.	0			
		300 to <1000 ft.	1			
		1000 ft. to <0.5 mile.	0			
		0.5 mile to 2 miles.	0			
		> 2 miles.	0			
OF2	Distance to Tidal Waters (DistTidal)	The distance from the <u>AA edge</u> to the closest body of tidal water is:		Tidal water - If unclear whether a water body is tidal, check the <u>ORWAP Map Viewer's</u> Headtide layer (expand Hydrology), or check with local sources.		
		<1 mile.	1	Assume <u>Columbia River</u> is tidal east to Bonneville Dam and the Willamette River south to the Oregon City Falls. [WBF]		
		1-5 miles.	0			
		>5 miles.	0			
OF3	Distance to Poned Water (DistPond)	The distance from the <u>AA edge</u> to the closest (but separate) body of nontidal fresh water (wetland, pond, or lake) that is ponded all or most of the year is:		Use field observations, aerial imagery, and/or the <u>ORWAP Map Viewer's</u> Persistent Nontidal layer (expand Wetlands/National Wetlands Inventory).		
		<100 ft.	0	[AM,WBF,WBN,SBM,PD,Sens]		
		100 to <300 ft.	0			
		300 to <1000 ft.	0			
		1000 ft. to < 0.5 mile.	0			
		0.5 mile to 2 miles.	1			
		>2 miles.	0			
OF4	Distance to Lake (DistLake)	The distance from the <u>AA edge</u> to the closest (but separate) body of nontidal fresh water (wetland, pond, or lake) that is ponded during most of the year and is larger than 20 acres (about 1000 ft on a side) is:		Use field observations, aerial imagery, and/or the <u>ORWAP Map Viewer's</u> Persistent Nontidal layer (expand Wetlands/National Wetlands Inventory).		
		<1 mile.	0	[WBF,WBN]		
		1-5 miles.	0			
		>5 miles.	1			
OF5	Distance to Herbaceous Open Land (DistOpenL)	The distance from the <u>AA edge</u> to the closest patch of herbaceous openland <u>larger than 10 acres</u> and in flat terrain is:		Herbaceous openland - includes both perennial and non-perennial cover. For example, it can include pasture, herbaceous wetland, meadow, prairie, ryegrass fields, row crops, herbaceous rangeland, golf courses, grassed airports, and hayfields.		
		<100 ft.	0	<u>Do not include</u> open water of lakes, ponds, or rivers; or unvegetated surfaces; or areas with woody vegetation. In dry parts of the state, croplands in flat areas are often irrigated and are distinctly greener in aerial images. Flat terrain - means slope of less than 5%. [WBF,WBN,POL]		
		100 to <300 ft.	0			
		300 to <1000 ft.	0			
		1000 ft. to < 0.5 mile.	0			
		0.5 mile to 2 miles.	0			
		>2 miles.	1			

OF6	Distance to Nearest Busy Road (DistRd)	The distance from the <u>AA center</u> to the nearest road with an average daytime traffic rate of at least 1 vehicle/ minute is:		Estimate this traffic rate threshold using your judgment and considering the road width, local population, distance to densely settled areas, alternate routes, and other factors. [AM,SBM,PD,PUv,STR]		
		<100 ft.	0			
		100 to <300 ft.	0			
		300 to < 0.5 mile.	1			
		0.5 to <1 miles.	0			
		1 to 2 miles.	0			
		>2 miles.	0			
OF7	Size of Largest Nearby Patch of Perennial Cover (SizePerenn)	Including the AA's vegetated area, the largest patch or corridor that is perennial cover and is contiguous with vegetation in the AA (i.e., not separated by roads or channels that create gaps wider than 150 ft), occupies:		Contiguous -Abutting, with no major physical separation that prohibits free exchange or flow of surface water (i.e., not separated by roads or channels that create gaps wider than 150 ft) Perennial cover - See OF1. Disqualify any patch or corridor of perennial cover where it becomes separated from the AA by a gap of >150 ft, if the gap is comprised of unvegetated land or if the corridor narrows to less than 150 ft. [AM,SBM,PD,POL,Sens,STR]		
		<.01 acre.	0			
		.01 to < 1 acre.	1			
		1 to <10 acres.	0			
		10 to <100 acres.	0			
		100 to <1000 acres.	0			
		1000 to 10,000 acres.	0			
OF8	Wetland Type Local Uniqueness (UniqPatch)	Select EACH of the vegetation types below that comprise more than 10% of the AA <u>AND</u> less than 10% of a <u>0.5 mile</u> radius around the AA. (See Column E).		This is a 2-part question: (1) if no vegetation class comprises more than 10% of the AA, answer "none of the above." (2) If a vegetation class does comprise more than 10%, determine if that vegetation class also comprises less than 10% of a 0.5 mile circle (~50 acres). [INVv,AMv,WBFv,WBNv,SBMv,PDv,POLv,Sens]		
		Herbaceous vegetation (perennial grasses, sedges, forbs; not under a woody canopy; not crops).	0			
		Unshaded shrubland (woody plants shorter than 20 ft).	0			
		Trees (woody plants taller than 20 ft).	0			
		None of above.	1			
OF9	Perennial Cover Percentage (PerCovPct)	Within a <u>2-mile</u> radius of the AA center, the percentage of <u>land</u> that has perennial cover is:		Perennial cover - is vegetation that includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands in which the ground is disturbed less than annually, such as hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It <u>does not include</u> water, row crops (e.g., vegetable, orchards, Christmas tree farms), lawns, residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [FA,AM,SBM,POL,Sens,STR]		
		<5% of the land.	0			
		5 to <20% of the land.	0			
		20 to <60% of the land.	1			
		60 to 90% of the land.	0			
		>90% of the land.	0		PerennAll	
OF10	Forest Percentage (ForestPct)	Within a <u>2-mile</u> radius of the AA center, the cumulative amount of <u>forest</u> (regardless of forest patch sizes, and including any in the AA) is:		Forested patch - is a land cover patch that currently has >70% cover of woody plants taller than 20 ft. May be in a plantation. [FA,SBM,STR]		
		<5% of the circle.	0			
		5 to <20%.	0			
		20 to <50%.	1			
		50 to 80%.	0			
		>80%.	0			
OF11	Herbaceous Open Land Percentage (OpenLpct)	Within a <u>2-mile</u> radius of the AA center, the amount of herbaceous openland in flat terrain is:		Herbaceous openland - can include both perennial and non-perennial cover. For example, it can include pasture, herbaceous wetland, meadow, prairie, ryegrass fields, row crops, herbaceous rangeland, golf courses, grassed airports, and hayfields. Do not include open water of lakes, ponds, or rivers; or unvegetated surfaces; or areas with woody vegetation. Flat terrain - means slope of less than 5%. [WBF,WBN,POL]		
		<5% of the land.	1			
		5 to <20%.	0			
		20 to <50%.	0			
		50 to 80%.	0			
		>80%.	0			

OF12	Landscape Wetland Connectivity (ConnScapeW)	Within a <u>2-mile</u> radius of the AA center:		<p>Corridor - is simply an elongated patch of perennial cover that is not narrower than 150 ft at any point.</p> <p>Regular traffic - is at least 1 vehicle per hour during the daytime throughout most of the growing season. Assess this based on local knowledge, type of road, and proximity to developed areas.</p> <p>Perennial - see OF9 for definition. [WBN,SBM,Sens,STR]</p>		
		There are NO other wetlands.	0			
		There are other wetlands (or a wetland), but NONE are connected to the AA by a corridor of perennial vegetation. The corridor must be at least 150 ft wide along its entire length and not interrupted by roads with regular traffic .	1			
		There are other wetlands (or a wetland), and <u>ALL</u> are connected to the AA by the type of corridor described.	0			
		There are other wetlands (or a wetland), and <u>ONE or MORE</u> (but not all) are connected to the AA by the type of corridor described.	0			
OF13	Local Wetland Connectivity (ConnLocalW)	Within a <u>0.5 mile</u> radius of the AA center:		<p>Regular traffic - is at least 1 vehicle per hour during the daytime throughout most of the growing season. Assess this based on local knowledge, type of road, and proximity to developed areas.</p> <p>Perennial - see OF9 for definition.</p> <p>IF possible, field verify</p> <p>[AM,WBN,SBM,PD,Sens,STR]</p>		
		There are NO other wetlands.	0			
		There are other wetlands (or a wetland), but NONE are connected to the AA by a corridor of perennial vegetation. The corridor must be at least 150 ft wide along its entire length and not interrupted by roads with regular traffic .	1			
		There are other wetlands (or a wetland), and ALL are connected to the AA by the type of corridor described.	0			
		There are other wetlands (or a wetland), and ONE or MORE (but not all) are connected to the AA by the type of corridor described.	0			
OF14	Wetland Number & Diversity Uniqueness (HUCbest)	According to the ORWAP Report, this AA is located in one of the HUCs that are listed as having a large diversity, area, or number of wetlands relative to the area of the HUC. Select <u>All</u> of the following that are true:		<p>In the <u>ORWAP Report</u>, under the Watershed Information section and the HUC Best table, look at the columns "Is HUC Best?" and "Greatest Criteria Met."</p> <p>[AM,WBF,WBN,SBM,Sens]</p>		
		Yes, for the HUC8 watershed	0			
		Yes, for the HUC10 watershed	1			
		Yes, for the HUC12 watershed	0			
		None of above.	0			
		Data are inadequate (NWI mapping not completed in HUC).	0			
OF15	Landscape Functional Deficit (GISscore)	In the ORWAP Report, find the HUC 12 Functional Deficit table. Select <u>All</u> functions below that have a notation for that HUC.		<p>In the <u>ORWAP Report</u>, under the Watershed Information section, look at the Functional Deficit table. Enter 1 for each of the listed functions that are noted.</p> <p>These are HUCs in which a relatively small number, or proportional area, of the wetlands are likely to be performing the named function, thus adding value to those that are.</p> <p>See ORWAP's <u>Technical Supplement</u> for explanation of how the FuncDeficit was calculated.</p> <p>[WSv,WCv,SRv,PRv,INVv,FAv,AMv,WBNv]</p>		
		Water storage (WS)	0			
		Sediment retention (SR)	0			
		Nutrient transformation (NT)	0			
		Thermoregulation (WC)	0			
		Aquatic invertebrate habitat (INV)	0			
		Amphibian habitat (AM)	0			
		Fish habitat (FH)	0			
		Waterbird habitat (WB)	0			
		None of above.	1			
		No data.	0			
OF16	Conservation Designations of the AA or Local Area (ConDesig)	On the ORWAP Map Viewer, use the layers indicated below to answer. Select <u>All</u> of the following that are true:		<p>In the <u>ORWAP Map Viewer</u>, use the applicable layers.</p> <p>Include areas not shown as ESH, if ODFW has confirmed they qualify as ESH. [WCv, FA, FAV]</p> <p>Oregon's Greatest Wetlands identifies the most biologically and ecologically significant wetlands in the State of Oregon. [PU]</p> <p>[WBFv, WBNv]</p>		
		(a)The AA is within or connected to a stream or other water body and this stream or water body has been designated as ESH within <u>0.5 miles</u> of the AA, according to the Essential Salmonid Habitat (ESH) layer.	0			
		(b)The AA is within or contiguous to a designated Oregon's Greatest Wetlands , according to the map layer of that name.	0			
		(c)The AA is within an Important Bird Area (IBA) , as officially designated, according to the map layer of that name.	0			
		None of above.	1			

OF17	Non-anadromous Fish Species of Conservation Concern (RareFR)	According to the ORWAP Report, the score for occurrences of rare non-anadromous fish species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.75 for maximum score, or ≥ 0.90 for this group's sum score), or there is a recent (within 5 years) onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	Species include Miller Lake lamprey, Goose Lake lamprey, Pit sculpin, Lahontan cutthroat trout, Inland Columbia Basin redband trout, Steelhead (Snake River Basin ESU), Alvord chub, Goose Lake tui chub, Borax Lake chub, Lahontan redbside, Oregon chub, Goose Lake sucker, Tahoe sucker, Warner sucker, Shortnose sucker, Lost River sucker. Note that for some of these species, only specific geographic populations are designated. [FRv]		
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.33 for both the maximum score this group's sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1	This question may need to revised after the field visit.		
OF18	Amphibian or Reptile of Conservation Concern (AmphRare)	According to the ORWAP Report, the score for occurrences of rare amphibian or reptile species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.60 for maximum score, or >0.90 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	Species include: Black salamander, California slender salamander, Cope's giant salamander, Rocky Mountain tailed frog, Woodhouse's toad, Foothill yellow-legged frog, Northern leopard frog, Oregon spotted frog, Columbia spotted frog.		
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.21 for maximum score AND <0.15 for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1	[AMv] This question may need to revised after the field visit.		
OF19	Feeding (Non-breeding) Waterbird Species of Conservation Concern (RareWBF)	According to the ORWAP Report, the score for occurrences of rare non-breeding (feeding) waterbird species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.33 for maximum score, or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	Non-breeding - mainly refers to waterbird feeding during migration and winter. California brown pelican, Aleutian cackling goose, Dusky Canada goose [WBFv]		
		Low (< 0.33 for maximum score and for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			
OF20	Nesting Waterbird Species of Conservation Concern (RareWBN)	According to the ORWAP Report, the score for occurrences of rare <u>nesting</u> waterbird species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.60 for maximum score, or ≥ 1.00 for this group's sum score), or there is a recent breeding-season observation of any of these species onsite by a qualified observer under conditions similar to what now occur.	0	Species include: Horned grebe, Red-necked grebe, Western grebe, Clark's grebe, American white pelican, Least bittern, Snowy egret, Trumpeter swan, White-faced ibis, Harlequin duck, Bufflehead, Yellow rail, Western snowy plover, Upland sandpiper, Franklin's gull, Marbled murrelet.		
		Intermediate (i.e., not as described above or below).	1			
		Low (≤ 0.09 for maximum score and for sum score, but not 0 for both).	0	[WBNv]		
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species during breeding season by a qualified observer under conditions similar to what now occur.	0	This question may need to revised after the field visit.		
OF21	Songbird, Raptor, Mammal Species of Conservation Concern (RareSBM)	According to the ORWAP Report, the score for occurrences of rare <u>songbird, raptor, or mammal</u> species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.60 for maximum score, or >1.13 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	Species include: Bald eagle, American peregrine falcon, Arctic peregrine falcon, Greater sage-grouse, Columbian sharp-tailed grouse, Yellow-billed cuckoo, Northern spotted owl, Short-eared owl, Black swift, Lewis's woodpecker, Purple martin, Northern waterthrush, Bobolink, Tricolored blackbird, Fringed myotis, Spotted bat, Townsend's big-eared bat, Pallid bat, Northern sea lion, Fisher, Sea otter, Canada lynx, Columbian white-tailed deer. [SBMv]		
		Intermediate (i.e., not as described above or below).	1			
		Low (≤ 0.09 for maximum score AND <0.13 for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	0	This question may need to revised after the field visit.		
OF22	Invertebrate Species of Conservation Concern (RareInvert)	According to the ORWAP Report, the score for occurrences of rare <u>invertebrate</u> species in the vicinity of this AA is:		Use <u>ORWAP Report 's</u> Rare Species Scores max and sum scores. See <u>Supp. Info</u> file for a list of species.		
		High (≥ 0.75 for maximum score, or for this group's sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	See the Supp_Info file's RareAnimals worksheet for list of species addressed by this question.		
		Low (< 0.75 for maximum score AND for this group's sum score, but not 0 for both).	0	[INVv]		
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1	This question may need to revised after the field visit.		

OF23	Plant Species of Conservation Concern (RarePspp)	According to the ORWAP Report, the score for occurrences of rare <u>wetland-indicator plant</u> species in the vicinity of this AA is:		Use <u>ORWAP Report</u> 's Rare Species Scores max and sum scores.		
		High (≥ 0.75 for maximum score, or > 4.00 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	See the <u>Supp. Info's</u> RareWetPlants worksheet for list of species addressed by this question.		
		Intermediate (i.e., not as described above or below).	1	[PDv,POLv]		
		Low (≤ 0.12 for maximum score AND < 0.20 for sum score, but not 0 for both).	0	This question may need to revised after the field visit.		
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	0			
OF24	River Proximity (RiverProx)	There is a nontidal river within 1 mile and it is adjacent to, OR downslope from, the AA (connected or not). Enter 1, if true. If not, SKIP to OF27.	0	River - as used here is a channel wider than 50 ft between its banks. In the ORWAP Map Viewer, use the National Hydrography Dataset - Flowline layer (expand Hydrology).[WSv]	NearRiver	
OF25	Floodable Property (FloodProp)	Select ONE of the below:		Row crops - do not include pasture or other perennial cover.		
		Floodplain boundaries within 1 mile downslope or downriver from the AA have not been mapped. Enter 1 and SKIP TO OF27.	0	In the <u>ORWAP Map Viewer</u> , use the Floodplain layers. Also, the Seasonal Nontidal Wetland layer (expand Wetlands/National Wetlands Inventory) may indicate some floodplain areas. [WSv] Supplement with field observations at multiple seasons, if possible.		
		Floodplain boundaries within 1 mile downslope from the AA have been mapped BUT there is neither infrastructure nor row crops vulnerable to river flooding located within the floodplain and within that distance. Enter 1 and SKIP TO OF27.	0			
		Floodplain boundaries have been mapped AND infrastructure or row crops are present within 1 mile downslope or downriver and those are not protected from 100-year floods, but actual damage has not been documented.	0			
		Damage to infrastructure or row crops from river flooding has been documented within that distance.	0			
OF26	Type of Flood Damage (DamageType)	The greatest financial damage in the floodplain is (or would be) to:		Row crops - do not include pasture or other perennial cover. On the <u>ORWAP Map Viewer</u> , use the Floodplain layers [WSv]		
		Buildings, roads, bridges.	0			
		Row crops (during some years).	0			
OF27	Hydrologic Landscape (Arid)	According to the ORWAP Report, the wetland is in a hydrologic landscape unit classified as:		In the <u>ORWAP Report</u> , under the Location Information table, find the Hydrologic Landscape Class.		
		Arid.	0	[AM, AMv, WBNv, SBMv, OE, Sens]		
		Semi-arid.	0			
		Dry.	0			
		Moist.	0			
		Wet.	0			
		Very Wet.	1			
OF28	Input Water - Recognized Quality Issues (WQin)	According to ORWAP Map Viewer's Water Quality Streams layer and Water Quality Lakes layers, <u>ALL of the following are true:</u> (a) within 1 mile upstream from the AA edge, a water body or stream reach is labeled as being 303d, Water Quality Limited (categories 3B-5); Potential Concer; or TMDL Approved AND (b) the problem concerns one or more of the parameters listed below. <u>Select All that apply.</u>		Use the <u>ORWAP Map Viewer's</u> Water Quality Streams layer and the Water Quality Lakes layer (expand Water Quality and Quanity) and the Distance tool. Use the Identy tool to determine the reason for the listings.		
		Total suspended solids (TSS), sedimentation, or turbidity.	0	If the AA receives both inflow and outflow from river flooding, consider the polluted water to be both "upstream" and "downstream".		
		Phosphorus, chlorophyll-a, or algae.	0			
		Nitrates, ammonia, chlorophyll-a, or algae.	0			
		Petrochemicals, heavy metals (iron, manganese, lead, zinc, etc.), other toxins.	0	[SRv,PRv,INV,FA,FR,AM,WBF,WBN,STR] This may need to be verified in the field.		
		Temperature or dissolved oxygen.	1			
		None of above, or no data. If true, enter 1 and SKIP to OF30.	0		NoDataWQup	
OF29	Duration of Connection Between Problem Area & the AA (ConnecUp)	The upstream problem area mentioned above (OF28) has a surface water connection to the AA:		In the <u>ORWAP Map Viewer</u> , use the National Hydrography Dataset (expand Hydrology) and the Persistent, Seasonal, or Saturated nontidal layers (expand Wetlands/National Wetlands Inventory) to determine duration of surface water connection.		
		For 9 or more continuous months annually.	0	[SRv,PRv,INV,FA,FR,AM,WBF,WBN,STR] This may need to be determined or verified in the field.		
		Intermittently (at least once annually, but for less than 9 months continually).	0			
		Never (or less than annually).	1			

OF30	Downslope Water Quality Issues (ContamDown)	According to ORWAP Map Viewer's Water Quality Streams layer and Water Quality Lakes layer, <u>ALL</u> of the following are <u>true</u> : (a) within 1 mile downhill or downstream from the AA's edge, a water body is labeled as being 303d, Water Quality Limited (categories 3B-5); Potential Concern; or TMDL Approved AND (b) the problem concerns one or more of the parameters listed below. Select All that apply.		Use the <u>ORWAP Map Viewer's</u> Water Quality Streams layer and the Water Quality Lakes layer (expand Water Quality and Quantity) and the Distance tool. Use the Identy tool to determine the reason for the listings.		
		Total suspended solids (TSS), sedimentation, or turbidity.	0			
		Phosphorus, chlorophyll-a, or algae.	0			
		Nitrates, ammonia, chlorophyll-a, or algae.	0			
		Petrochemicals, heavy metals (iron, manganese, lead, zinc, etc.), other toxins.	0			
		Temperature or dissolved oxygen.	0			
		None of above, or no data. Enter 1 and SKIP to OF32.	1		NoDataWQdo	
OF31	Duration of Connection Between AA & Water Quality Problem Area (ConnDown)	The connection between the downstream problem area mentioned above (OF30) and the AA:		In the ORWAP Map Viewer, use the National Hydrography Dataset (expand Hydrology) and the Persistent, Seasonal, or Saturated nontidal layers (expand Wetlands/National Wetlands Inventory) to determine duration of surface water connection.		
		Is a stream or water body that connects these areas for 9 or more continuous months annually.	0			
		Is a stream or water body that connects these areas intermittently (at least once annually, but for less than 9 months continually).	0			
		Is a probable groundwater connection, or connection via direct runoff only (no channel connection).	0			
		Never exists (a topographic ridge probably prevents all the AA's runoff and groundwater from reaching the problem area).	0			
OF32	Drinking Water Source (DEQ) (DWsource)	According to ORWAP Map Viewer's Surface Water Drinking Water Source Areas layer and the Ground Water Drinking Water Source Areas layer, the AA is within:		In the <u>ORWAP Map Viewer</u> , use the water source layers (expand Water Quality and Quantity).		
		The source area for a surface-water drinking water (DW) source.	0			
		The source area for a groundwater drinking water source.	0			
		Neither of above.	1			
OF33	Groundwater Risk Designations (GWrisk)	According to ORWAP Map Viewer's Groundwater Management Areas layer and the Sole Source Aquifer layer, the AA is: Select All that apply		In the <u>ORWAP Map Viewer</u> , use the DEQ Groundwater Management Areas layer and the Sole source Aquifer layer (expand Water Quality and Quantity).		
		Within a designated Groundwater Management Area (ODEQ).	0			
		Within a designated Sole Source Aquifer area (EPA): the North Florence Dunal Aquifer.	0			
		Neither of above.	1			
OF34	Relative Elevation in Watershed (Elev)	In the ORWAP Map Viewer, based on the Hydrologic Boundaries 4th Level (HUC 8) layer (expand Hydrology), determine if the AA is: (See Column E)		1) Consider which end of the HUC is the bottom. Where streams join, the "V" that they form on the map points towards the bottom of the HUC. 2) If the AA is closer to the HUC's outlet than to its upper end, and is closer to the river or large stream that exits at the bottom of the HUC than it is to the boundary (margin) of the HUC, then check "lower 1/3" If not near that river, check "middle 1/3". 3) If the AA is not in a 100-yr floodplain, is closer to the HUC upper end than to its outlet, and is closer to the boundary (margin) of the HUC than to the river or large stream that exits at the bottom of the HUC, then check "upper 1/3" 4) For all other conditions, check "middle 1/3". [WSv, PRv, FA, FR, WCv, OE, Sens, SRv]		
		In the upper one-third of its watershed.	0			
		In the middle one-third of its watershed.	0			
		In the lower one-third of its watershed.	1		LowerShed	
OF35	Runoff Contributing Area (RCA) - Wetland as % of (WetPctRCA)	Delimit the wetland's Runoff Contributing Area (RCA) using a topographic base map. The area of the AA's wetland is:	W	See the <u>ORWAP Manual</u> for specific protocol for delimiting the RCA (Section 4.1 Step 5). The RCA includes only the areas that potentially drain directly to the AA's wetland rather than to channels that flow or flood into that wetland. Exact precision in drawing the boundary is not required.		
		<1% of its RCA.	0			
		1 to <10% of its RCA.	1			
		10 to 100% of its RCA.	0			
		Larger than the area of its RCA. Enter 1 and SKIP TO OF39.	0		NoRCA	

OF36	Unvegetated % in the RCA (ImpervRCA)	The proportion of the RCA comprised of buildings, roads, parking lots, exposed bedrock, and other surface that is usually unvegetated at the time of peak annual runoff is about:	W	In the ORWAP Map Viewer, use an Aerial layer to determine the proportion of the RCA comprised of buildings, roads, parking lots, exposed bedrock, and other surfaces that are usually unvegetated at the time of peak annual runoff. [WSv,WCv,SRv,PRv,INV,FA,Sens,STR]		
		<10%.	0			
		10 to 25%.	1			
		>25%.	0			
OF37	Transport From Upslope (TransRCA)	A relatively large proportion of the precipitation that falls farther upslope in the RCA reaches this wetland quickly as indicated by the following: (a) RCA slopes are steep, <u>and/or</u> (b) upslope wetlands historically present have been filled or drained extensively, <u>and/or</u> (c) land cover is mostly non-forest, <u>and/or</u> (d) most RCA soils are shallow. This statement is:	W	Refer to aerial imagery and/or consult local sources. See the <u>ORWAP Manual</u> for instructions. [WSv,SRv,PRv,STR]		
		Mostly true.	0			
		Somewhat true.	0			
		Mostly untrue.	1			
OF38	Upslope Soil Erodibility Risk (ErodeUp)	Use the ORWAP Report or the Map Viewer to determine if the erosion hazard rating of the soil within 200 ft away and upslope of the AA is:		If the soil unit is the <u>same</u> as the <u>AA</u> , the Erosion Hazard can be obtained from the ORWAP Report's Soil Information section. If the soil unit is <u>different than the AA</u> , use ORWAP Map Viewer's Oregon Soil layer and see the ORWAP Manual for instructions on how to determine the erosion hazard rating. [SRv,PRv,STR]		
		Slight.	0			
		Moderate.	0			
		Severe.	1			
		Very severe.	0			
		Could not determine.	0			
OF39	Streamflow Contributing Area (SCA) - Wetland as % of (WetPctSCA)	Delimit (or visualize, for large river basins) the wetland's Streamflow Contributing Area (SCA) using a topographic base map. The area of the AA's wetland is:	W	See the <u>ORWP Manual</u> for specific protocol for delimiting the SCA (section 4.1, Step 6). The SCA is all upland areas that drain into streams, rivers, and lakes that feed the AA's wetland either directly or during semi-annual floods. In addition, for wetlands intercepted by a mapped stream, the SCA can be delineated automatically and its area reported at this <u>USGS web site</u> : https://streamstats.usgs.gov/ss/ . Enter the coordinates, select Oregon, select Delineate, zoom to level 15 or finer, and click on a stream. [WS, SR, SRv, PR, PRv, WCv]		
		<1% of its SCA, or wetland is in the floodplain of a major river.	0			
		1 to <10% of its SCA.	0			
		10 to 100% of its SCA.	0			
		Larger than the area of its SCA. Enter 1 and SKIP TO OF41.	0		NoSCA1	
		Wetland lacks tributaries and receives no overbank water. Enter 1 and SKIP to OF41.	1		NoSCA	
OF40	Unvegetated % in the SCA (ImpervSCA)	The proportion of the SCA comprised of buildings, roads, parking lots, exposed bedrock, and other surface that is usually unvegetated at the time of peak annual runoff is about :	W	See the <u>ORWAP Manual</u> for instructions. [WCv,SRv,PRv,FA,STR]		
		<10%.	0			
		10 to 25%.	0			
		>25%.	0			
OF41	Upland Edge Shape Complexity (EdgeShape)	Most of the edge between the AA's wetland and upland is (select one):	W	See <u>ORWAP Manual</u> for instructions and illustrations. [NR, SBM, Sens]		
		Linear : a significant proportion of the wetland's upland edge is straight, as in wetlands bounded partly or wholly by dikes or roads, or the AA is entirely surrounded by water or other wetlands.	0			
		Intermediate : Wetland's shape is (a) ovoid, or (b) mildly ragged edge, and/or (c) contains a lesser amount of artificially straight edge.	1			
		Convolut ed: Wetland perimeter is many times longer than maximum width of the wetland, with many alcoves and indentations ("fingers").	0			
OF42	Zoning (Zoning)	According to ORWAP Map Viewer's Zoning layer, the dominant zoned land use designation for currently undeveloped parcels upslope from the AA and within 300 ft. of its upland edge is:		See the <u>ORWAP Manual</u> for instructions on how to determine the zoning designation. If information is not provided, check local zoning maps. [WSv,WCv,SRv,PRv,INVv,FAv,FRv,AMv,WBFv,WBNv,SBMv,PDv,POLv,PUv]		
		Development (Commercial, Industrial, Urban Residential, etc.), or no undeveloped parcels exist upslope from the AA.	1			
		Agriculture or Rural Residential.	0			
		Forest or Open Space, or entirely public lands.	0			
		Not zoned, or no information.	0			

OF43	Growing Degree Days (GDD)	According to ORWAP Map Viewer's Growing Degree Days layer, the long term normal Growing Degree Days category at the approximate location of the AA is:		See the ORWAP Manual for instructions on how to determine the growing degree days category. [NR, FR, AM, WBN, SBM, WCv, OE, CS, Sens]		
		<256.	0			
		256 - 1020.	0			
		1021-1785.	1			
		1786 - 2550.	0			
		2551 - 3315.	0			
		3316 - 4079.	0			
		> 4079.	0			

Date:		Name:		Site:		
Form F Field Data (nontidal Wetlands) ORWAP V 3.2		Conduct an assessment <u>only after reading the accompanying Manual and explanations in column E below.</u> For each affirmative answer, change the 0 in the "Data" column to a "1". Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a "W" MUST be answered for the ENTIRE wetland and bordering waters.		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F1	Tidal Wetland (Tidal)	This is a tidal wetland (either freshwater or saltwater). If yes, GO TO worksheet " T ". Do not enter any data here. If nontidal, continue with F2.		Tidal wetland - a wetland that receives tidal water at least once during a normal year, regardless of salinity, and dominated by emergent or woody vegetation. Tidal flooding occurs on a 6-hour cycle DURING THE TIME it is flooded by tide, which may be as infrequent as once per year. If NWI map shows the wetland with a code beginning with E (for estuarine), assume the wetland to be tidal. However, some wetlands lacking that code are also tidal.		
F2	Ponded Condition (Lentic)	At least once every 2 years, some part of the AA contains a cumulative total of >900 sq.ft. of surface water that is ponded. The water persists for >6 days and may be hidden beneath emergent vegetation or scattered in small pools. Enter 1, if true.	0	Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [AM,WBF,WBN]	Lentic	
Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 20 acres that are adjacent to the AA. The AA should also include part of the water area of adjacent lakes or rivers larger than 20 acres -- specifically, the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone.				Adjacent - is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.		
F3	Water Regime (Hydropd)	The water regime (hydroperiod) of the most permanent (usually deepest) part of the AA is: Select only ONE. [To meet any of the definitions other than Ephemeral, there must be >100 sq ft of surface water for the duration described, otherwise mark the type listed above it.]		In the NRCS county soil survey, the Water Features table provides information about periods of flooding, ponding, and highwater table depths. Descriptions of the soil units may include information on saturation persistence. Also consider the hydroperiod label on NWI wetland polygons. [WS, FA, FR, WBN, WBF, WC]		
		Ephemeral. Surface water in the wettest part of the AA is present for fewer than 7 consecutive days during an average growing season. Includes some of the areas mapped as Saturated Nontidal in the ORWAP Map Viewer (which is not comprehensive). Enter 1 and SKIP to F25.	0		NeverWater	
		Temporary. Surface water present for 1-4 weeks consecutively during an average growing season, OR if persists for longer, it is almost entirely in scattered pools, each smaller than 1 sq.m. Dries up completely during part of most average years. Includes some of the areas mapped as Saturated Nontidal in the ORWAP Map Viewer (which is not comprehensive). Enter 1 and SKIP to F25.	1		TempWet	
		Seasonal. Surface water present for 5-17 weeks (1-4 months) consecutively during an average growing season, but dries up completely during part of most average years. Includes some of the areas mapped as Seasonal Nontidal in the ORWAP Map Viewer (which is not comprehensive). Enter 1 and SKIP to F5.	0		ShallowType	
		Semi-Persistent. Surface water present for more than 17 weeks (4 months) consecutively during an average growing season, but dries up completely during part of most average years. Includes some of the areas mapped as Seasonal Nontidal in the ORWAP Map Viewer (which is not comprehensive). Enter 1 and SKIP to F5.	0		DeepType	
		Permanent. Does not dry up completely during most average years. Includes some of the areas mapped as Persistent Nontidal in the ORWAP Map Viewer (which is not comprehensive). Enter 1 and continue.	0	Permanent - usually has significant groundwater input, higher conductivity, less annual water level fluctuation. No woody vegetation in most persistently flooded parts. Often with extensive open water and subsurface aquatic plants.	PermType	

F4	Flooded Persistently - % of AA (PermW)	Identify the parts of the AA that still contain surface water even during the driest times of a normal year . At that time, the percentage of the AA that still contains surface water is:		driest times of a normal year - i.e., when the AA's surface water is at its lowest annual level. Sites fed by unregulated streams that descend on north-facing slopes, tend to remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [WS,PR,NR,CS,INV,FR,AM,WBF,WBN]		
		1 to <25% of the AA.	0			
		25 to <50% of the AA.	0			
		50 to 95% of the AA.	0			
		>95% of the AA.	0		AllPermWater	
F5	Depth Class (Predominant) (DepthDom)	When water is present in the AA, the depth most of the time in most of inundated area is: [Note: NOT necessarily the maximum spatial or annual depth]		This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the AA is brief, the answer will be based on the depth of the most persistently inundated part of the AA. Include surface water in channels and ditches as well as ponded areas. In the <u>ORWAP Manual</u> , se the diagram in Appendix B. [WC,SR,PR,CS,OE,INV,FA,FR,WBF,WBN,PD,Sens]		
		>0 to <0.5 ft.	0			
		0.5 to < 1 ft deep.	0			
		1 to <3 ft deep.	0			
		3 to 6 ft deep.	0			
		>6 ft deep.	0			
F6	Depth Class Distribution (DepthEven)	Within the area described above, and during most of the time when surface water is present, the water area has: Select only one.		Estimate these proportions by considering the gradient and microtopography of the site. In the <u>ORWAP Manual</u> , see the diagram in Appendix B. [INV,FR,WBF,WBN,PD]		
		One depth class covering >90% of the AA's inundated area (use the classes in the question above).	0			
		One depth class covering 51-90% of the AA's inundated area (use the classes in the question above).	0			
		Neither of above. There are 3 or more depth classes and none occupy >50%.	0			
F7	Emergent Plants -- Area (EmArea)	Consider just the area that has surface water for >1 week during the growing season. Herbaceous plants (not moss, not woody) whose foliage extends above a water surface in this area (i.e., emergents) cumulatively occupy an annual maximum of:	W	If multiple small patches are separated by less than 150 ft, they may be combined when evaluating this question. [SR,PR,OE,INV,FR,WBF,WBN,SBM,PD]		
		<0.01 acre (< 400 sq.ft). Enter 1 and SKIP TO F10 , unless only part of a wetland is being assessed.	0		NoEm	
		0.01 to < 0.10 acres (3,920 sq. ft).	0			
		0.10 to <0.50 acres (21,340 sq. ft).	0			
		0.50 to <5 acres.	0			
		5 to 50 acres.	0			
		>50 acres.	0			
F8	% Emergent Plants (EmPct)	Emergent plants occupy an annual maximum of:		[WC,SR,PR,NR,CS,OE,INV,PD,FA,FR,AM,WBF,WBN,SBM]		
		<5% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		5 to <30% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		30 to <60% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		60 to 95% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		>95% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
F9	Cattail or Tall Bulrush Cover (Cttail)	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.) or tall bulrush is:		[WBN, SBM]		
		<1% of the emergent vegetation, or cattail and bulrush are absent.	0			
		1 to <25% of the emergent vegetation.	0			
		25 to 75% of the emergent vegetation.	0			
		>75%, of the emergent vegetation.	0			

F10	Water Shading by AA's Woody Vegetation - Driest (WoodyDryShade)	During an average growing season, when water levels are lowest (but surface water still occupies >400 sq ft or >1% of the AA), the percentage of the remaining surface water within the AA that is shaded by trees and/or shrubs located within the AA is:		[WC,FA,WBN,SBM]		
		<5% of the water, and fewer than 10 woody plants taller than 3 ft shade it, or all surface water is flowing.	0			
		<5% of the water, but more than 10 woody plants taller than 3 ft shade it.	0			
		5 to <25% of the water.	0			
		25 to <50% of the water.	0			
		50 to 95% of the water.	0			
		>95% of the water.	0			
F11	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or adjacent to the AA is >1 acre and mostly deeper than 1 ft. Enter 1, if true.	0	Open Water - is surface water of any depth that contains no emergent herbaceous or woody vegetation (may contain floating-leaved or completely submersed plants). It may be partially shaded by a tree canopy.	OpenW	
F12	All Ponded Water as Percentage - Wettest (PondWpctWet)	When water levels are <u>highest</u> , during a normal year, the surface water that is ponded continually for >6 days occupies:		Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [WS,WC,CS,OE,INV,AM,WBF,WBN]		
		<1% or none of the AA. Surface water is completely or nearly absent then, or is entirely flowing. Enter 1 and SKIP TO F22.	0		NoPond	
		1 to <5% of the AA.	0			
		5 to <30% of the AA.	0			
		30 to <70% of the AA.	0			
		70 to 95% of the AA.	0			
		>95% of the AA.	0			
F13	Ponded Open Water Area - Wettest (OWAreaWet)	When water levels are <u>highest</u> , during a normal year, the AA's ponded open water occupies a cumulative area of:	W	Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). Open water - is surface water of any depth that contains no emergent herbaceous or wood vegetation (may contain floating-leaved or completely submersed species). It may be partially shaded by a tree canopy. [WS,WBF]		
		<0.10 acre (< 4356 sq. ft) of the AA and adjacent ponded waters. Enter 1 and SKIP TO F16.	0		NoPondOW	
		0.10 to <0.50 acres (21,340 sq. ft) of the AA and adjacent ponded waters.	0			
		0.50 to <1 acres of the AA and adjacent ponded waters.	0			
		1 to <5 acres of the AA and adjacent ponded waters.	0			
		5 to <50 acres of the AA and adjacent ponded waters.	0			
		50 to <640 acres (1 sq. mi) of the AA and adjacent ponded waters.	0			
		640 to <1000 acres of the AA and adjacent ponded waters.	0			
		1000 to <2500 acres of the AA and adjacent ponded waters.	0			
		>2500 acres (>4 sq.mi) of the AA and adjacent ponded waters.	0			
F14	Ponded Open Water Distribution - Wettest (WaterMixWet)	When water levels are <u>highest</u> , during a normal year, the distribution (in aerial view) of ponded open water patches larger than 0.01 acre (400 sq. ft) within the AA is (must meet both a and b criteria):		[NR,AM,WBF,WBN,PD,SBM]		
		(a) Vegetation <u>and open water</u> <u>EACH</u> <u>comprise 30-70%</u> of the AA (including its bordering waters if any) AND (b) There are <u>many</u> small patches of open water scattered widely within vegetation or <u>many</u> small vegetation clump "islands" scattered widely within open water. Typical (for example) of some extensive bulrush and cattail marshes.	0			
		(a) Vegetation <u>and open water</u> <u>EACH</u> <u>comprise 30-70%</u> of the AA (including its bordering waters if any) AND (b) There are only a <u>few</u> (or no) small patches of open water scattered widely within vegetation or a <u>few</u> small vegetation clump "islands" scattered widely within open water.	0			
		(a) Vegetation <u>or open water</u> <u>comprise >70%</u> of the AA (and its bordering waters) AND (b) There are <u>several small patches</u> of open water scattered within vegetation or <u>several</u> small vegetation clump "islands" scattered within open water.	0			

		(a) Vegetation <u>or open water</u> <u>comprise >70%</u> of the AA (and its bordering waters) AND (b) Open water is <u>mostly in a single area</u> (e.g., center of the wetland) and vegetation is in the rest (e.g., periphery), with almost no intermixing. (Typical of many ponds excavated for livestock watering, stormwater treatment, mineral extraction as well as many wetlands that are inundated only temporarily each year).	0			
F15	Width of Vegetated Zone - Wettest (WidthWet)	When water levels are <u>highest</u> , during a normal year, the width of the vegetated wetland that separates the largest patch of open water within or bordering the AA from the closest adjacent uplands, is predominantly: [Note: This is not asking for the maximum width.]		Vegetated wetland - in this case does not include underwater or floating-leaved plants, i.e., aquatic bed. In farmed wetlands that have different crops from year to year, consider vegetation condition as it probably existed during most of the past 5 years. If open water exists as many patches, use the distance between the majority of those patches and uplands. [WC,SR,PR,NR,CS,OE,AM,WBF,WBN,SBM,PD,Sens,EC]		
		<5 ft, or no vegetation between upland and open water.	0			
		5 to <30 ft.	0			
		30 to <50 ft.	0			
		50 to <100 ft.	0			
		100 to 300 ft.	0			
		> 300 ft.	0			
F16	All Poned Water as a Percentage (Driest) (PondWpctDry)	When water levels are <u>lowest</u> , during a normal year, but surface water still occupies <u>>1,076 sq feet (100 sq meter) OR >1% of the AA</u> (whichever is more), the water that is ponded (either visible or concealed by vegetation) in the AA occupies:		Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [WC,FA,FR,AM,WBN,Sens]	NoPond2	
		<1% or none. Surface water is completely or nearly absent then, or is entirely flowing. Enter 1 and SKIP TO F22.	0			
		1 to <5% of the AA.	0			
		5 to <30% of the AA.	0			
		30 to <70% of the AA.	0			
		70 to 95% of the AA.	0			
		>95% of the AA.	0			
F17	Ponded Open Water Area (Driest) (OWAreaDry)	When water levels are <u>lowest</u> , during a normal year, the AA's ponded open water occupies a cumulative area, including adjacent ponded waters, of:	W	Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). Open water - is surface water of any depth that contains no emergent herbaceous or wood vegetation (may contain floating-leaved or completely submersed species). It may be partially shaded by a tree canopy. [WBN,PUv]	NoPondOW2	
		<0.10 acre (< 4356 sq. ft). Enter 1 and SKIP TO F24.	0			
		0.10 to <0.50 acres (21,340 sq. ft).	0			
		0.50 to <1 acres.	0			
		1- 4 acres.	0			
		5 to <50 acres.	0			
		50 to <640 acres (1 sq. mi).	0			
		640 to <1000 acres.	0			
		1000 to 2500 acres.	0			
		>2500 acres (>4 sq.mi).	0			
F18	Ponded Open Water Distribution - (Driest) (WaterMixDry)	When water levels are lowest, during a normal year, the distribution of ponded open water patches larger than 0.01 acre (400 sq. ft) within the AA is:		[NR,INV,AM,WBN]		
		(a) Vegetation <u>and open water</u> <u>EACH</u> <u>comprise 30-70%</u> of the AA (including its bordering waters if any) AND (b) There are <u>many small patches</u> of open water scattered widely within vegetation or many small vegetation clump "islands" scattered widely within open water. Typical (for example) of some extensive bulrush and cattail marshes.	0			
		(a) Vegetation <u>and open water</u> <u>EACH</u> <u>comprise 30-70%</u> of the AA (including its bordering waters if any) AND (b) There are only a <u>few (or no) small patches</u> of open water scattered widely within vegetation or a few small vegetation clump "islands" scattered widely within open water.	0			
		(a) Vegetation <u>or open water</u> <u>comprise >70%</u> of the AA (and its bordering waters) AND (b) There are <u>several small patches</u> of open water scattered within vegetation or several small vegetation clump "islands" scattered within open water.	0			

		(a) Vegetation <u>or open water</u> <u>comprise >70%</u> of the AA (and its bordering waters) AND (b) Open water is <u>mostly in a single area</u> (e.g., center of the wetland) and vegetation is in the rest (e.g., periphery), with almost no intermixing. Typical of many ponds excavated for livestock watering, stormwater treatment, mineral extraction as well as many wetlands that are inundated only temporarily each year.	0			
F19	Floating Algae & Duckweed (Algae)	At some time of the year, <u>most</u> of the AA's otherwise-unshaded water surface is covered by floating mats of algae, or small (<1 inch) floating plants such as duckweed, <i>Azolla</i> , <i>Wolffia</i> , or <i>Riccia</i> . Enter 1, if true.	0	This includes most nontidal wetlands labeled as Aquatic Bed (AB) on NWI maps. If wetland can be visited only during winter, it may not be possible to answer this question with much certainty unless local sources are contacted or indicators (e.g., dried remains of algae) are found. [PR,OE,INV,FR,AM,WBF,WBN,FC]		
F20	Floating-leaved & Submerged Aquatic Vegetation (SAV)	SAV (submerged & floating-leaved aquatic vegetation, excluding the species listed above) occupies an annual maximum of:		SAV - are herbaceous plants that characteristically grow at or below the water surface, i.e., whose leaves are primarily and characteristically under or on the water surface during most of the part of the growing season when surface water is present. Some species are rooted in the sediment whereas others are not. If pond lily (<i>Nuphar</i>) is the predominant species, consider its maximum extent only during the period when surface water is present beneath the leaves. [PR,OE,INV,FR,AM,WBF,WBN]		NoSAV
		none, or <5% of the water area.	0			
		5 to <25% of the water area.	0			
		25 to <50% of the water area.	0			
		50 to 95% of the water area.	0			
		>95% of the water area.	0			
		many SAV plants present, but impossible to select from the above categories.	0			
F21	Width of Vegetated Zone (Driest) (WidthDry)	When water levels are lowest, during a normal year, but surface water still occupies ≥400 sq feet or >1% of the AA (which ever is more), the width of the vegetated wetland that separates the largest patch of open water within or bordering the AA from the closest adjacent uplands, is predominantly:		Measure the width perpendicular to the open water part. Vegetated wetland - in this case does not include underwater or floating-leaved plants, i.e., aquatic bed. In farmed wetlands that have different crops from year to year, consider vegetation condition as it probably existed during most of the past 5 years. Note: For most sites larger than 1 acre and with persistent water, measure the width using aerial imagery rather than estimating in the field. [WBN]		
		<5 ft, or no vegetation between upland and open water.	0			
		5 to <30 ft.	0			
		30 to <50 ft.	0			
		50 to <100 ft.	0			
		100 to 300 ft.	0			
		> 300 ft.	0			
F22	Beaver (Beaver)	Use of the AA by beaver during the past 5 years is: Select most applicable ONE.		Valley width - is delimited by an abrupt increase in slope on both sides of the channel. [AM,WBN,SBM,PD,Sens]		
		Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, or lodges.	0			
		Very likely based on known occurrence in this part of the region and proximity to ALL of the following (a) a persistent freshwater wetland, pond, or lake, or a perennial low-gradient (<5%) channel, and (b) average valley width is > 150 ft and (c) >20% cumulative cover of aspen, cottonwood, alder, and willow in vegetated areas within 150 ft of the AA's edge. Or there is evidence of beaver just outside the AA.	0			
		Somewhat likely based on known occurrence in this part of the region and proximity to ALL of the following (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) average valley width is >50 ft, and (c) >20% cumulative cover of hardwood trees and shrubs in vegetated areas within 150 ft of the AA's edge.	0			
		Unlikely because site characteristics above are deficient, and/or this is an area where beaver are routinely removed. But beaver occur within 2 miles.	0			
		None. Beaver are absent from this part of the region.	0			
F23	Isolated Island (Island)	During June, the wetland contains (or is part of) an island that is isolated from the shore by water depths >3 ft. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds. The island must be larger than 400 sq.ft and without inhabited buildings. Enter 1, if true.	0	[WBF,WBN]		
F24	Ice-free (IceDura)	During most years, most of the AA's surface water (if any) does not freeze, or freezes for fewer than 4 continuous weeks. Enter 1, if true.	0	[PR,FR,WBF]		

F25	Water Fluctuation Range - Maximum (Fluctu)	The maximum vertical fluctuation in surface water within the AA, during a normal year is:		maximum vertical fluctuation - is the difference between the highest annual and lowest annual water level during an average year. Use field indicators to assess this indicator. [WS,SR,PR,NR,CS,OE,INV,AM,WBN,PD]		
		<0.5 ft or stable.	1			
		0.5 to < 1 ft.	0			
		1 to <3 ft.	0			
		3 to 6 ft.	0			
		>6 ft.	0			
F26	% Only Saturated or Seasonally Flooded (SeasPct)	Identify the parts (if any) of the AA that never contain surface water (only saturated soil) or where the water (either ponded or flowing) usually remains on the land surface <u>for less than the entire growing season</u> . The percentage of the AA containing such areas is:		If you can identify plants, use their wetland indicator status to infer the possible extent of seasonal only inundation within a wetland. Vegetation may be patterned in concentric or parallel zones, as one moves outward & away from the deepest part of the wetland or channel. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) may be evident when not fully inundated. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualizing where that would intercept the land along the river. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. Although useful only as a general guide, the NRCS county soil survey descriptions of the soil units and water feature table usually includes information on flooding frequency and saturation persistence. [SR,NR,CS,OE,INV,FA,WBF,WBN,POL,SBM,PD,Sens,EC]		
		<5% of the AA, or none (i.e., all water persists for >4 months).	0		NoSeasonal	
		5 to <25% of the AA.	0			
		25 to <50% of the AA.	0			
		50 to 75% of the AA.	0			
		>75% of the AA.	1			
F27	Salinity, Alkalinity, Conductance (Salin)	The AA's surface water is mostly:		Saline or brackish conditions are commonly indicated by a prevalence of particular plant species. Consult the <u>ORWAP SupplInfo</u> file's P_Salt worksheetfor a list of these. Brackish or saline - conductance of >5000 µS/cm, or >3200 ppm TDS Slightly brackish - conductance of 500- 5000 µS/cm, or 320 - 3200 ppm TDS Fresh - conductance of < 500 µS/cm, or <320 ppm TDS [PR,CS,AM]		
		Brackish or saline. Plants that indicate saline conditions dominate the vegetation. Salt crust may be obvious around the perimeter and on flats.	0			
		Slightly brackish. Plants that indicate saline conditions are common. Salt crust may or may not be present along	0			
		Fresh. [Note: Assume this to be the condition unless wetland is known to be a playa or there is other contradicting evidence].	1		FreshW	
		Unknown.	0			
F28	Fish & Waterborne Pests (FishAcc)	Select All that apply:		[INV,FA,FR,AM,WBF]		
		A regularly-used boat dock is present within or contiguous to the AA.	0			
		A regularly-used boat dock is not within the AA, but there is one within 300 ft. of the AA and there is a persistent surface connection between the dock and the AA.	0			
		Fish (native or stocked) are known to be present in the AA, or can access it during at least one day annually.	0			
		None of the above, and could not estimate fish presence/absence.	1			
F29	Non-native Aquatic Animals (PestAnim)	The following are known or likely to have reproducing populations in this AA, its wetland, or in water bodies within 300 ft that connect to the AA at least seasonally. Select All that apply:		Assume non-native fish to be present if wetland is associated with a nearby reservoir, fish pond, or perennial stream flowing through an agricultural or residential area. Assume bullfrog, nutria, and/or carp to be present if (a) the AA contains persistent water or is flooded seasonally by an adjoining body of permanent water, and (b) not a forested wetland, and (c) in western Oregon, elevation is lower than about 3000 ft. In the ORWAP_SupplInfo file, see Inverts_Exo worksheet for more complete list of non-native invertebratesf or Oregon, and WetVerts worksheet for more complete list of fish that are not native to Oregon. You may also consult: http://nas.er.usgs.gov/queries/default.aspx http://www.dfw.state.or.us/conservationstrategy/invasive_species.asp [FA,FR,AM,EC]		
		Non-native amphibians (e.g., bullfrog) or reptiles (e.g., red-ear slider).	0			
		Carp.	0			
		Non-native fish that prey on tadpoles or turtles (e.g., bass, walleye, crappie, brook trout).	0			
		Non-native invertebrates (e.g., New Zealand mudsnail, mitten crab, rusty crayfish).	0			
		Nutria.	0			
		None of above.	1			

F30	Shorebird Feeding Habitats (Shorebd)	The extent of <u>mudflats</u> , <u>very shallow waters</u> , or <u>shortgrass meadows</u> , within the AA, that meet the definition of shorebird habitat for at least 3 months during the period of late summer through the following May is:		Shorebird habitat - areas must have (a) grasses shorter than 6", or a mudflat, during any part of this period, AND (b) soils that either are saturated or covered with <2 inches of water during any part of this period, AND (c) no detectable surrounding slope (e.g., not the bottom of an incised dry channel), AND (d) not shaded by shrubs or trees. See photograph in Appendix A of manual. This addresses needs of most migratory sandpipers, plovers, curlews, and godwits. [WBF]		
		None, or <100 sq. ft.	1			
		100 to <1000 sq. ft. within AA.	0			
		1000 to 10,000 sq. ft. within AA.	0			
		>10,000 sq. ft. within AA.	0			
F31	Outflow Duration (OutDura)	The <u>most persistent</u> surface water connection (outlet channel, pipe, ditch, or overbank water exchange) between the AA and the closest stream or lake located downslope is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of its wetland, OR the surface connection between the AA's wetland and a mapped stream or lake located within 300 ft downslope from this wetland].	W	The emphasis is on the connection to a mapped stream network. A larger difference in elevation between the wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration. Do not rely only on topographic maps or NWI maps to show this; inspect while in field if possible, and ask landowner. The durations given are only approximate and are for a "normal" year. The connection need not occur during the growing season. Assume that depressions with effective nearby ditches or tile drains will connect for shorter periods. [WS,WCv,SR,PR,NR,CS,OE,FA,FR,Sens]		
		Persistent (>9 months/year).	0			
		Seasonal (14 days to 9 months/year, not necessarily consecutive).	0			
		Temporary (<14 days, not necessarily consecutive).	0			
		None -- no surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. Enter 1 and SKIP TO F33.	1		NoOutlet	
F32	Outflow Confinement (Constric)	During major runoff events , in the places described above where surface water exits the AA, it:	W	Major runoff events - would include biennial high water caused by storms and/or rapid snowmelt. Impeded - means causing a delay or reduction in water velocity or volume. [WS,SR,PR,NR,CS,OE,Sens,STR]		
		Is impeded as it mostly passes through a pipe, culvert, tidegate, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography).	0			
		Leaves mainly through natural surface exits, not largely through artificial or temporary features which impede or accelerate outflow.	0			
		Is exported more quickly than usual as it mostly passes through ditches or pipes intended to accelerate drainage. They may be within the AA or connected to its outlet or within 30 ft of the AA's edge.	0			
F33	Tributary or Overbank Inflow (Inflow)	At least once annually, surface water from upstream or another water body moves into the AA. It may enter directly, or as unconfined overflow from a contiguous river or lake. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. Enter 1, if true. If false, SKIP to F36.	0	[SRv,PRv, PD]	Inflow	
F34	Input Channel Gradient (SlopeInChan)	The gradient of the tributary with the largest inflow, averaged over the 150 ft. before it enters the AA (but excluding any portion of the distance where water travels through a pipe) is:		[SRv, PRv]		
		<1%.	0			
		1 to <3%.	0			
		3 to 6%.	0			
		>6%.	0			
F35	Throughflow Complexity (ThruFlo)	[Skip this question if the AA lacks both an inlet and outlet.] During peak annual flow, water entering the AA in channels encounters which of the following conditions as it travels through the AA: Select the ONE encountered most.		This mainly refers to surface water that moves between the inlet and outlet. Some judgment is required in assessing straight vs. indirect flow path. See <u>ORWAP Manual</u> Appendix B diagram. [WS,SR,PR,NR,OE,INV,FA,FR,WBF,WBN,PD]		
		Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel within unvegetated (often incised) channels and has minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0			
		Bumps into <u>herbaceous vegetation</u> but mostly remains in fairly <u>straight channels</u> .	0			
		Bumps into <u>herbaceous vegetation</u> and mostly <u>spreads throughout</u> , or follows a fairly <u>indirect path</u> (in widely meandering, multi-branched, or braided channels).	0			
		Bumps into <u>tree trunks and/or shrub stems</u> but mostly remains in fairly <u>straight channels</u> .	0			
		Bumps into <u>tree trunks and/or shrub stems</u> and follows a fairly <u>indirect path</u> (meandering, multi-branched, or braided) from entrance to exit.	0			

[illegible]

		Those species together comprise <u>less than half</u> of the areal cover of <u>native</u> herbaceous plants at any time during the year.	0	
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F41	Invasive or Non-native - % of Vegetative Cover (Invas)	Vegetative cover (annual maximum) is:		In the <u>ORWAP SupplInfo</u> , see P_Invas worksheet for list of invasives and P_Exo for non-native species list. Examples of woody invasives are Himalayan blackberry, English ivy, scotch broom, and gorse. For known distributions of invasive plants in your area see: http://lnr.oregonstate.edu/orbic/invasive-species and http://www.weedmapper.org/maps.html but do not limit your answer based only on that information. Consider most crops to be non-native. [WBF,PD,POL,Sens,EC]		
		Overwhelmingly (>80% cover) non-native species AND <u>>10%</u> of the herbaceous cover is <u>invasive species</u> . (See ORWAP SupplInfo file for species designations).	0		InvasDom	
		Overwhelmingly (>80% cover) non-native species AND <u><10%</u> of the herbaceous cover is <u>invasive species</u> ; OR 50-80% of cover is non-native species regardless of invasiveness.	0			
		Mostly (50-80%) native species.	1			
		Overwhelmingly (>80%) native species.	0			
F42	Mowing, Grazing, Fire (VegCut)	There is evidence that grazing by domestic or wild animals -- or mowing (multiple times per year), plowing, herbicides, harvesting, or fire -- has repeatedly reduced the AA's vegetation cover (plants that normally grows taller than 4") to <u>less than 4 inches</u> , or has created an obvious browse line, over the following extent:		Repeatedly - means the condition occurred in at least half of the last 10 years. [SR,AM,WBN,SBM,PD,EC]		
		0% (No evidence of such activities).	1		NoMowGraze	
		Trace to 5% of the normally vegetated AA (grazing, mowing, or fire have occurred but vegetation height effects are mostly <u>unnoticeable</u>).	0			
		5 to <50% of the normally vegetated AA.	0			
		50 to 95% of the normally vegetated AA.	0			
		>95% of the normally vegetated AA.	0			
F43	Historically Lacking Trees (HistVeg)	According to the ORWAP Report, the <u>presettlement vegetation class</u> in the vicinity of the AA was prairie, sagebrush, or other open lands not dominated by trees. In addition, the AA is not within the biennial floodplain of a river where trees and shrubs typically dominate when conditions are unaltered. Enter 1, if true.	0	In the <u>ORWAP Report's</u> Location Information table. This question is used as a classification variable mainly to set appropriate expectations for the extent of forest cover.	HistOpenland	
F44	Moss Wetland (Moss)	The AA's ground cover is primarily a deep layer of moss, and/or soils are mainly peat or organic muck. Also, the soil remains water-saturated to within 3 inches of the surface during most of a normal year. Surface water within the AA often is absent or confined to small scattered pools or ditches. Enter 1, if true.	0	Includes most bogs and fens. May be a floating island. [NR,CS,OE,WBF,WBN,Sens]		
F45	Woody Extent (WoodyPct)	Within the vegetated part of the AA, woody vegetation (trees, shrubs, robust vines) taller than 3 ft occupies:		Robust vines - include Himalayan blackberry and others that are generally erect and taller than 1 ft. Vegetated part - should not include floating-leaved or submersed aquatics. For sites larger than 1 acre, this should be determined from aerial imagery rather than estimated only in the field. [NR,WC,CS,SBM,PD,Sens]		
		<5% of the vegetated AA, and fewer than 10 trees are present. Enter 1 and SKIP to F51.	0		NoWoody	
		<5% of the vegetated AA, but more than 10 trees are present.	0			
		5 to <25% of the vegetated AA.	0			
		25 to <50% of the vegetated AA.	0			
		50 to 95% of the vegetated AA.	1			
		>95% of the vegetated part of the AA.	0			
F46	Woody Diameter Classes (TreeDiams)	Select All the types that comprise >5% of the woody canopy cover in the AA or >5% of its wooded upland edge if any:		Wooded upland edge - includes woody plants located within one tree-height of the wetland-upland boundary. DBH is the diameter of the tree measured at 4.5 ft above the ground. [CS,SBM,POL,Sens]		
		Deciduous 1-4" diameter (DBH) and >3 ft tall.	1			
		Evergreen 1-4" diameter and >3 ft tall.	0			
		Deciduous 4-9" diameter.	1			
		Evergreen 4-9" diameter.	0			
		Deciduous 9-21" diameter.	1			
		Evergreen 9-21" diameter.	1			
		Deciduous >21" diameter.	0			
		Evergreen >21" diameter.	1			

F47	Snags (Snags)	The number of large snags (diameter >12 inches) in the AA plus 100 ft uphill of its edge is:		Snags - are standing trees at least 20 ft tall that are mainly without bark or foliage. [SBM,POL]		
		Few or none.	1			
		Several.	0			
F48	Abovewater Wood (WoodOver)	The number of horizontal wood pieces thicker than 4 inches that are <u>partly submerged</u> during most of the spring or early summer, thus <u>potentially serving as basking sites</u> for turtles, birds, or frogs and cover for fish is:		Only the wood that is at or above the water surface is <u>assessed</u> because of the impracticality of assessing underwater wood accurately when using a rapid assessment method. [FA,FR,AM]		
		None.	1			
		Few.	0			
		Several (e.g., >3 per 300 ft of channel or shoreline).	0			
F49	Downed Wood (WoodDown)	The number of downed wood pieces longer than 6 ft and with diameter >4 inches that are not submerged during most of the growing season, is:		Exclude temporary "burn piles." [INV,AM,SBM,POL]		
		Few or none.	0			
		Several.	1			
F50	Exposed Shrub Canopy (ShrExpos)	Within the vegetated part of the AA, shrubs shorter than 20 ft that are not overtopped by trees occupy: Select first statement that is true.		Vegetated part - should not include floating-leaved or submersed aquatics. [SBM,PD]		
		<5% of the vegetated AA and <0.01 acre (400 sq ft).	0			
		5 to <25% of the vegetated AA or the water edge (whichever is greater in early summer).	0			
		25 to <50% of the vegetated AA or the water edge (whichever is greater in early summer).	1			
		50 to 95% of the vegetated AA or the water edge (whichever is greater in early summer).	0			
		>95% of the vegetated part of the AA or the water edge (whichever is greater in early summer).	0			
F51	N Fixers (Nfix)	The percentage of the vegetated area in the AA <u>or</u> along its water edge (whichever has more) that contains nitrogen-fixing plants (e.g., alder, baltic rush, scotch broom, lupine, clover, alfalfa, other legumes) is:		For a more complete list, see <u>ORWAP_SupplInfo</u> , worksheet NFIX (includes native and non-native species). Do not include algae. [OE,INV,Sens]		
		<1% or none.	1			
		1 to <25%.	0			
		25 to <50%.	0			
		50 to 75%.	0			
		>75%.	0			
Note for the next four questions: If the AA lacks an upland edge, evaluate based on the AA's <u>entire perimeter</u> and outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.						
F52	Upland Perennial Cover - % of Perimeter (PerimPctPer)	The percentage of the AA's <u>edge (perimeter)</u> that is comprised of a band of upland perennial cover wider than 10 ft and taller than 6 inches, during most of the growing season is:		Perennial cover - vegetation that includes wooded areas, native prairies, sagebrush, as well as relatively unmanaged commercial lands in which the ground is disturbed less frequently than annually such as perennial ryegrass fields, hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It does <u>not</u> include water, row crops (vegetable, orchards, Christmas tree farms), residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [WCv,SRv,PRv,INV,FA,AM,WBF,WBN,SBM,PD,POL,POLv,Sens,STR]		
		<5%.	0			
		5 to <25%.	0			
		25 to <50%.	1			
		50 to <75%.	0			
		75 to 95%.	0			
		>95%.	0			

F53	Upland Perennial Cover Width (Buffer) (BuffWidth)	Along the greatest extent of the AA's upland edge , the width of perennial cover taller than 6 inches that extends upslope from the AA until mostly shorter or non-perennial cover is reached is: [NOTE: the width is not necessarily the maximum width. Base on vegetation that occurs most of the growing season.]		Upland edge - is the land within 3 ft of the wetland's perimeter that is not wetland. [WCv,SRv,PRv,INV,FA,AM,WBN,SBM,PD,POL,Sens,STR]		
		< 5 ft, or none.	0		NoUpPerCov	
		5 to <30 ft.	1			
		30 to <50 ft.	0			
		50 to <100 ft.	0			
		100 to 300 ft.	0			
		> 300 ft.	0			
					AllUpPerren	
F54	Upland Trees as % of All Perennial Cover (UpTreePctPer)	Within 100 f.t landward from the AA's edge (perimeter) , the percentage of the upland perennial cover that is woody plants taller than 20 ft is:		Base this on the cumulative canopy width of the trees. [WSv,FA,WBF,WBN,SBM]		
		<5%, or there is no upland perennial cover along the upland edge.	0			
		5 to <25% of perennial cover.	1			
		25 to <50% of perennial cover.	0			
		50 to <75% of perennial cover.	0			
		75 to 95% of perennial cover.	0			
		>95% of perennial cover.	0			
F55	Weeds - % of Upland Edge (UpWeed)	Along the AA's edge (perimeter) , the cover of invasive woody or herbaceous plants occupies: [If vegetation is so senesced that apparently-dominant edge species cannot be identified even to genus, answer "none"].		See ORWAP SupplInfo file , worksheet P_Invas. Some of the most common invaders along upland edges of Oregon wetlands are Himalayan blackberry, knotweed, sweetbrier rose, Russian olive, English ivy, nightshade, pepperweed, medusahead, white clover, ryegrass, quackgrass, false brome, bentgrass, dandelion, oxeye daisy, pennyroyal, bull and creeping thistles, tansy ragwort, poison hemlock, and teasel. If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. [PD,STR]		
		<5%, or none.	0			
		5 to <25%.	0			
		25 to <50%.	1			
		50 to <75%.	0			
		75 to 95%.	0			
		>95%.	0			
F56	Bare Ground & Accumulated Plant Litter (Gcover)	Consider the parts of the AA that go dry during a normal year. Viewed from 6 inches above the soil surface , the condition in most of that area just before the year's longest inundation period begins is:		Bare ground - includes unvegetated soil, rock, sand, or mud between stems if any. Bare ground under a tree or shrub canopy should be counted. Wetlands that are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [WS,WC,SR,PR,NR,CS,OE,INV,AM,SBM,POL,Sens,EC]		
		Little or no (<5%) bare ground is visible between erect stems or under canopy and there is little or no dead detached plant tisuse (thatch) remaining on top of the ground surface and ground surface is extensively blanketed by moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	0			
		Some (5-20%) bare ground or remaining thatch is visible. Herbaceous plants have moderate stem densities and do not closely hug the ground.	1			
		Much (20-50%) bare ground or thatch is visible. Low stem density and/or tall plants with little living ground cover during early growing season.	0			
		Mostly (>50%) bare ground or thatch.	0			
			0			
		Not applicable. All of the AA is inundated throughout most years.	0			
F57	Ground Irregularity (Girreg)	In parts of the AA that lack persistent water, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, islands, natural levees, wide soil cracks, and microdepressions is:		Microtopography - refers mainly to vertical relief of <3 ft and is represented only by inorganic features, except where plants have created depressions or mounds of soil. Consider the microtopography to be " few or none " if one could walk easily through most of the AA once any slash and logs are removed. Consider it to be " several " if one has to constantly look down and check balance. [WS,SR,PR,NR,INV,AM,SBM,PD,POL,EC]		
		Few or none, or the entire AA is always water-covered. Minimal microtopography ; <1% of the AA, e.g., many flat sites having a single hydroperiod.	0			
		Intermediate.	1			
		Several (extensive micro-topography).	0			

F58	Soil Composition (SoilTex)	Based on digging into the substrate and examining the <u>surface layer</u> of the soil (2 inch depth) that was mapped as being predominant, its composition (excluding duff and living roots) is mostly:		Do not base the texture on soil maps unless the AA is inaccessible. See <u>ORWAP Manual's</u> protocol (Step 2 of section 5.3 and the soil chart in Appendix B). Judge which soil type is predominant <u>only in the part of the AA that is not inundated</u> at the time of your visit. Duff - is loose organic surface material, e.g., dead plant leaves and stems). Organic soils are much less common in floodplains. [WS,PR,NR,CS,OE,PD,Sens]		
		Loamy: includes silt, silt loam, loam, sandy loam.	1			
		Clayey: includes clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam.	0			
		Organic: includes muck, mucky peat, peat, and mucky mineral soils (blackish or grayish). Exclude live roots unless they are moss.	0			
		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0			
F59	Cliffs or Banks (Cliff)	Within 300 ft of the AA, there are elevated terrestrial features such as cliffs, bluffs, talus slopes, or unarmored stream banks that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1, if true.	0	[SBM,POL]		
F60	Restored or Created Wetland (NewWet)	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or other factors affecting what was upland (non-hydric) soil. Or, some part of the AA was originally a wetland, was artificially drained for many years, and has since had its water regime partly or wholly restored or rehabilitated (e.g., by ditch plugs, berms, tile breakage, non-maintenance).		Include wetlands whose area was likely expanded by road berms which impeded runoff, but do not include wetlands created by beaver dams except for the part where flooding affected uplands (not just existing wetlands and streams). Determine this using historical aerial photography, old maps, soil maps, consultation with landowners, and/or permit files as available. See <u>ORWAP Map Viewer's</u> Hydric Soil layer (expend Soils). Also, locations of some restoration wetlands can be found in the ORWAP Map Viewer under Restoration. Another potential source is the <u>Conservation Registry</u> : https://oregonexplorer.info/content/conservation-registry?topic&ptopic . [PR,NR,CS,OE,PD,Sens]		
		Yes, and constructed or restored mostly within last 3 years.	0			
		Yes, and constructed or restored mostly 3-7 years ago.	0			
		Yes, and constructed or restored mostly >7 years ago.	0			
		Yes, but time of origin or restoration unknown.	0			
		No.	1		NotNewWet	
		Unknown if wetland is constructed, restored, or natural.	0			
F61	Ownership (Ownership)	Most of the AA is:		An initial indication of ownership can be found on the <u>ORWAP Map Viewer</u> under the Land Ownership layer (expand Land Classification). However, it is advisable to ask local sources or use local maps with higher precision. [PUv]		
		Publicly owned (municipal, county, state, federal).	0			
		Owned by non-profit conservation organization or easement holder who allows public access to this AA.	0			
		Other private ownership, including tribal. Enter 1 and SKIP to F63.	1		PrivateOwn	
F62	Special Protected Area Designation (Desig)	The AA is part of an area designated as a Special Protected Area according to the USGS Protected Areas Database of the U.S. Enter 1, if true.	0	See the ORWAP Map Viewer Report under the Location Information section for "In Special Protected Area?" [PUv]		
F63	Conservation Investment (ConsInvest)	The AA is not a mitigation wetland, but public funds or community volunteer efforts have been applied to preserve, create, restore, or enhance the condition or functions of the wetland. (e.g. CRP or WRP wetlands, community projects). Enter 1, if true. (If unknown, leave 0).	0	Locations of some restoration wetlands can be found in the <u>ORWAP Map Viewer</u> under Restoration. Another potential source is the <u>Conservation Registry</u> : https://oregonexplorer.info/content/conservation-registry?topic&ptopic [PUv]		
F64	Compensation Wetland (MitWet)	The AA is all or part of a compensation site used explicitly to offset impacts elsewhere. Enter 1, if true. (If unknown, leave 0).	0	Answer to the best of your knowledge. Sources for information include the property owner, DSL, and/or the ACOE. [PUv]		
F65	Sustained Scientific Use (SciUse)	Plants, animals, or water in the AA have been monitored for >2 years, <u>unrelated to any regulatory requirements, and data are available to the public</u> . Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Enter 1, if true. (If unknown, leave 0)	0	[PUv]		
F66	Visibility (Visibil)	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 300 ft of the AA is (Select ONE):		[WBFv,WBNv,SBMv,PUv,STR]		
		<25%.	0			
		25 - 50%.	0			
		>50%.	1			

F67	Non-consumptive Uses - Actual or Potential (RecPoten)	Select All statements that are true of this AA as it currently exists:		The question assumes access is allowed. [PUv]		
		Walking is physically possible in >5% of the AA during most of year (e.g., free of deep water and dense shrub thickets).	1			
		All or part of the AA (or an area within sight of the AA and within 100 ft) would be physically accessible to people in wheelchairs (e.g., paved and flat).	0			
		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed most of the year by boat.	0			
		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0			
F68	Core Area 1 (VisitNo)	The percentage of the AA almost never walked or driven by humans during an average growing season probably comprises: [Note: If more than half the wetland is visible from areas within 100 ft of the AA, include visits by people to those areas that are actually walked or driven (not simply viewed from).		Judge this based on proximity to population centers, roads, trails, accessibility of the AA to the public, wetland size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or that are not an annual occurrence (e.g., by construction, maintenance, or monitoring crews). [AM,WBF,WBN,SBM,PD,PUv,STR]		
		<5% and no inhabited building is within 300 ft of the AA.	0			
		<5% and inhabited building is within 300 ft of the AA.	0			
		5 to <50% and no inhabited building is within 300 ft of the AA.	0			
		5 to <50% and inhabited building is within 300 ft of the AA.	1			
		50 to 95% with or without inhabited building nearby.	0			
		>95% of the AA with or without inhabited building nearby.	0			
F69	Core Area 2 (VisitOften)	The part of the AA visited by humans <u>almost daily for several weeks</u> during an average growing season probably comprises: [The Note in the preceding question applies here as well].		See note above. [AM,WBF,WBN,SBM,PD,PUv,STR]		
		<5%.	0			
		5 to <50%.	1			
		50 to 95%.	0			
		>95% of the AA.	0			
F70	Consumptive Uses (Provisioning Services) (Hunt)	Recent evidence was found <u>within the AA</u> of the following potentially-sustainable consumptive uses. Select All that apply.		Evidence of these consumptive uses may consist of direct observation, or presence of physical evidence (e.g., recently cut stumps, fishing lures, shell cases), or might be obtained from communication with the land owner or manager. [FRv,WBFv,PUv]		
		Low-impact commercial timber harvest (e.g., selective thinning).	0			
		Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0			
		Waterfowl hunting.	0			
		Fishing.	0			
		Trapping of furbearers.	0			
		None of the above.	1			
F71	Domestic Wells (Wells)	Wells or water bodies that currently provide drinking water are:		If unknown, assume this is true if there is an inhabited structure within the specified distance and the neighborhood is known to not be connected to a municipal drinking water system (e.g., is outside an urban growth boundary or other densely settled area). [NRv]		
		<300 ft and downslope from the AA or at same elevation.	0			
		300 to 1500 ft and downslope or at same elevation.	0			
		>1500 ft downslope, or none downslope, or no information.	1			

F72	Wetland Type of Conservation Concern (RareType)	Does the AA contain, or is it part of, any of these wetland types? Select All that apply.	W	Consult the <u>ORWAP Report</u> under the Location Information table for "Rare Wetland Types." But be aware that it may not apply to the exact AA you have delimited. [PDv, Sens]		
		<u>Mature forested wetland</u> (anywhere): a wetland in which mean diameter of trees (d.b.h., FACW and FAC species only) exceeds 18 inches, <u>and/or</u> the average age of trees exceeds 80 years, <u>or</u> there are >5 trees/acre with diameter >32 inches.	0	To qualify, the diameter of >18 inches must be the mean measured from at least 10 trees.		
		<u>Bog or Fen</u> : contains a sponge-like organic soil layer which covers most of the AA and often has extensive cover of sedges <u>and/or</u> broad-leaved evergreen shrubs (e.g., Ledum). Often lacks tributaries, being fed mainly by groundwater and/or direct precipitation.	0			
		<u>Playa, Salt Flat, or Alkaline Lake</u> : a nontidal ponded water body usually having saline (salinity >1 ppt or conductivity >1000 µS) or alkaline (conductivity >2000 µS and pH >9) conditions and large seasonal water level fluctuations (if inputs-outputs unregulated). If a playa or salt flat, vegetation cover is sparse and plants typical of saline or alkaline conditions (e.g., Distichlis, Atriplex) are common.	0	See <u>ORWAP_SupplInfo</u> file, worksheet P_Salt for species typically occurring in tidal or saline conditions.	Playa	
		<u>Hot spring</u> (anywhere): a wetland where discharging groundwater in summer is >10 degrees (F) warmer than the expected water temperature.	0			
		<u>Native wet prairie</u> (west of the Cascade crest): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, and dominated primarily by native graminoids often including species in column E.	0	Deschampsia caespitosa, Danthonia californica, Camassia quamash, Tritelleia hyacinthina, Carex densa, C. aperta, and/or C. unilateralis		
		<u>Vernal pool (Willamette Valley)</u> : a seasonally inundated wetland, underlain by hardpan or claypan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and with native plant species distinctly different from those in slightly higher areas, and often including species in column E.	0	Downingia elegans, Isoetes nuttallii, Tritelleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys figuratus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Lasthenia glaberrima , Cicendia quadrangularis, Kickxia elatine, Gnaphalium palustre, and/or Callitriche spp.		
		<u>Vernal pool (Medford area)</u> : a seasonally inundated acidic wetland, underlain by hardpan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and having concentric rings of similar native vegetation, often including species in column E.	0	Downingia vina, Isoetes nuttalli, Pilularia americana, Tritelleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys brachteatus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Alopecurus saccatus, Lasthenia californica, Deschampsia danthonioides, and/or Callitriche spp.		
		<u>Vernal pool (Modoc basalt & Columbia Plateau)</u> : a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located on shallow basalt bedrock and often having species in column E.	0	Blennosperma nanum, Camassia quamash, Epilobium densiflorum, Callitriche marginata, Cicendia quadrangularis, Eryngium vaseyi, Psilocarphus brevissimus, and/or Sedella pumila.		
		Interdunal wetland (Coastal ecoregion): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located between sand dunes where wind has scoured the sand down to the water table (deflation plain, blowout pond), and often with significant cover of the native species in column E.	0	Carex obnupta, Argentina egedii, Juncus lesueurii, J. nevadensis, J. falcatus, Sisyrinchium californicum, and/or Salix hookeriana		
		<u>Ultramafic soil wetland (mainly southwestern Oregon)</u> : a low-elevation wetland, usually with a sponge-like organic soil layer, occurring in an area with exposed serpentine or peridotite rock, and/or in soils with very low Ca:Mg ratios.	0			
		None of above.	1			

ORWAP V.3.2 Site Name:	Forest Lawn Rd
Investigator Name:	K Cartwright
Date of Field Assessment:	12/9/2020
Scores will appear below after data are entered in worksheets OF, F, T, and S. See Manual for definitions and descriptions of how scores were computed and ratings assigned.	

Normalized Scores & Ratings for this Assessment Area (AA):								
Specific Functions or Values:	Function Score	Function Rating	Rating Break Proximity	Values Score	Values Rating	Rating Break Proximity	Function Score (raw)	Values Score (raw)
Water Storage & Delay (WS)	10.00	Higher		0.00	Lower		10.00	0.00
Sediment Retention & Stabilization (SR)	10.00	Higher		7.75	Higher		10.00	5.90
Phosphorus Retention (PR)	10.00	Higher		5.17	Moderate		10.00	4.30
Nitrate Removal & Retention (NR)	10.00	Higher		4.26	Moderate	LM	10.00	4.30
Anadromous Fish Habitat (FA)	0.00	Lower		0.00	Lower		0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower		0.00	Lower		0.00	0.00
Amphibian & Reptile Habitat (AM)	5.43	Moderate		2.51	Lower		4.93	2.51
Waterbird Nesting Habitat (WBN)	4.40	Moderate		5.00	Moderate		3.65	5.00
Waterbird Feeding Habitat (WBF)	3.75	Moderate		5.00	Moderate		3.38	5.00
Aquatic Invertebrate Habitat (INV)	2.63	Lower		2.11	Lower		4.53	2.63
Songbird, Raptor, Mammal Habitat (SBM)	2.38	Lower		5.33	Moderate		4.38	5.33
Water Cooling (WC)	3.28	Moderate		0.00	Lower		2.87	0.00
Native Plant Diversity (PD)	5.07	Moderate		6.67	Moderate	MH	4.55	6.67
Pollinator Habitat (POL)	5.49	Moderate		5.46	Higher	MH	4.79	4.42
Organic Nutrient Export (OE)	0.00	Lower					0.00	
Carbon Sequestration (CS)	6.86	Higher					5.87	
Public Use & Recognition (PU)				3.58	Lower	LM		4.17

Other Attributes:	Score	Rating	Rating Break Proximity		
Wetland Sensitivity (SEN)	3.58	Moderate			5.30
Wetland Ecological Condition (EC)	3.43	Moderate	LM		4.79
Wetland Stressors (STR)	6.96	Higher			6.40

GROUPS	Selected Function	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity
Hydrologic Function (WS)	Water Storage & Delay (WS)	Higher		Lower	
Water Quality Support (SR, PR, or NR)	Sediment Retention & Stabilization (SR)	Higher		Higher	
Fish Habitat (FA or FR)	Anadromous Fish Habitat (FA)	Lower		Lower	
Aquatic Habitat (AM, WBF, or WBN)	Waterbird Nesting Habitat (WBN)	Moderate		Moderate	
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Pollinator Habitat (POL)	Moderate		Higher	MH

NOTE: A score of 0 does not always mean the function or value is absent from the wetland. It usually means that this wetland has equal or less capacity than the lowest-scoring one, for that function or value, from among the 200 calibration wetlands that were assessed previously by Oregon Department of State Lands.

Report Generated: February 13, 2023 11:26 AM

Assessment Area: 0.9 Acres

Location Map



Location Information

Latitude	45.8867742173154	Longitude	-123.962980213789
Elevation	46 ft	Annual precipitation	82 in
Watershed (HUC12)	Arch Cape Creek-Frontal Pacific Ocean (171002010105)		
Presettlement Vegetation Class	Sitka spruce-western hemlock		
Rare Wetland Type(s)	None		
Hydrologic Landscape Class	Very wet		
In Special Protected Area?	No		

[View Salinity Maps \(pdf\)](#)

Soil Information

Soil Name	Templeton-Ecola silt loams, 30 to 60 percent slopes
Soil Symbol	61E
Hydric Rating	No
Hydric Percent	0
Percent Area	65.7%
Erosion Hazard	Severe

This report was generated using the ORWAP Map Viewer, a tool of the Oregon Explorer (<http://oregonexplorer.info>).

Dom. Cond. Non-irrigated Capability Class	Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
---	--

Soil Name	Walluski silt loam, 7 to 15 percent slopes
Soil Symbol	71C
Hydric Rating	No
Hydric Percent	5
Percent Area	34.3%
Erosion Hazard	Severe
Dom. Cond. Non-irrigated Capability Class	Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Watershed Information

HUC Best							
HUC Code	HUC Name	Is HUC Best?	Greatest Criteria met	FW, s/f, lg (Acres)	FW, em, lg (Acres)	EST, em, lg (Acres)	EST, s/f, lg (Acres)
HUC8: 17100201	Necanicum	No	n/a	200.6	68.1	19.3	2.9
HUC10: 1710020101	Necanicum River	Yes	type diversity	200.6	68.1	19.3	2.9
HUC12: 171002010105	Arch Cape Creek-Frontal Pacific Ocean	No	n/a	18.2	5.5	0.5	0

[abbreviations: FW- freshwater (wetland); em- Emergent; lg- largest; s/f- Shrub/Forested; EST- Estuarine (wetland)]

HUC 12 Functional Deficit									
HUC Code	HUC Name	WS	SR	NT	WC	INV	AM	FH	WB
HUC12: 171002010105	Arch Cape Creek-Frontal Pacific Ocean								

[abbreviations: WS= Water Storage, SR= Sediment Retention, NT= Nutrient Retention (PR or NR), WC= Water Cooling (Thermoregulation), INV= Invertebrate Habitat, AM= Amphibian Habitat, FH= Fish Habitat (FA or FR), WB= Waterbird Habitat (WBF or WBN)]

Rare Species Scores

Rare Species Type	Maximum score	Sum Score	Rating
Non-anadromous Fish Species	0	0	None
Amphibian & Reptile Species	0	0	None
Feeding Waterbirds	0	0	None
Nesting Waterbirds	0.24	0.24	Intermediate
Songbirds, Raptors, and Mammals	0.33	0.55	Intermediate
Invertebrate Species	0	0	None
Plant Species	0.33	0.33	Intermediate

Scores have taken into account several factors for each rare species record contained in the official database of the Oregon Biodiversity Information Center (ORBIC): (a) the regional rarity of the species, (b) their proximity to the point of interest, and (c) the "certainty" that ORBIC assigns to each of those records.

Element of Occurrence (Rare Species)

[View wildlife list for Arch Cape Creek-Frontal Pacific Ocean \(171002010105\)](#)

Within Assessment Area No EO Records

Within 1 mile No EO Records

In HUC12 watershed 26 EO Records

Element of Occurrence Record(s) in HUC12

- Western snowy plover**
 [4 occurrences]
Charadrius nivosus nivosus
 ORBIC State Status: S2
 ORBIC Global Status: G3T3
 ODFW Strategy Species: No
- Coho salmon (Oregon Coast ESU)**
 [6 occurrences]
Oncorhynchus kisutch pop. 3
 ORBIC State Status: S2
 ORBIC Global Status: G5T2Q
 ODFW Strategy Species: No
- Northern sea lion**
 [1 occurrences]
Eumetopias jubatus
 ORBIC State Status: S3
 ORBIC Global Status: G3
 ODFW Strategy Species: No
- Townsend's big-eared bat**
 [1 occurrences]
Corynorhinus townsendii
 ORBIC State Status: S2
 ORBIC Global Status: G4
 ODFW Strategy Species: Yes
- Chum salmon (Pacific Coast ESU)**
 [1 occurrences]
Oncorhynchus keta pop. 4

ORBIC State Status: S2
ORBIC Global Status: G5T3Q
ODFW Strategy Species: Yes

6 Steelhead (Oregon Coast ESU, winter run)

[4 occurrences]

Oncorhynchus mykiss pop. 31

ORBIC State Status: S2S3
ORBIC Global Status: G5T2T3Q
ODFW Strategy Species: No

7 American peregrine falcon

[2 occurrences]

Falco peregrinus anatum

ORBIC State Status: S3
ORBIC Global Status: G4T4
ODFW Strategy Species: No

8 Marbled murrelet

[2 occurrences]

Brachyramphus marmoratus

ORBIC State Status: S2B
ORBIC Global Status: G3
ODFW Strategy Species: No

9 Bighead sedge

[4 occurrences]

Carex macrocephala

ORBIC State Status: S2
ORBIC Global Status: G5
ODFW Strategy Species: No

10 Pacific lamprey

[1 occurrences]

Entosphenus tridentatus

ORBIC State Status: S1S2
ORBIC Global Status: G4
ODFW Strategy Species: No

- *HUC Best: Oregon watersheds (HUC8, HUC10, HUC12) with greatest type diversity, proportional area, or density of wetlands according to available National Wetland Inventory maps.*

"Type diversity" is the number of unique NWI codes in the watershed (e.g., PEMA, PEMC, PEMCx) and excluded types that have no vegetation component (e.g., PUBH, R3US2).

"Density" is the number of vegetated NWI polygons divided by the acreage of the watershed; many of these polygons may be contiguous with each other, forming a single wetland.

"Proportional Area" is the proportion of the watershed's total area occupied by vegetated wetlands as mapped by NWI.

- *The digital maps used to determine this do not show many wetlands or cover the entire state. Data were compiled only from watersheds that have been at least 90% mapped by NWI (see worksheets for HUC8, 10, and 12). Data were received in November 2008 from ORBIC.*

• *METHODS: The above 3 metrics can be strongly correlated with watershed size and with each other. To minimize that bias, the rankings of the residuals from a regression analysis were used, rather than simply the top-ranking watersheds, to identify the most "important" watersheds for each metric at each scale. That is, the watersheds were identified that were in the top 5% in terms of variety of mapped wetland types for watersheds of that size, the largest area of mapped wetlands as a proportion of the watershed area for watersheds of that size, and/or the greatest number of mapped wetland polygons for watersheds with that much wetland area.*

• *Global rank. ORBIC participates in an international system for ranking rare, threatened and endangered species throughout the world. The system was developed by The Nature Conservancy and is now maintained by NatureServe in cooperation with Heritage Programs or Conservation Data Centers (CDCs) in all 50 states, in 4 Canadian provinces, and in 13 Latin American countries. The ranking is a 1-5 scale, primarily based on the number of known occurrences, but also including threats, sensitivity, area occupied, and other biological factors. In this book, the ranks occupy two lines. The top line is the Global Rank and begins with a "G". If the taxon has a trinomial (a subspecies, variety or recognized race), this is followed by a "T" rank indicator. A "Q" at the end of this line indicates the taxon has taxonomic questions. The second line is the State Rank and begins with the letter "S". The ranks are summarized as follows: 1 = Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences; 2 = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences; 3 = Rare, uncommon or threatened, but not immediately imperiled, typically with 21-100 occurrences; 4 = Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences; 5 = Demonstrably widespread, abundant, and secure; H = Historical Occurrence, formerly part of the native biota with the implied expectation that it may be rediscovered; X = Presumed extirpated or extinct; U = Unknown rank; ? = Not yet ranked, or assigned rank is uncertain.*

• *This report contains both centroid-based and polygon-based data. The Location Information and Watershed Information sections of the report contain centroid based data (determined by the center point of the polygon), while the remaining sections are polygon-based (determined from the entire polygon).*

• *The rare species results in this report are based on a subset of the ORBIC rare species dataset. The ORWAP tool only reports on rare species that meet the following criteria: wetland habitat species that are tracked by ORBIC, excluding historical or extirpated sites or those with low mapping accuracy. More information about specific sites and additional species can be obtained from ORBIC through data requests, see <https://inr.oregonstate.edu/orbic/data-requests> for details.*

Jeffrey Adams

From: MARK GIBSON <appleeducator@mac.com>
Sent: Sunday, January 08, 2023 5:02 PM
To: Emily Bare; Jeffrey Adams; stclair@ci.cannn-beach.or.us; Jennifer Barrett
Subject: Forest Lawn Wetland.....again?!

Follow Up Flag: Follow up
Flag Status: Completed

Hello Emily, Jeff, Robert, and Jennifer:

As Yogi Berra once said: This is deja vu all over again! But I'd like to add my own quip: These developers are like weeds...you pull them but they keep coming back. What can be done to permanently be done with protecting Forest Lawn. Meetings after meetings - a final decision, and now I hear Forest Lawn is not only up for reevaluation to be developed, but concrete evidence of planned draining. Please tell me this is not true.

For whatever it takes, and least put me down on the record as a resident who IS NOT IN FAVOR OF DESTROYING FOREST LAWN for development for a few multimillion dollar homes (or for anything)!

Let's please move on and settle this matter for good.

Thank you, Mark Gibson

Robert St. Clair

From: William Reiersgaard <rackerbill@aol.com>
Sent: Monday, January 16, 2023 1:58 PM
To: Emily Bare; Jeffrey Adams; Robert St. Clair
Subject: Appeal of DP#22-19

Follow Up Flag: Follow up
Flag Status: Flagged

Appears that this project is to drain the wetlands into the cities storm water system.

As a home owner along Forest Lawn in Cannon Beach I am very concerned about the work being contemplated by DP # 22-19.

Wetlands should be protected as they perform some very essential functions.

Wetlands have been shown to lessen the damage from flooding by temporarily storing the excess water.

Wetlands also provide habitat for wild life.

I own tax lot 4200

William Reiersgaard
rackerbill@aol.com

January 16, 2023

Planning Commission
City of Cannon Beach
163 E. Gower
PO Box 368
Cannon Beach, OR 97110

Dear Planning Commission:

My name is David Pietka and I am co-owner of Patrick/Dave, LLC, which owns Tax Lot 51030DA04100. For multiple years, the city has been directing storm water from Forest Lawn Drive onto my property. Since at least 2005, my neighbor to the south has been dumping storm water on to my property. There is no reason to believe that this situation is legal and/or appropriate. I began a conversation with the city and the neighbor in April of 2021 and no action was taken to correct the situation. The neighbor's building permit required that storm water be handled "on site" or connected to the city system; this was not done and yet the city approved the final construction. No one knows exactly when the city started piping water onto my site.

In the attached packet of information you will find 1) a dated delineation, 2) a current delineation that indicates that the wetland has grown over time particularly in the area of our southern neighbor's outfall, 3) the permit for the neighbor's property to the south requiring that her storm water be handled appropriately in 2005, and 4) the city map illustrating the city's outfall onto our property.

The result of the city and the neighbor dumping water onto my site is that access to the body of the property where the dry area is located has been blocked. You are fully aware of your denial of our partition request. We tried to avoid the wetland finger by gaining access from Hemlock, which you denied. The result is that my property has been damaged to a large degree.

Permits were finally administratively approved to address both storm water issues in December, but one of the permits was appealed. The property owner to the south is to pay for part of the work, and I am willing to pay to for the drainage pipe extension to help the city address its issue. I am allowing the city's storm water to flow onto my property further to the north. Alternative solutions are very costly.

The citizen's appeal stated many erroneous facts. For example by the appeal numbers:

- 1) The city staff was over reaching as it attempted to "drain and dry the wetland." The effort was to fix the problem of the city directing storm water illegally onto a private property owner's property, not drain the wetland.
- 2) The movement of water to the north will alter the hydrology of the wetland. In fact, the city dumping its water onto the site for multiple years altered the hydrology of the site and the movement of water north will restore the hydrology to its previous condition over time.

- 3) There is a lack of information. This is not true, the project as proposed meets all city standards according to your esteemed city officials.
- 4) Application of wetland protection issues. All wetland protection requirements will be adhered to.
- 5) Point Source Discharge comment. The appeal guesses that the discharge point will not fit even though the city staff indicates it will.

The appeal should be denied, the project should continue as proposed. If this project is not allowed to continue, the private owner and the city will both be held responsible, as attorneys get involved.

Sincerely,



David Pietka, co-owner of Patrick/Dave, LLC

cc: Patrick Gemma
Jamie Lerma
Steven M. Berne, JurisLaw LLP



PACIFIC HABITAT SERVICES, INC

9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

(800) 871-9333 • (503) 570-0800 • Fax (503) 570-0855

September 1, 2021

Patrick/Dave, LLC
Patrick Gemma and Dave Pietka
pgemma@prologis.com
dpietka@msn.com

**In Re: Stormwater influence on southern portion of Tax Lot 4100 on Forest Lawn Drive,
Cannon Beach
PHS project number: 6978**

Dear Patrick and Dave:

In 1999, Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation within tax lot 4100. The attached Figure 5 shows the results of that wetland delineation. We revisited the property in December 2020 to re-delineate the property, which is shown on Figure 6. In general, the location of the wetlands did not significantly change, however, we did observe additional wetlands in the southwest portion of the property.

Wetland delineations need to be updated every five years because it is assumed that hydrologic conditions can change. To underscore this, when we updated the wetland delineation in 2020, it was obvious that stormwater flowing from a downspout attached to a new house to the south of the lot had created additional wetlands within Tax Lot 4100. In addition to the downspout, water is running into the property from a catch basin on Forest Lawn Road, which is also in the southwest corner of the property.

Although we know there is a shallow groundwater table associated with the wetland, its hydrology is being augmented by stormwater runoff flowing from developed areas to south and southwest. This is patently clear when comparing the additional wetland discovered in 2020 and the stormwater runoff from the downspout. It is highly recommended that all stormwater flows from adjacent developed areas be piped around the wetland. In the future, an updated wetland delineation should occur to document any changes to the wetland boundary.

Let me know if you have any questions.

Thanks

Sincerely,

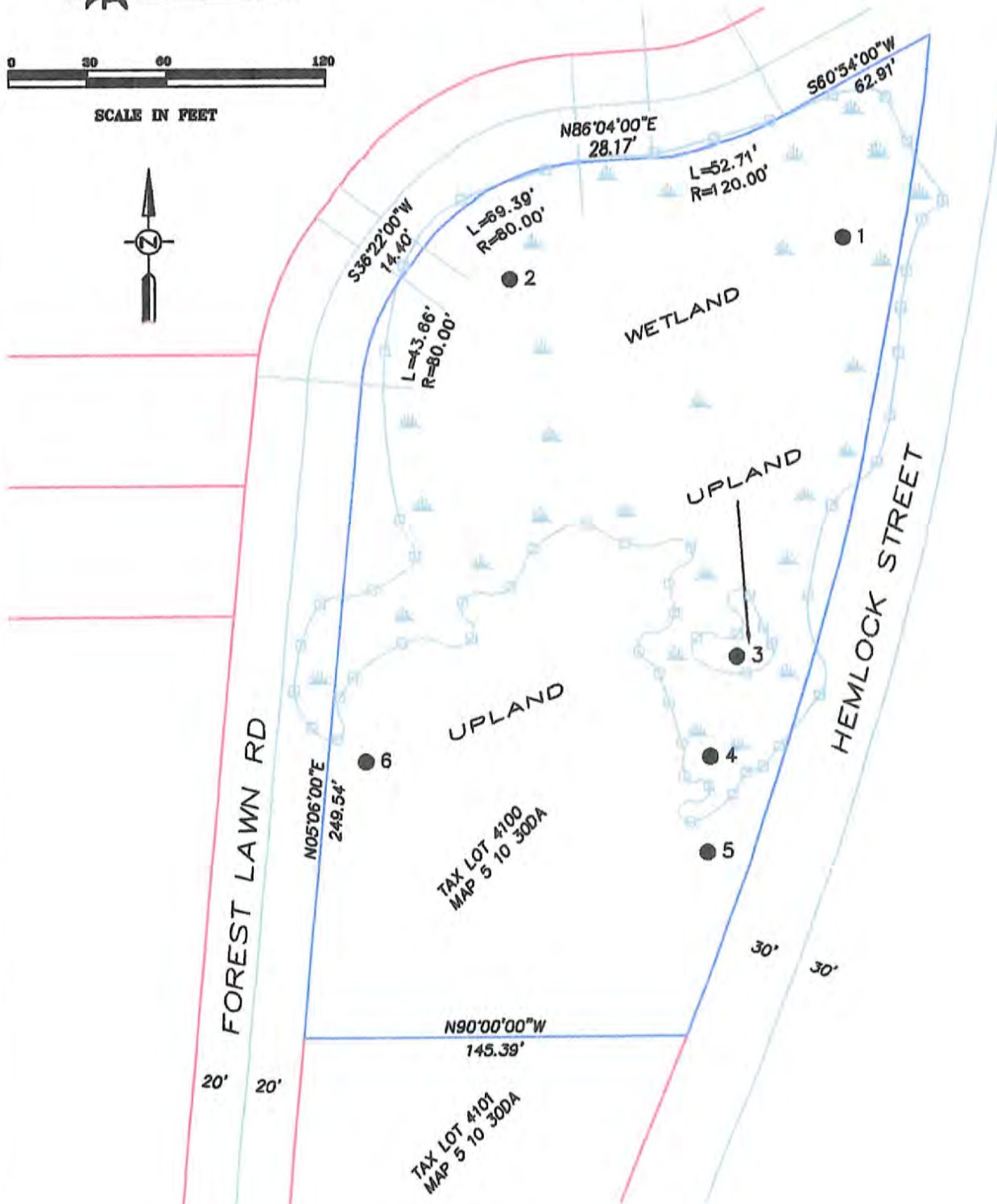
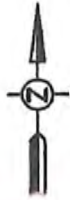
John van Staveren, SPWS
Project Manager



Pacific Habitat Services, Inc.

0 20 60 120

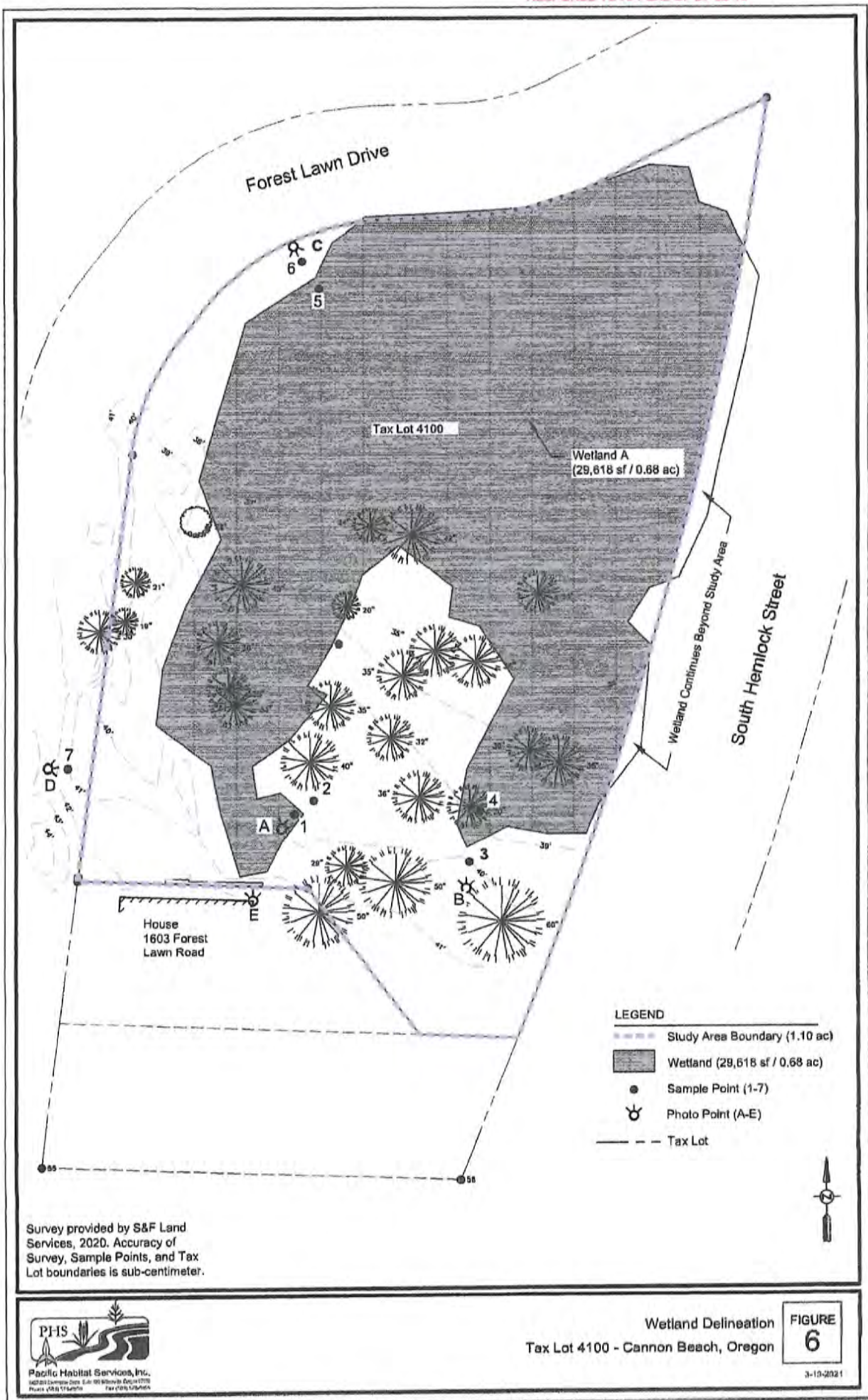
SCALE IN FEET



7/22/99

8-1680

Figure 5: Location of potentially jurisdictional wetlands and sample points for the Forest Lawn Road property in Cannon Beach, Oregon (base map supplied by HLB & Associates).





DEPARTMENT OF PUBLIC WORKS

163 E. Gower Street, Cannon Beach, OR 97110

Phone (503) 436-2045, Fax (503) 436-2050

Development Plan Review

BP 04-130

Site Plan Attributes:

New Construction ☒ Remodel ☒

Site Address: 1603 Forest Lawn

Map/tax lot 51030DA - 4104

Subdivision _____

Block _____

Lot _____

Owner or owner's Rep: Comfort

Address: _____

Phone: _____

Fax: _____

Scale: ☒ 1" = 10' ☒ 1" = 20' ☒ 1/8" = 1' ☒ Other _____

North Arrow: ☒ Locate Note: ☒ Legend: ☒ Lot Dimensions ☒

Shows all existing and proposed ROWs and Easements? ☒ Yes ☒ No

General Requirements:

Under 12.36.030 of the City Code, a Right-of-Way Use Permit is required for placement or removal of any improvement within the street right-of-way. Please see attached form. Work in ROW will not occur on Saturdays, Sundays and after 12:01 p.m. on Fridays without P.W. Director's approval. Traffic control is to comply with the signing requirements of the "Manual on Uniform Traffic Control Devices." All work shall be done in accordance with all applicable provisions of federal, state and local law, ordinance and administrative rules. All work in public right-of-way and all work which is connected, directly or indirectly, to the City of Cannon Beach's water, sanitary sewer, or storm sewer lines shall be constructed in accordance with applicable current APWA Oregon Chapter Standards. Is a pre-construction meeting required? ☒ Yes ☒ No

Road Construction:

Street surface type: ☒ Asphalt ☒ Gravel ☒ Pre-existing ☒ New ☒ Dead End Street? ☒ Yes ☒ No

Do slopes exceed 12%? ☒ Yes ☒ No Do slopes exceed 15% (see 12.34.050.D)? ☒ Yes ☒ No

In general, utility trenching through existing pavement across the road alignment is discouraged. In cuts parallel to the road alignment, the open cut shall be a neat-line cut made by saw cutting a continuous line. All pavement cuts must be temporarily paved with cold mix asphalt within 7 days and permanently paved with hot mix within six months. The minimum aggregate section, unless otherwise approved by the Director, shall be 6-inch base course of 1 1/2" - 0 inch crushed rock. The wearing surface of asphalt concrete (A.C.) streets shall be Level 3. Minimum total thickness of asphalt concrete shall be three inches in two lifts. Asphalt Street Cutting? ☒ Yes ☒ No

Conformance with road design standards? ☒ Yes ☒ No ☒ Incomplete Submittal ☒ NA

Driveway Entrance:

If lot frontage is 50 ft. or less, maximum allowable width of driveway at property line is 20 feet. If lot frontage is greater than 50 feet the maximum allowable width is to be determined.

Lot Frontage: 50.2 ft. Maximum allowable driveway width: 20 ft.

Do plans show where the driveway will be connecting to existing roadway and surface type? ☒ Yes ☒ No

Drainage Improvements required: ☒ 10" culvert or adequate bridge ☒ To be determined ☒ None required

All driveways must be located the maximum distance which is practical from a street intersection and in no instance shall the distance from an intersection be closer than 40 feet on an arterial street and 10 feet on a local street as measured from the nearest curb return radius. Distance of driveway from street intersection: >200 ft.

Drainage: See note next page

All development applications must include a plan for disposal of storm water runoff. Unless the site is served by existing City-maintained storm sewer, the plan must address the capacity of the storm sewer system..

Does parcel drain to an adjacent surface water feature? ☒ Yes ☒ No

Name/Type of water feature: _____

Is there an existing drainage system near site? ☒ Yes ☒ No

If yes, attach map of existing system. Is there adequate drainage capacity? ☒ Yes ☒ Improvements Required

If improvements are required, will it be incorporated into the public system? ☒ Yes ☒ No ☒ TBD ☒ NA

Video tape inspection of storm drain extension required? ☒ Yes ☒ No ☒ NA

Conformance with storm drain design standards? ☒ Yes ☒ No ☒ Incomplete Submittal ☒ NA

Sanitary Sewer:

Service existing? ☒ Yes ☒ No Location: _____
 Install new sewer lateral? ☒ Yes ☒ No If yes, installation of the service to the property line is done by City personnel. Owner is to indicate preferred lateral location at property line and advise public works.
 Conformance with sanitary sewer system design standards. ☒ Yes ☒ No ☒ Incomplete Submittal ☒ NA
 Video tape inspection of sewer extension or lateral required? ☒ Yes ☒ No
 Grease Trap Required ☒ Yes ☒ No

Water:

Service existing? ☒ Yes ☒ No Location: _____
 Install new service branch? ☒ Yes ☒ No If yes, installation of the service to the property line is done by City personnel. Owner is to indicate preferred meter location at property line and advise public works.
 Meter upgrade required? ☒ Yes ☒ No Main Extension required? ☒ Yes ☒ No
 Location of closest fire hydrant: Ross & Hemlock Distance to property: 150 ft.
 Conformance with water system design standards? ☒ Yes ☒ No ☒ Incomplete Submittal ☒ NA
 Approved Backflow Assy Required ☒ Yes ☒ No TBD

Other Utilities:

The City requires all wire utilities to be run underground. Contractor is to secure separate Right-of-Way Use Permit prior to work and submit utility schematics. Natural gas is to be coordinated with NWNG.

Misc:


Other issues that will need to be addressed:

1. Drainage – there is no storm drain available. Owner must retain storm water on site.

2. _____

 3. _____

 4. _____

Plans Reviewed / Approved By: Cruz Flores 	Date: 12/16/04
--	----------------

Public Works Final Approval: (Checked items require inspection)

	Date of Approval
Road Structure	
Drainage Structures	
Driveway	
Utilities	
Wastewater Connection	
Water Connection	
Misc.	
Final Approval	

PRELIMINARY FOREST LAWN PARTITION EXHIBIT SKETCH OF PROPOSED LOTS 1 AND 2

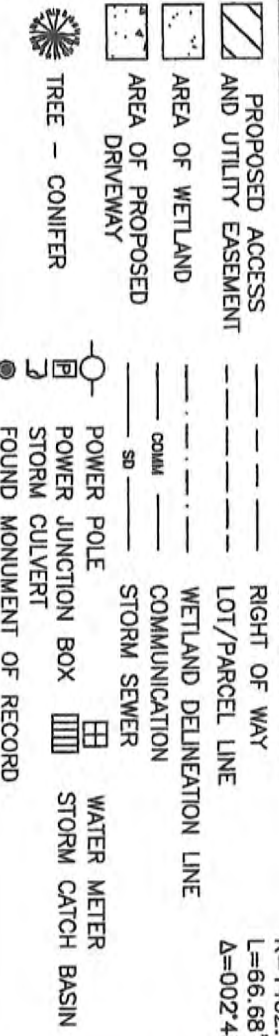
RESPONSE TO APPEAL OF DP 22-19

LEGEND



1 INCH = 30 FEET

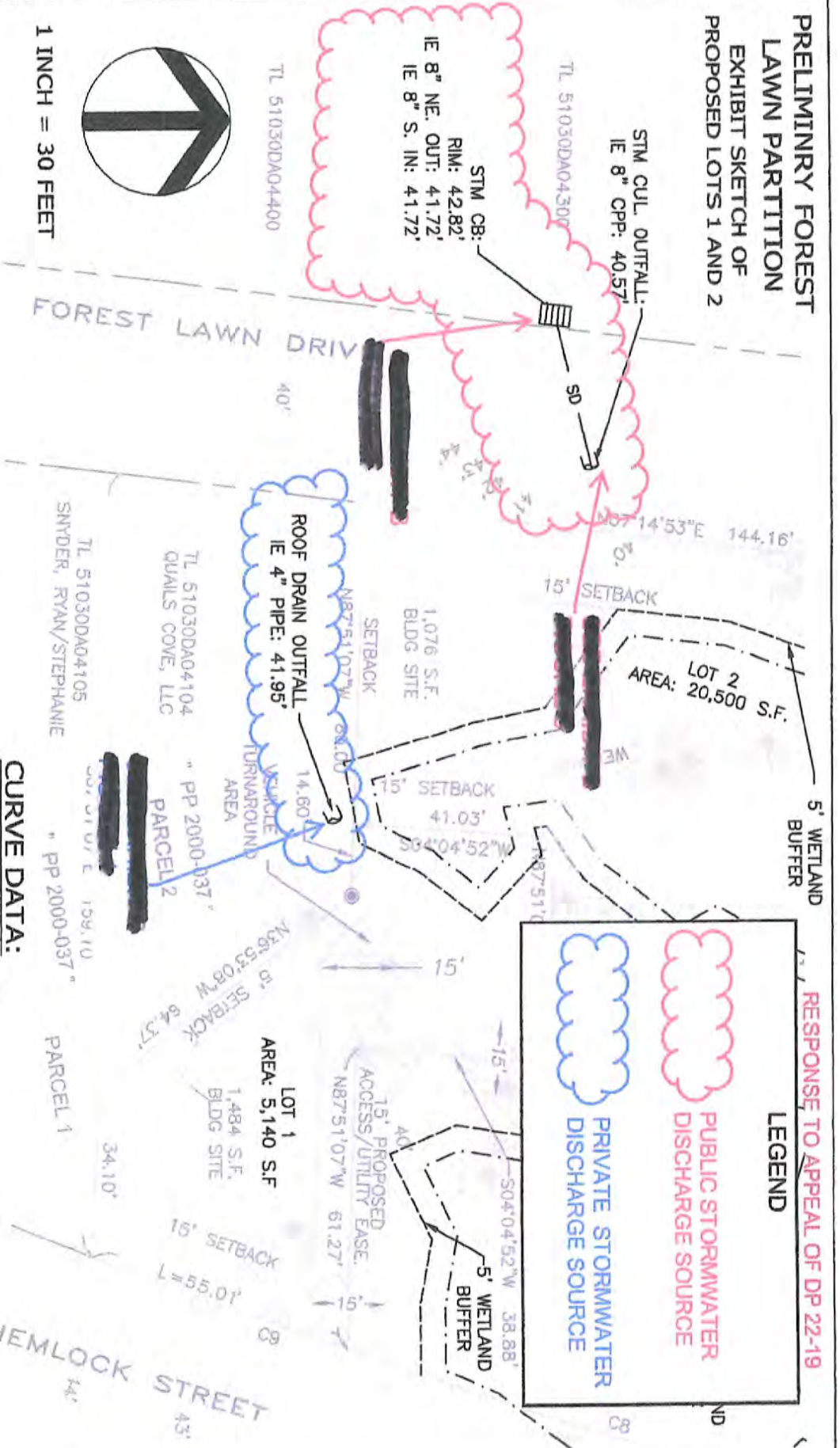
LEGEND:



CURVE DATA:

C8
R=1402.02'
L=66.68'
Δ=002°43'30"

C9
R=1402.02'
L=79.29'
Δ=003°14'25"



S&F Land Services

Date: 7/11/2022
Proj No: 20C30501
1725 N ROOSEVELT DR, STE
B, SEASIDE, OR 97138
www.sflands.com
info@sflands.com
(503) 738-3425

January 18, 2023

To the Planning Commission,

This letter pertains to the appeal filed in connection with a permit allowing the stormwater line adjacent to Tax lot #51030DA04100 to be moved from its present discharge point at the upland portion of the lot 200 feet to the north to the lowland portion. This lot was purchased by the developer/owner with the intention of building at least three homes on the upland portion of the lot.

Unfortunately, I understand that the result of making this change would ultimately drain the wetland and eventually destroy it, allowing the developer/owner to have much more buildable land. Apparently City Staff are in favor of this outcome, per a public record email exchange between a staff member and the developer. In this email, the staff member offers to “make plans to do the work as quickly as we can work it into our schedule” stating that “the benefit of doing it now is we could tell if the work helps dry out the lot the way you had hoped”. If this is not a blatant effort to help the developer create more buildable land, I don’t know what else it could be. I believe this issue would be most fairly considered in an unbiased manner by you, the members of the Planning Commission.

In addition, since this proposed work would directly affect the Wetland Overlay Zone, a conditional use permit should be required, not just a development permit. The developer claims that the city is discharging storm water onto his property illegally and demands that the city move the discharge point to a spot that blatantly would benefit him by creating more buildable land. This necessitates review by you, the unbiased members of the Planning Commission.

Furthermore, the city’s contention that since the work would be done outside the Wetland Overlay Zone (by a mere 5 feet or less!) a conditional use permit is not required. Have they not realized that the result of moving the stormwater drainage point from the south end of the lot to the north end will DIRECTLY impact the Wetland Overlay Zone? Also, why should the city be responsible for moving the drainage point in the first place? Is there a historical precedent that says this should be done? Perhaps it is not necessary to move it so far. Perhaps half the distance or less would suffice. Or maybe there is no necessity at all. The city administration seems to be in favor of moving it, which is, to me, an excellent reason why they should not be the only body making this determination.

Finally, the permit as written speaks very generally about the proposed project and is missing important specifics. Also the drawings are unclear as to the distance from the wetland buffer boundary and the discharge point. These and other unanswered questions, per the appeal, must be clarified before allowing any work to be done.

I ask you, the members of the Planning Commission to therefore carefully review the development permit DP#22-19 and recommend its denial to the city council.

Sincerely,

Susan Glarum
PO BOX 108
Cannon Beach, OR 97110



POLICE DEPARTMENT CITY OF CANNON BEACH

Chief Jason C. Schermerhorn
163 E. GOWER STREET
P.O. BOX 368 • CANNON BEACH, OREGON 97110

(503) 436-2811
FAX (503) 436-1584
TTY (503) 436-8097
E-Mail: police@ci.cannon-beach.or.us

Mr. David Pietka
3514 NE US Grant Pl.
Portland, Oregon 97212

RE: Unpermitted development

March 10, 2023

Dear Mr. Pietka,

It has come to the city's attention that unpermitted development has been taking place on property owned by yourself at Taxlot 51030DA04100.

A development permit is required for persons proposing clearing, grading, filling, or excavation located within one hundred feet of a stream, watercourse or wetland. No permits have been issued for development at Taxlot 51030DA04100.

If you feel that development is necessary at the property it will be necessary to apply for a Type 2 Development Permit for that purpose. Any Development Permit application will require on-site review by City Staff in order to determine that the application meets the criteria of the code. Until any permit has been issued all grading activity must cease, all items that have been added to the property (gravel, piping) need to be removed and the property needs to be placed back in its natural state. Failure to do so will result in the City initiating an enforcement process which may include citations and fines.

Please feel free to contact me at (503) 436-8071 or schermerhorn@ci.cannon-beach.or.us if you have any questions regarding this notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Jason C. Schermerhorn".

Jason C. Schermerhorn
Chief of Police

Enclosed:
Cannon Beach Municipal Code 17.62.030
Digital photographs

CC: Robert St. Clair, Planner



Cannon Beach, Oregon Municipal Code

Title 17 ZONING

Chapter 17.62 GRADING, EROSION AND SEDIMENTATION CONTROL

17.62.030 Grading and erosion control permit.

A. Development Permit Required.

1. Persons proposing to clear, grade, excavate or fill land (regulated activities) shall obtain a development permit as prescribed by this chapter unless exempted by Section 17.62.040. A development permit is required where:

- a. The proposed clearing, grading, filling, or excavation is located within one hundred feet of a stream, watercourse or wetland; or
- b. The proposed clearing, grading, filling, or excavation is located more than one hundred feet from a stream or watercourse or wetland and the affected area exceeds two hundred fifty square feet; or
- c. The proposed volume of excavation, fill or any combination of excavation and fill exceeds ten cubic yards in a calendar year.

2. A development permit for regulated activities in conjunction with a structure requiring a building permit shall be reviewed pursuant to Section 17.92.010(A), (B) and (C)(1).

3. A development permit for regulated activities in conjunction with a subdivision or partition shall be reviewed in conjunction with construction drawings as required by Section 16.04.260.

4. A development permit for regulated activities not in conjunction with building permit, subdivision, or partition shall be reviewed pursuant to Section 17.92.010(A), (B) and (C)(2). However, notice to adjacent property owners, as specified by Section 17.92.010(C)(2)(d), is not required.

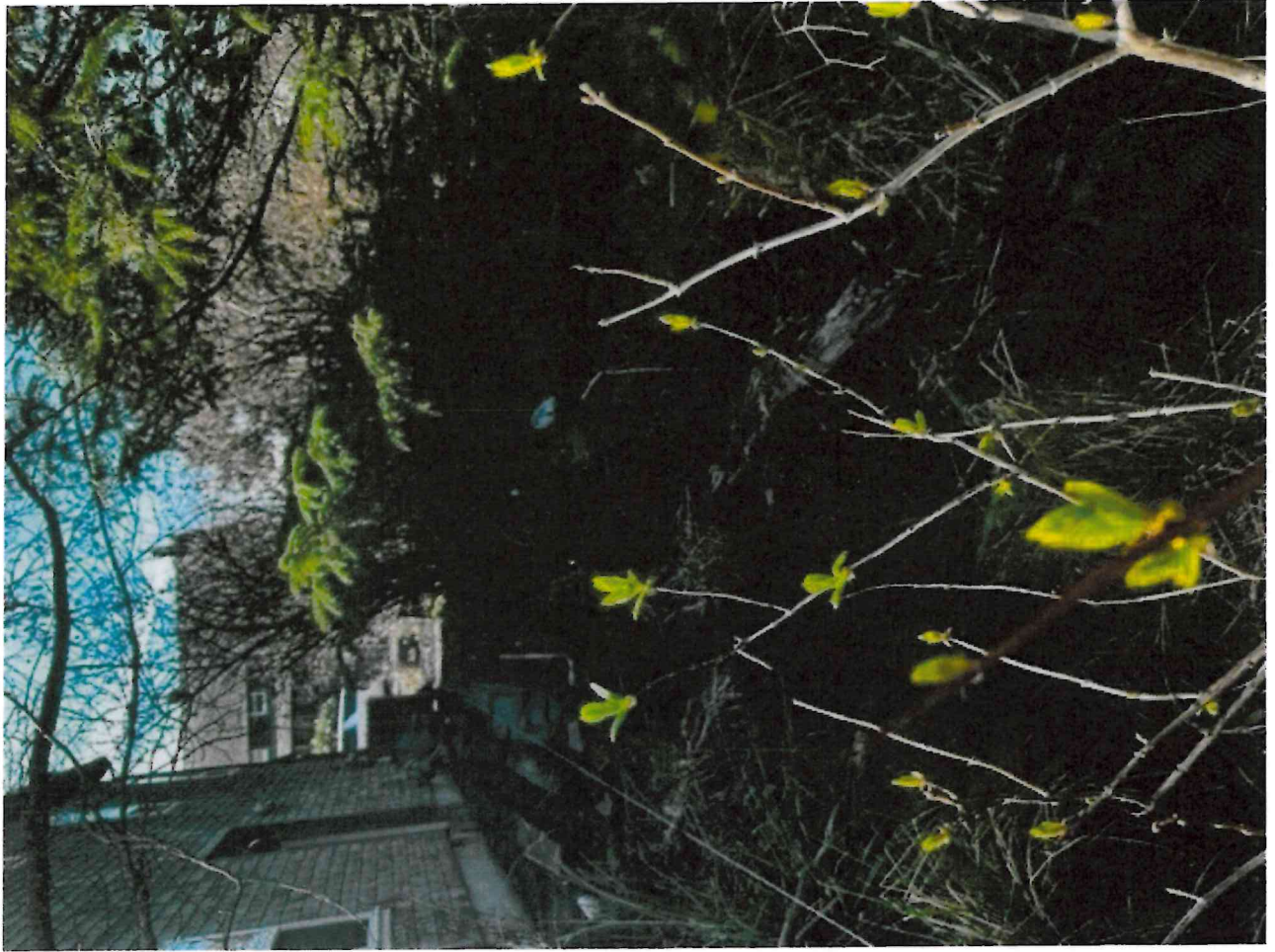
B. Exceptions. The following are exempt from the requirements of Section 17.62.030(A):

1. Residential landscaping and gardening activities up to two thousand square feet in area;
2. Forest management undertaken pursuant to Section 17.80.170;
3. Construction which disturbs five acres or more. Such activities are regulated by the Oregon Department of Environmental Quality through its storm water program.

C. Information Required for a Development Permit.

1. An application for a development permit for regulated activities subject to the requirements of this chapter shall include the following:















Jason Schermerhorn

From: Mike Bates <mike.bates57@hotmail.com>
Sent: Thursday, March 9, 2023 8:42 AM
To: Robert St. Clair; Jason Schermerhorn
Subject: Forest Lawn Wetland
Attachments: Fill in Wetland.jpg

Thanks for stopping by yesterday.

Someone placed gravel fill in the wetland following our conversation. I have videos which I'll bring over with me at 10.

I hesitate the word demand, but we need an immediate and unambiguous response. This a violation of municipal and state law at this point.

Sent from Mail for Windows



Cannon Beach Planning Commission

Staff Report:

PUBLIC HEARING AND CONSIDERATION OF CU 23-01, JOSEPH GAON, APPLICANT, ON BEHALF OF LAUREL AND STEPHEN DAY, REQUESTS THE INSTALLATION OF A SHORELINE STABILIZATION STRUCTURE FOR THE PURPOSE OF EROSION CONTROL. THE PROPERTY IS LOCATED AT 3216 PACIFIC ST. (TAXLOT# 2100, MAP 51031DA) AND IS IN THE RESIDENTIAL MODERATE DENSITY (R1) ZONING DISTRICT. IT IS ALSO IN THE OCEANFRONT MANAGEMENT OVERLAY (OM) ZONE. THE CONDITIONAL USE REQUEST WILL BE REVIEWED AGAINST THE CRITERIA OF CANNON BEACH MUNICIPAL CODE, SECTIONS 17.42.060, STANDARDS FOR SHORELINE STABILIZATION IN THE OCEANFRONT MANAGEMENT OVERLAY ZONE; AND 17.80, CONDITIONAL USES.

Agenda Date: February 23, 2023

Prepared By: Robert St. Clair

GENERAL INFORMATION

NOTICE

Public notice for this February 23, 2023 Public Hearing is as follows:

- A. Notice was posted at area Post Offices on February 3, 2023;
- B. Notice was mailed on February 3, 2023 to surrounding landowners within 250' of the exterior boundaries of the property.

DISCLOSURES

Any disclosures (i.e. conflicts of interest, site visits or ex parte communications)?

EXHIBITS

The following Exhibits are attached hereto as referenced. All application documents were received at the Cannon Beach Community Development office on January 3, 2023 unless otherwise noted.

"A" Exhibits – Application Materials

- A-1** Conditional use application #23-01, including applicant's narrative and Geotechnical Investigation and Design Report prepared by Earth Engineers, Inc.;

"B" Exhibits – Agency Comments

None received as of this writing;

"C" Exhibits – Cannon Beach Supplements

- C-1** February 1, 2023 staff site visit photo;
- C-2** June 2022 aerial photo of subject property;

“D” Exhibits – Public Comment

D-1 Documentation of comment made by telephone by John Parrish, received February 9, 2023;

SUMMARY & BACKGROUND

The applicant, Joseph Gaon, on behalf of property owners Laurel & Stephen Day, requests a shoreline stabilization to prevent erosion from encroaching onto 3216 S. Pacific St., as shown on the project location map included with this report. The property is in the Residential Moderate Density (R1) zone as well as the Oceanfront Management (OM) overlay zone. The current request is evaluated against applicable standards in Cannon Beach Municipal Code (CBMC) Chapter 17.80.230 – conditional use criteria for shoreline stabilization, and applicable requirements of the Comprehensive Plan.

The proposed structure is intended to replace a concrete seawall that was undermined by wave erosion and is no longer present leaving an exposed bluff face. The exact date of the former seawall’s destruction is not specified, but application materials indicate that it occurred no more than ten years ago. This property is eligible for structural stabilization under Oregon Statewide Planning Goal 18 rules as it was originally developed in 1931, well prior to the January 1, 1977 eligibility cut-off date.

A geotechnical report prepared by Earth Engineers, Inc. contains a professional opinion that a robust shoreline protection structure, such as a rip-rap revetment, is the best means of protecting the property from erosion resulting from seasonal events and other climate related conditions. The proposed revetment would be constructed from armor rock, fill material, and be vegetated with dune grass or other native plants that are common on the Oregon coast.

Installation of shoreline stabilization structures is permitted in the Oceanfront Management overlay zone as per CBMC 17.42.030.C.1 subject to the standards of Chapter 17.80.230. Approval requirements are excerpted in this staff report.

Applicable Criteria

The Cannon Beach Municipal Code requires all non-structural shoreline stabilizations apply for a conditional use permit in the RL and Oceanfront Management zoning districts that make up the subject property.

Cannon Beach Municipal Code defines shoreline stabilizations structures as:

17.04.520 Shoreland stabilization.

“Shoreland stabilization” means the protection of the banks of tidal or inter-tidal streams, rivers, estuarine waters and the oceanfront by vegetative or structural means.

Oceanfront Management (OM) Zone Requirements

17.42.020.A.2.B Relationship to the Underlying Zone.

Uses and activities within the OM zone are subject to the provisions and standards of the underlying zone and this chapter. Where the provisions of this zone and the underlying zone conflict, the provisions of this zone shall apply.

Staff Comment: The underlying zone is Residential Moderate Density (R1) and shoreline stabilizations are a conditionally permitted use in Section 17.12.030.D.

17.42.030.C Uses Permitted in the OM Zone

C. For lots or right-of-way that consist of the beach, active dunes, or other foredunes which are conditionally stable and that are subject to wave overtopping or ocean undercutting, or interdune areas that are subject to ocean flooding the following uses and activities are subject to the provision of Chapter 17.80, Conditional Uses:

1. *Shoreline stabilization, subject to the provisions of Section 17.80.230;*

Staff Comment: Conditional approval of shoreline stabilization is permitted on lots that consist of beach, active dunes, or other foredunes that are conditionally stable and that are subject to wave overtopping or ocean undercutting; or interdune areas that are subject to ocean flooding.

The applicant's geotechnical report indicates that the property is impacted by seasonal weather events such as storm surges and may be impacted by climate driven sea level rise. The report references a shoreline stabilization at 3188 Pacific, immediately north of the subject property, installed in 2021 that uses sand and clay burritos and has been affected by seasonal weather. However, it should be noted that the revetment at 3188 Pacific has not had replacement sand and vegetation installed to replace eroded material nor has there been a sufficient analysis to determine if that revetment provides an inadequate level of protection.

During a site visit on February 1st, staff observed an exposed bluff face consisting of sand, gravel, and larger rocks with low lying cobble at its toe. This photo can be seen in exhibit C-1. Aerial imagery, in Exhibit C-2, from June 2022 shows conditions similar to those seen from the ground. These photographic exhibits are included with this report.

As this is a structural improvement it will be necessary for the applicant to obtain a Shoreline Alteration Permit from Oregon Parks and Recreation Department prior to the start of work. Application materials do not indicate if OPRD has been contacted regarding this proposal, however a Shoreline Alteration Permit does require a local land use authorization before it can be issued. As per condition of approval #1 the proposal conditionally meets the criteria of item 1 above.

Conditional Uses for Shoreline Stabilization

17.80.110 Conditional Use Approval Standards

Before a conditional use is approved, findings will be made that the use will comply with the following standards:

- A. *A demand exists for the use at the proposed location. Several factors which should be considered in determining whether or not this demand exists include: accessibility for users (such as customers and employees), availability of similar existing uses, availability of other appropriately zoned sites, particularly those not requiring conditional use approval, and the desirability of other suitably zoned sites for the use.*

Staff Comment: The application materials identify need by referencing the geotechnical report which states "in the absence of permanent shoreline protection, slumping and slope regression will continue; and unless the bluff base is stabilized and shielded from wave attack, this property will be subject to continue undercutting and eventual loss." Meets criteria.

- B. *The use will not create excessive traffic congestion on nearby streets or overburden the following public facilities and services: water, sewer, storm drainage, electrical service, fire protection and schools.*

Staff Comment: The installation of shoreline stabilization structures does not affect traffic or other public facilities. Meets criteria.

- C. *The site has an adequate amount of space for any yards, buildings, drives, parking, loading and unloading areas, storage facilities, utilities or other facilities which are required by city ordinances or desired by the applicant.*

Staff Comment: The application materials indicate that the revetment would be installed in a manner consistent with the shape and form of other nearby structures. Meets criteria.

- D. *The topography, soils and other physical characteristics of the site are appropriate for the use. Potential problems due to weak foundation soils will be eliminated or reduced to the extent necessary for avoiding hazardous situations.*

Staff Comment: The application materials reference Section 2.2 of the geotechnical report which addresses the mapped soils and geology of the subject property and surrounding area. Design schematics, specifically structural cross sections, are included. The intent of the improvement is to preserve soils and prevent future hazards that may result from future erosion. Although this revetment is considered structural, it does not use features such as a foundation that one would find in a structure regulated under the building code and it is not designed for human habitation, therefore the life-health-safety aspect of this provision that would be used for a habitable structure does not apply to this proposal. Meets criteria.

- E. *An adequate site layout will be used for transportation activities. Consideration should be given to the suitability of any access points, on-site drives, parking, loading and unloading areas, refuse collection and disposal points, sidewalks, bike paths or other transportation facilities required by city ordinances or desired by the applicant. Suitability, in part, should be determined by the potential impact of these facilities on safety, traffic flow and control and emergency vehicle movements.*

Staff Comment: Installation of a shoreline stabilization does not affect public beach access nor will it have any impact on transportation or traffic flows. Meets criteria.

- F. *The site and building design ensure that the use will be compatible with the surrounding area.*

Staff Comment: The application materials indicate that the revetment will be constructed in manner that is consistent with other vegetated structures that are common on the City's shoreline. Meets criteria.

17.80.230.C Shoreline Stabilization Standards

The city's review of beachfront protective structures, both landward and seaward of the Oregon Coordinate Line, shall be coordinated with the Oregon Parks and Recreation Department. The city's review of shoreline stabilization along Ecola Creek Estuary shall be coordinated with the U.S. Army Corps of Engineers and the Oregon Division of State Lands.

Staff Comment: Due to the project's location on the border of the state vegetation line, the project will require coordination with the Oregon Parks and Recreation Department. Condition of approval #1 requires the applicant to obtain a Shoreline Alteration Permit and Drive on Beach Permit from OPRD prior to the start of work. This permit will effectively function as a second conditional use permit issued by the State and ensures that the project is compliant with Oregon Revised Statutes sections 390.640, 390.715, and 390.725. Meets criteria as per condition of approval #1.

17.80.230.D.1 Shoreline stabilization priorities

1. *The priorities for shoreline stabilization for erosion control are, from highest to lowest:*
 - a. *Proper maintenance of existing riparian vegetation;*
 - b. *Planting of riparian vegetation;*
 - c. *Vegetated rip-rap;*
 - d. *Nonvegetated rip-rap;*
 - e. *Bulkhead or seawall.*

Staff Comment: The applicant’s proposal effectively replaces the historical seawall that was destroyed due to being undermined with a higher priority vegetated rip-rap revetment. Application materials state that the planting of riparian vegetation will not be effective at the subject property as no substrate to support any plantings currently exists. As per the geotechnical report, “vegetative stabilization would not be sufficient to resist wave attack in order to substantially slow or halt erosion or to stabilize the bluff slope. Meets criteria.

17.80.230.E.1 Qualifications for Beachfront Protection

1. *Structural shoreline stabilization methods for beachfront protection shall be permitted only if:*

- a. There is a critical need to protect property that is threatened by erosion hazard;*
- b. Impacts on adjacent property are minimized;*
- c. Visual impacts are minimized;*
- d. Access to the beach is maintained;*
- e. Long-term or recurring costs to the public are avoided; and*
- f. Riparian vegetation is preserved as much as possible.*

Staff Comment: The geotechnical report indicates that continued exposure resulting from the absence of a stabilization structure will result in increased erosion that may eventually threaten the residence. Installation of a revetment will resolve the visual impact currently present as a result of the exposed bluff face and provide an appearance consistent with numerous other properties on the City’s shoreline. There would be no long term costs to the public as a result of this project. Meets criteria.

17.80.230.I Minimum Level of Protection Limitation

The shoreline protection structure shall be the minimum necessary to provide the level of protection required.

Staff Comment: The project as described would be consistent in scale with revetments on properties in the area and the City’s coastline. Meets criteria.

Staff Recommendation

Staff recommends approval of this Conditional Use Permit for nonstructural shoreline stabilization subject to the conditions outlined in the decision below.

Procedural Requirements

This application is subject to ORS 227.178, requiring the City to take final action within 120 days after the application is deemed complete. It was submitted January 3, 2023; and determined to be complete on January 13, 2023. Based on this, the City must make a final decision before May 13, 2023.

The Planning Commission’s February 23rd meeting will be the first evidentiary hearing on this request. ORS 197.763(6) allows any party to request a continuance. If such a request is made, it should be granted. The Planning Commission’s next regularly scheduled hearing date is Thursday, March 23, 2023.

DECISION, CONDITIONS AND FINDINGS

Motion: Having considered the evidence in the record, based on a motion from Commissioner NAME, seconded by Commissioner NAME, the Planning Commission moves to (approve/approve with conditions/or deny) the Joseph Gaon application, on behalf of Lindsey & Stephen Day, the conditional use request for the placement of a

shoreline stabilization, application **CU# 23-01**, as discussed at this public meeting (subject to the following conditions):

1. The applicant shall coordinate this project with Oregon Parks and Recreation Department and obtain all permits required for this work including beach access for vehicles.
2. As-built plans of the revetment shall be provided to the City upon the completion of construction.
3. Planning Commission provides preferred vegetation planting guidance as per Foredune Management Plan 2018 revision Vegetation Planting Specifications language (pg. 18).
4. Yearly monitoring of the area, by photographic documentation, for a period of five years, provided to the City by the applicant.
5. City staff shall be notified prior to the start of work and be present during construction.

Site Location Map

Aerial Imagery Dated June 2022 – Source: City of Cannon Beach & CREST



Exhibit C-1: February 1, 2023 Staff Photo



Exhibit C-2: June 2022 Aerial Photo, Project Area Highlighted



December 30, 2022

VIA E-MAIL – ADAMS@CL.CANNON-BEACH.OR.US

Joseph O. Gaon

T: 503-796-2077

jgaon@schwabe.com

Mr. Jeff Adams
Planning Director
City of Cannon Beach Planning Department
PO Box 368
Cannon Beach, OR 97110

RE: Conditional Use Application – Shoreline Stabilization

Dear Mr. Adams:

This office represents the Applicants Laurel and Stephen Day regarding the above-referenced Application. Enclosed please find the following:

1. Conditional Use Application, Narrative with Exhibits 1 and 2 and a copy of the property deed.
2. My firm's check in the amount of \$750.00 in payment of the applicable fee has already been delivered to the Planning Department and the Planning Department confirmed receipt.

Please let us know if you require additional information to approve the application. We will be happy to provide such information to you if needed.

Stephen Day (stephentday33@gmail.com) is the Property Owner/Applicant. I (jgaon@schwabe.com) am the Applicant's representative. Please send us notice of your decision on the application.

Thank you for your assistance.

Very truly yours,



Joseph O. Gaon

JOG:jmhi
Enclosures

Cc: Laurel and Stephen Day (*via email w/enclosures*)
Bailey M. Oswald (*via email w/enclosures*)

PDX\140062\275206\JOG\35526881.1



CITY OF CANNON BEACH

CONDITIONAL USE APPLICATION

Please fill out this form completely. Please type or print.

Applicant Name: Joseph Gaon (Applicant's representative)

Email Address: jgaon@schwabe.com

Mailing Address: 1211 SW 5th Ave., Ste. 1900
Portland, OR 97204

Telephone: 503-796-2077

Applicant/
Property-Owner Name: Laurel and Stephen Day (laurel.christensen@gmail.com ; stephentday33@gmail.com)
(if other than applicant)

Mailing Address: 2135 S 2200 E, Salt Lake City, UT 84109

Telephone: 208-284-9019

Property Location: 3216 Pacific St., Cannon Beach, OR
(street address)

Map No.: 51031DA Tax Lot No.: 02100

CONDITIONAL USE REQUEST:

1. Description of the proposal.
The Applicant proposes shoreline stabilization on the Subject Property; specifically, the Applicant proposes Vegetated Rip-Rap.
2. Justification of the conditional use request. Explain how the request meets each of the following criteria for granting a conditional use.
 - a. Explain how a demand exists for the use at the proposed location. Several factors which should be considered include: accessibility for users (such as customers and employees); availability of similar existing uses; availability of other appropriately zoned sites, particularly those not requiring conditional use approval; and the desirability of other suitably zoned sites for the use.
See attached narrative.
 - b. Explain in what way(s) the proposed use will not create traffic congestion on nearby streets or over-burden the following public facilities and services: water, sewer, storm drainage, electrical service, fire protection and schools.
See attached narrative.

- c. Show that the site has an adequate amount of space for any yards, buildings, drives, parking, loading and unloading areas, storage facilities, utilities, or other facilities which are required by City Ordinances or desired by the applicant.
See attached narrative.
- d. Show that the topography, soils, and other physical characteristics of the site are appropriate for the use. Potential problems due to weak foundation soils must be shown to be eliminated or reduced to the extent necessary for avoiding hazardous situations.
See attached narrative.
- e. Explain in what way an adequate site layout will be used for transportation activities. Consideration should be given to the suitability of any access points, on-site drives, parking, loading and unloading areas, refuse collection and disposal points, sidewalks, bike paths or other transportation facilities required by City ordinances or desired by the applicant. Suitability, in part, should be determined by the potential impact of these facilities on safety, traffic flow and control and emergency vehicle movements.
See attached narrative.
- f. Explain how the proposed site and building design will be compatible with the surrounding area.
See attached narrative.

Use extra sheets, if necessary, for answering the above questions. Attach a scale-drawing showing the dimensions of the property, adjacent street(s), dimensions of existing structure, and dimensions of proposed development.

Application Fee: \$750.00

Applicant Signature: _____

Date: 12/28/22

Property Owner Signature: _____

Date: 12/28/22

If the applicant is other than the owner, the owner hereby grants permission for the applicant to act on his/her behalf. Please attach the name, address, phone number, and signature of any additional property owners.

For Staff Use Only:

Date Received: _____ By: _____

Fee Paid: _____ Receipt No.: _____

(Last revised March 2021)

CONDITIONAL USE PERMIT - GENERAL INFORMATION

What is a Conditional Use Permit?

Land use on all property in Cannon Beach is governed by zoning districts established by the City Council. Cannon Beach has two main types of zoning districts: residential and commercial. Within each of these main categories there are specific zoning districts, such as Medium Density Residential, R-2, and High Density Residential, R-3. Every zoning district has a list of permitted uses and a list of uses that are only allowed after being approved for a conditional use permit. For example, on property zoned R-2, Medium Density Residential, a single-family dwelling is allowed outright, but a church would be allowed only if approved under a conditional use permit.

The Purpose of Conditional Use Permits

Certain uses by their very nature need special consideration before they can be allowed in a particular zoning district. The reasons for requiring such special consideration involve, among other things, the size and intensity of the use, traffic generated by the use and compatibility of the use with the area. These issues are addressed through the conditional use permit process which involves a public hearing before the Planning Commission.

Application and Processing.

If the use you wish to establish on your property requires a conditional use permit, the first step is to informally discuss your proposal with the City Planner. Applications may be submitted by the property owner or an authorized agent. An application should include a detailed statement of the proposed use and a plot plan showing the development of the site. After you submit a completed application, accompanied by a fee to help defray the cost of processing, the City will begin processing your conditional use application.

Public Hearing - Planning Commission.

Conditional use permit requests are considered by the Cannon Beach Planning Commission at a public hearing. Hearings for conditional use permits will be held within 40 days after the application is submitted. Notice of the hearing is mailed to the applicant and to property owners with 250 feet of the site in question. Prior to public hearing, the City Planner will prepare a written report on the request. The report will contain the background of the request and a recommendation based on an investigation of the facts of the proposal and how they pertain to the criteria for granting a conditional use permit. A copy of the report will be mailed to the applicant. Anyone interested in the application may request a copy of the report. At the public hearing, the property owner desiring the conditional use permit has the burden of establishing that the requested conditional use meets the criteria in the Zoning Ordinance. Other people will be given the opportunity to speak in favor of the request, offer comments, ask questions, and/or speak in opposition. At the end of the hearing, the Planning Commission will approve, approve with conditions, or deny the conditional use request.

Appeals to the City Council.

Appeals of the Planning Commission action must be made within 20 days of the decision. The basis of the written appeal must be that the Planning Commission made an error in its decision. The applicant may ask for a new hearing before the City Council or request that the City Council review the Planning Commission record established in making its decision. The City Council may either uphold, reverse or place conditions upon the Planning Commission decision.

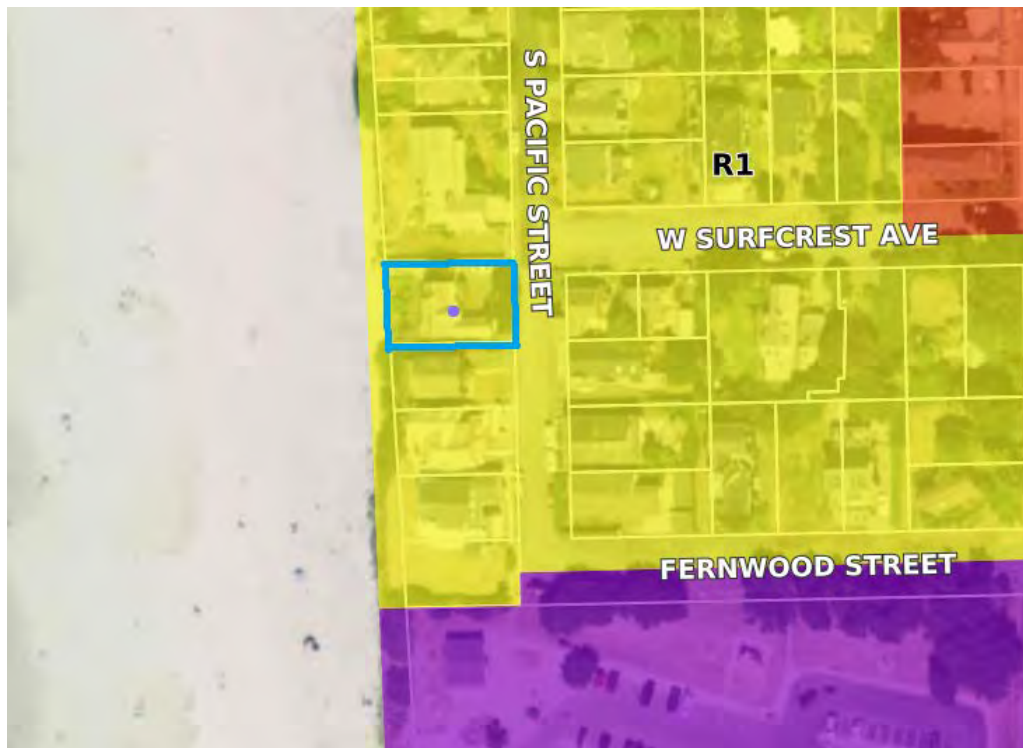
BEFORE THE CITY OF CANNON BEACH PLANNING COMMISSION

In the matter of an Application for a
Structural Shoreline Stabilization Conditional
Use Permit For Tax Lot 51031DA02100

APPLICANT'S NARRATIVE
DEMONSTRATING COMPLIANCE WITH
THE APPROVAL CRITERIA

I. INTRODUCTION AND SUMMARY

Laurel and Stephen Day (collectively, the “**Applicant**”) hereby request a conditional use permit pursuant Cannon Beach Municipal Code (the “**CBMC**”) 17.12.030.D to construct structural shoreline stabilization for their approximately 0.13 acre property located at 3216 Pacific Street, and identified as tax lot 51031DA02100 (the “**Subject Property**”). The Subject Property is zoned Residential Moderate Density (“**R1**”) as shown on the excerpt from the Cannon Beach municipal map pictured below.



The existing single family residence on the Subject Property was constructed in 1931. As a result, the Subject Property is eligible for shoreline stabilization consistent with Goal 18 and the “Oregon Beach Bill,” which require properties to be developed prior to January 1, 1977 to be eligible for shoreline stabilization. The Subject Property is bordered by single family residences to the north and south, South Pacific Street to the east, and the beach to the west. It is located approximately 200 feet north of the Tolovana Beach State Recreation parking lot.

The adjacent beach frontage is approximately 60 feet wide and, as shown in the existing condition photograph below, has no current bluff protection.



The former concrete wall protecting the existing home on the Subject Property was destroyed due to beach erosion sometime in the last decade. As stated in the Geotechnical Investigation and Design Report, prepared by Earth Engineers, Inc., dated November 22, 2022 (the “**Engineer’s Report**”) and attached as **Exhibit 1**, in the absence of permanent shoreline protection, slumping and slope regression will continue resulting in eventual loss of the residence on the Subject Property.

This narrative addresses applicable approval criteria for conditional use permits generally, and shoreline stabilization permits specifically. As outlined in detail below, this Application meets the standards and criteria for approval.

II. APPROVAL CRITERIA

Structural shoreline stabilization is permitted as a conditional use in the R1 zone pursuant to CBMC 17.12.030.D. The applicable criteria relevant to conditional use permits generally, and shoreline stabilization specifically are listed below in *italics*, followed by a response explaining how each is met.

A. Conditional Use

CBMC 17.80.110 Overall use standards.

Before a conditional use is approved, findings will be made that the use will comply with the following standards:

A. A demand exists for the use at the proposed location. Several factors which should be considered in determining whether or not this demand exists include: accessibility for users (such as customers and employees), availability of similar existing uses, availability of other appropriately zoned sites, particularly those not requiring conditional use approval, and the desirability of other suitably zoned sites for the use.

RESPONSE: Attached hereto as **Exhibit 1** is the Engineer's Report that concludes that the Subject Property has been exposed to episodic erosion cycles, and "in the absence of permanent shoreline protection, slumping and slope regression will continue; and unless the bluff base is stabilized and shielded from wave attack, this property will be subject to continued undercutting and eventual loss." Since shoreline stabilization is unique to the proposed site, factors related to availability of other sites are inapplicable. Therefore, a demand exists for the use at the Subject Property, and this criterion is met.

B. The use will not create excessive traffic congestion on nearby streets or overburden the following public facilities and services: water, sewer, storm drainage, electrical service, fire protection and schools.

RESPONSE: Installation of shoreline stabilization will not affect traffic congestion on nearby streets or impact public facilities and services. Therefore, this criterion is met.

C. The site has an adequate amount of space for any yards, buildings, drives, parking, loading and unloading areas, storage facilities, utilities or other facilities which are required by city ordinances or desired by the applicant.

RESPONSE: The Applicant is requesting a shoreline stabilization permit for an existing residential structure that has been located on the Subject Property since 1931. The Applicant is not requesting any modification to any yards, buildings, drives, parking, loading and unloading areas, storage facilities, utilities or other facilities which are required by city ordinances. Therefore, this criterion is met.

D. The topography, soils and other physical characteristics of the site are appropriate for the use. Potential problems due to weak foundation soils will be eliminated or reduced to the extent necessary for avoiding hazardous situations.

RESPONSE: Section 2.2 of the Engineer's Report includes the Mapped Soils and Geology of the Subject Property and its vicinity. Relevant excerpts are included below. In addition, Subjection 2.4 of the Engineer's Report includes a summary of the subsurface materials on the Subject Property.

The project site is located on the lower west foothills of the Oregon Coast Range, specifically above Canon Beach and about 1 mile southeast of the iconic Haystack Rock. The Oregon coast range is defined by a 30- to 40-mile-wide swath of moderately high mountains that span approximately 200 miles along the Pacific Coast. In general, the region has been uplifted as a result of plate convergence from the Cascadia subduction zone located about 150 to 200 km west of the coast range¹. The region is underlain by a framework of Miocene aged (23 to 5 million years ago) volcanic rocks and Oligocene (33 to 23 million years ago) to Miocene aged marine sedimentary deposits that have been deposited over a basement rock of Eocene-aged (60 to 33 million years ago) volcanic arc deposits. Overlying this framework are Quaternary-aged (1.8 million years ago to present) marine terrace deposits, beach and dune deposits and landslide deposits.

The project area was mapped by Alan R. Niem and Wendy A. Niem, of the U.S. Geological Survey from 1972 to 1984. Within the project vicinity the underlying geologic unit is mapped as the Cannon Beach member of the Astoria formation (Tac). This unit consists of well-bedded, fine-grained marine sandstone, siltstone, and mudstone from the middle to lower Miocene. Haystack Rock is mapped as Wanapum Basalt and specially Frenchman Springs Member of pillow palagonite complexes (Tfsp). This unit is from the middle Miocene and is composed of isolated pillow breccia associated with autointrusive sills and dikes (igneous intrusions). Quaternary alluvium (unconsolidated flood plain deposits) and beach sand from the Holocene (the past 11,000 years) have also been mapped within the vicinity of the project site².

The United States Department of Agriculture (USDA) Soil Survey provides geographical information of the soils in Clatsop County as well as summarizing various properties of the soils. The USDA shows the native soils on the site mostly mapped as 28 – humitropepts - trophaquepts complex, 0 to 20 percent slopes.³ The humitropepts - trophaquepts silt loam is moderately poorly-drained, forms stream terraces and consists of alluvium deposits derived sedimentary rock.

Exhibit 1. Additionally, with regard to the topography and site description:

The area of the site east of the bluff is generally flat. An existing short concrete wall (less than 4 feet tall) is present at the top of the bluff and the horizontal distance from the top of bluff slope to the back of existing house is approximately 25 feet. To the west of the existing concrete wall, the oversteepened bluff slope stands at approximately 1 Horizontal: 1 Vertical (1H:1V) to near-vertical. As shown in the photos above, the current bluff was historically retained and protected by a concrete seawall. However, based on a review of aerial images available on Google Earth, the seawall was visible in a June 2017 image, but was no longer present (removed or destroyed) sometime prior to October 2019.

The approximately 8 feet tall bluff face is composed of light brown decomposed sandstone with silt, which has become over steepened and experienced continuous ocean wave erosion. The materials and condition of the bluff at the time of our field investigation is shown on Photo 1.

Because of the Subject Property's beach frontage, it is subject to consistent beach erosion. As a result, the topography, soils and other physical characteristics of the site are appropriate for the

use. Moreover, the Applicant is requesting a shoreline stabilization permit to prevent any hazardous situations and loss of the existing residential structure on the Subject Property.

E. An adequate site layout will be used for transportation activities. Consideration should be given to the suitability of any access points, on-site drives, parking, loading and unloading areas, refuse collection and disposal points, sidewalks, bike paths or other transportation facilities required by city ordinances or desired by the applicant. Suitability, in part, should be determined by the potential impact of these facilities on safety, traffic flow and control and emergency vehicle movements.

RESPONSE: Installation of shoreline stabilization will not affect public beach access as no public beach access will be lost. **Exhibit 1.** In addition, the proposed shoreline stabilization will have no impact on safety, traffic flow and control and emergency vehicle movements. Therefore, this criterion is met.

F. The site and building design ensure that the use will be compatible with the surrounding area.

RESPONSE: As stated in the Engineer's Report, the Application "will closely follow existing revetments and bluff profiles in the area and will not alter any major landforms . . . The majority of lots to the north of Tolovana Park already have an SPS in place, therefore this structure will be an aesthetic improvement over the exposed seawalls and exposed riprap structures already existing. The structure will not obstruct views of the ocean or beach from adjacent properties and will be consistent with other revetments immediately adjacent and slightly further to the north and south of the property." **Exhibit 1.** Additionally, the Applicant is taking the additional step of adding a vegetated sand layer to create Vegetated Rip-Rap¹; this adds to the design's aesthetic value. Therefore, the site design will be compatible with the surrounding area and this criterion is met.

B. Shoreline Stabilization

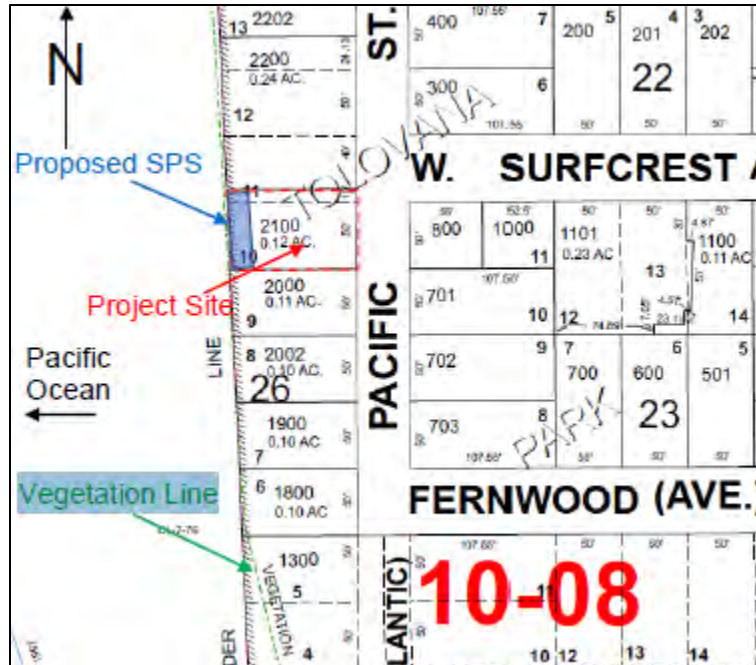
CBMC 17.80.230 Shoreline stabilization.

The following specific conditional use standards apply to shoreline stabilization:

A. Beachfront protective structures seaward of the Oregon Coordinate Line, require a permit from the Oregon Parks and Recreation Department and the city. Beachfront protective structures landward of the Oregon Coordinate Zone Line requiring more than fifty cubic yards of material may require a permit under the Oregon Removal Fill Law. All beachfront protective structures landward of the Oregon Coordinate Line require a permit from the city.

RESPONSE: As shown on the below Assessor's map, the proposed protective structure is landward of the Oregon Coordinate Zone Line (aka the Vegetation Line).

¹ "Vegetated Rip-Rap" is the use of rip-rap as is commonly used along the shoreline with an added layer of fill material such as soil, clay, or sand, within which vegetation is planted and maintained to match native shoreline aesthetic.



The Applicant is seeking a permit from the City, as required. If more than 50 cubic yards of material are required for the proposed shoreline protection, then the Applicant will consult with the Department of State Lands to determine if a permit is required under the Oregon Removal Fill Law. Therefore, this criterion is met.

B. Shoreline stabilization along the Ecola Creek Estuary requires a permit from the U.S. Army Corps of Engineers, the Oregon Division of State Lands, if it involves more than fifty cubic yards, and the city.

RESPONSE: The Subject Property is not along the Ecola Creek Estuary. This criterion does not apply.

C. The city's review of beachfront protective structures, both landward and seaward of the Oregon Coordinate Line, shall be coordinated with the Oregon Parks and Recreation Department. The city's review of shoreline stabilization along Ecola Creek Estuary shall be coordinated with the U.S. Army Corps of Engineers and the Oregon Division of State Lands.

RESPONSE: Since the proposed protective structure is landward of the Oregon Coordinate Line, as shown above, the City should coordinate its review with the Oregon Parks and Recreation Department consistent with this criterion.

D. Shoreline Stabilization Priorities.

1. The priorities for shoreline stabilization for erosion control, from highest to lowest:

a. Proper maintenance of existing riparian vegetation;

b. Planting of riparian vegetation;

c. Vegetated rip-rap;

d. Non-vegetated rip-rap;

e. Bulkhead or seawall.

2. Where rip-rap, bulkheads or seawalls are proposed as protective measures, evidence shall be provided that high priority methods of erosion control will not work.

RESPONSE: As explained in the Engineer's Report, the Applicant is proposing Vegetated Rip-Rap shoreline stabilization. Proper maintenance of existing riparian vegetation and planting of riparian vegetation will not work at the Subject Property because there is no significant vegetation at the Subject Property and "[v]egetation on this slope and adjacent properties has been systematically removed by storm events. Due to the high wave energy and relatively steep beach slopes, vegetation has not been effective in this area." **Exhibit 1.** "Vegetative stabilization . . . would not be sufficient to resist wave attack in order to substantially slow or halt erosion, or to stabilize the bluff slope." *Id.* Therefore, Vegetated Rip-Rap is the highest priority shoreline stabilization that will be effective at the Subject Property, and this criterion is met.

E. Qualifications for Beachfront Protection.

1. Structural shoreline stabilization methods for beachfront protection shall be permitted only if:

a. There is a critical need to protect property that is threatened by erosion hazard;

RESPONSE: As stated in the Engineer's Report, "in the absence of permanent shoreline protection, slumping and slope regression will continue; and unless the bluff base is stabilized and shielded from wave attack, this property will be subject to continued undercutting and eventual loss." **Exhibit 1.** Without the proposed protective structure, there will be near-term property loss. *Id.* Therefore there is a critical need to protect the Subject Property and this criterion is met.

b. Impacts on adjacent property are minimized;

RESPONSE: As stated in the Engineer's Report, the Application "will closely follow existing revetments and bluff profiles in the area and will not alter any major landforms . . . The majority of lots to the north of Tolovana Park already have an SPS in place, therefore this structure will be an aesthetic improvement over the exposed seawalls and exposed riprap structures already existing. The structure will not obstruct views of the ocean or beach from adjacent properties and will be consistent with other revetments immediately adjacent and slightly further to the north and south of the property." **Exhibit 1.** Therefore, impacts on adjacent property will be minimized and this criterion is met.

c. Visual impacts are minimized;

RESPONSE: As stated in the Engineer's Report, "[t]he structure will not obstruct views of the ocean or beach from adjacent properties and will be consistent with other revetments immediately adjacent and slightly further to the north and south of the property." **Exhibit 1.** Therefore visual impacts will be minimized and this criterion is met.

d. Access to the beach is maintained;

RESPONSE: Installation of shoreline stabilization will not affect public beach access as no public beach access will be lost. **Exhibit 1.** Therefore, this criterion is met.

e. Long-term or recurring costs to the public are avoided; and

RESPONSE: "In terms of public cost, the structure will not result in any significant loss of public beach. Since maintenance costs and repairs will be borne by the property owner, there is no public cost in dollars." **Exhibit 1.** Therefore, this criterion is met.

f. Riparian vegetation is preserved as much as possible.

RESPONSE: "Although no significant vegetation presently exists at beach level," as recommended in the Report, the proposed structure will be planted with native beach grass or other native plantings. **Exhibit 1.** Therefore, riparian vegetation will be added, and this criterion is met.

2. These criteria shall apply to structural shoreline stabilization both east and west of the State Zone Line.

F. Beachfront protective structures for beach and dune areas shall be permitted only where development existed on January 1, 1977. "Development" means houses, commercial and industrial buildings and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot and includes areas where a Goal 18 exception has been approved. Notwithstanding that the comprehensive plan and a map made part of the ordinance codified in this title identify property where development existed on January 1, 1977, owners whose property is identified as undeveloped on January 1, 1977 shall have a right to a hearing as provided in Chapter 17.88, as amended, to determine whether development did or did not exist on the property on January 1, 1977.

RESPONSE: The existing house on the Subject Property was built in 1931, as shown on the Clatsop County Property Information report attached hereto as **Exhibit 2.** Therefore, the Applicant qualifies for construction of shoreline stabilization under the Oregon Beach Bill and Goal 18.

G. Structural shoreline stabilization methods along Ecola Creek Estuary shall be permitted only if the following criteria are met:

1. A need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights, and:

a. No feasible alternative upland locations exist; and

b. Adverse impacts are minimized;

2. Flooding or erosion is threatening an established use on a subject property;

3. The proposed project will not restrict existing public access to publicly owned lands or interfere with the normal public use of fishery, recreation or water resources;

4. Visual impacts are minimized;

5. The proposed project will not adversely impact adjacent aquatic areas or nearby property through increased erosion, sedimentation, shoaling or other changes in water circulation patterns. An affidavit from a registered engineer, geologist or hydrologist may be required to demonstrate this;

6. The project is timed to minimize impacts on aquatic life;

7. Long-term or recurring costs to the public are avoided.

RESPONSE: The Subject Property is not along the Ecola Creek Estuary, and therefore these criteria do not apply.

H. Rip-rap shall be placed in accordance with the city's design criteria. Structural shoreline stabilization shall be designed by a registered engineer if the city's design criteria for rip-rap are not used, or if landslide retention is a factor in the placement of the shoreline protection structure. All structural shoreline stabilization shall be covered with fill material such as soil, clay or sand and revegetated with beach grass, willow or other appropriate vegetation. This requirement shall apply to replacement or repair of existing rip-rap as well as new construction.

RESPONSE: The proposed Vegetated Rip-Rap is shown in Appendix G to the Engineer's Report, and is designed by a registered engineer (Troy Hull and Yonggui Xie of Earth Engineers Inc.).

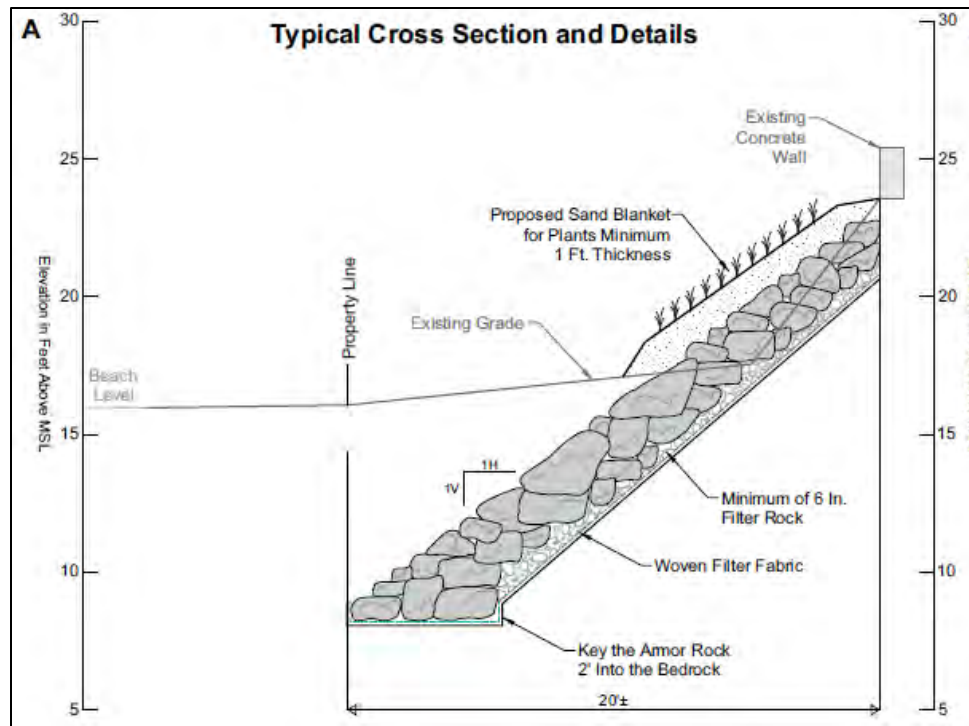


Exhibit 1. The proposed Vegetated Rip-Rap will be “covered with a 1- to 2-foot-thick blanket of sand, then be vegetated with dune grass (or other native plants that are common in Oregon Coast dune environments).” *Id.* Therefore, this criterion is met.

I. The shoreline protection structure shall be the minimum necessary to provide the level of protection required.

RESPONSE: As explained above, Vegetated Rip-Rap is the highest priority shoreline stabilization that will be effective. In addition, it is the minimum necessary to provide the level of protection required. Therefore, this criterion is met.

J. The emergency placement of rip-rap to protect buildings from an imminent threat shall be permitted without a permit. However, the city, Oregon Parks and Recreation Department and the Oregon Division of State Lands shall be notified when rip-rap is placed along the beachfront. The city, Oregon Division of State Lands and the U.S. Army Corps of Engineers shall be notified when rip-rap is placed along the Ecola Creek Estuary. Measures taken as a result of emergency conditions will be inspected. Alteration or removal of the material placed to conform to city and state standards may be required.

RESPONSE: The Application is not for the emergency placement of Vegetated Rip-Rap. Therefore, this criterion does not apply.

K. Proposals to repair existing rip-rap, bulkheads or seawalls shall be reviewed by the building official. If the building official determines the proposed repair involves a major change in the extent of rip-rap, bulkheading or the seawall, the proposal shall be reviewed by the planning commission as a conditional use. If the proposed repair is determined to not involve a

major change, a development permit is required. Repairs to rip-rap shall conform to the city's design criteria for rip-rap.

RESPONSE: The Application does not propose to repair existing rip-rap. As stated above, the previous concrete wall that protected the Subject Property was destroyed sometime within the last decade due to exposure to oceans waves and bluff erosion. Therefore, this criterion does not apply.

L. The city may require that proposed structural shoreline stabilization abutting a street end, or other public right-of-way, incorporate steps, paths or other physical improvements to enhance public access to coastal waters.

RESPONSE: The proposed structural shoreline stabilization does not abut a public right-of-way, and therefore this criterion does not apply.

III. CONCLUSION

For the reasons stated above, the Planning Commission can find that all applicable criteria are met and approve the Application.



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November 22, 2022

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**Subject: Geotechnical Investigation and Design Report
 Proposed Shoreline Protection Structure
 3216 Pacific Avenue
 Cannon Beach, Clatsop County, Oregon
 EEI Report No. 22-232-1**

Dear Mr. and Mrs. Day:

Earth Engineers, Inc. (EEI) is pleased to transmit our Geotechnical Investigation and Design Report for the above referenced project. The attached report includes the results of the field investigation and laboratory testing, an evaluation of geotechnical and geologic factors that may influence the proposed construction, recommendations for shoreline protection structure design, as well as recommendations for revetment construction.

We appreciate the opportunity to perform this geotechnical study and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,
Earth Engineers, Inc.

Yonggui Xie, PhD, P.E.
Geotechnical Engineer

Troy Hull, P.E., G.E.
Principal Geotechnical
Engineer

Adam Reese, R.G., G.E.G.
Principal Engineering
Geologist

Attachment: Geotechnical Investigation and Design Report

Distribution (electronic copy only): Addressees

GEOTECHNICAL INVESTIGATION AND DESIGN REPORT

for the

**Proposed Shoreline Protection Structure
3216 Pacific Avenue
Cannon Beach, Clatsop County, Oregon**

Prepared for

**Stephen and Laurel Day
2135 S 2200 E
Salt Lake City, Utah 84109**

Prepared by

**Earth Engineers, Inc.
2411 Southeast 8th Avenue
Camas, Washington 98607
Telephone (360) 567-1806**

EEl Report No. 22-232-1

November 22, 2022



**Earth
Engineers,
Inc.**



**Troy Hull, P.E., G.E.
Principal Geotechnical
Engineer**



**Adam Reese, R.G., C.E.G.
Principal Engineering
Geologist**

A handwritten signature in black ink, appearing to read "Yonggui Xie".

**Yonggui Xie, P.E.
Geotechnical Engineer**

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1.0 PROJECT INFORMATION

1.1 Project Authorization

Earth Engineers, Inc. (EEI) has completed a Geotechnical Investigation and Design Report for the proposed shoreline protection structure construction located at 3216 Pacific Avenue (Tax Lot [TL] 2100, Map 5 10 31DA), in Cannon Beach, Clatsop County, Oregon. The property is located approximately 200 feet to the north of the Tolovana Beach State Recreation Area parking lot. Our services were authorized by Stephen & Laurel Day on September 27, 2022 by signing EEI Proposal No. 22-P368-R1 dated September 22, 2022.

1.2 Project Description

Our current understanding of the project is based on the information provided via e-mail to EEI Principal Engineering Geologist Adam Reese. We further understand you wish to construct a Shoreline Protection Structure (SPS) to mitigate impacts from anticipated future coastal erosion. Among SPS alternatives, we understand that your preference is to construct a riprap revetment. This report addresses the engineering geology and geotechnical conditions at the site, and provides recommendations for an oceanfront shoreline protective structure (SPS). For the purposes of this report, the terms “rip rap”, “revetment”, and “SPS” are interchangeable.

The subject property (TL 2100) has beach frontage that is approximately 60 feet wide and has no current bluff protection. The height of the bluff slope at this property location is approximately 8 feet, as measured in elevation from the beach to the backyard of the upland property. The width of the backyard from the residential structure to the top is approximately 25 feet. Based on a review of past photos of the property, the beach elevation at this location varies seasonally and annually. At the time of our site visits, the upper edge of the beach stood approximately at 19 feet NAVD.

The low oceanfront bluff at this location is composed of weakly consolidated marine terrace deposits (see Photo 1). The low beachfront bluff on the west side of the properties in this area to the north of Tolovana Beach State Recreation Area parking lot have historically undergone episodic sloughing and erosion. Over the past few years, the erosion has increased, resulting in undercutting and destruction of a former concrete seawall (Photo 2 and Photo 3). The material at the base of the bluff slope at TL 2100 has been eroded away leaving the bluff in a near-vertical condition. The existing top of the bluff (Photo 1) currently is approximately 16 feet east of the statutory vegetation line (Figure 1, Tax Map) established by the Oregon Beach Bill.



Photo 1: Looking at the current condition of the oceanfront bluff.



Photo 2: Undated photo of site beachfront and former seawall, presented in Witter et al (2009) as an “example of a seawall in Cannon Beach that has been undermined by wave erosion”.



Photo 3: Undated historical photo provided by the property owner, looking east at the subject property and seawall (note that the beach elevation at the time of the photo is substantially higher than the current beach elevation.)

We noted that the adjacent property at 3188 Pacific Avenue has a beach frontage that is approximately 110 feet wide with an existing SPS, a sandbag-type structure constructed of sand tubes or sand burritos. The structure at 3188 Pacific Avenue appears to have been constructed by wrapping fine-grained soil (presumably borrowed at the SPS location) in a synthetic geotextile (geogrid) material, then planted with dune grass. We understand that this existing SPS was constructed in 2021. At the time of our preliminary reconnaissance site visit on September 8, 2022, the lower portion of the sand tubes (i.e. the lower 2-4 feet above the beach) was observed to be damaged, including washout of the fine-grained soil within the open-matrix geogrid and denuding of vegetation. We understand that there are no as-built drawings for the existing SPS at 3188 Pacific Avenue.

We have been provided with the following document (related to the neighboring SPS):

- **Geologic Shoreline Erosion Study; Map 5 10 31DA, Tax Lot 2200; 3188 S. Pacific Street, Cannon Beach/Tolovana Park, Clatsop County, Oregon by Horning Geosciences (April 12, 2020).** This document provides a summary of a reconnaissance-level investigation (i.e. visual assessment- and research-based, with no subsurface investigation) of the shoreline at the 3188 Pacific Avenue property. The report offers several suggested solutions including: no action (i.e. allowing “graceful retreat” of the bluff), regrading/revegetating the eroding bluff (with or without the component of wrapping the clay-rich soil in a geotextile; i.e. “sand burrito” armoring), or armoring the bluff with rip-rap (if the other options should fail). The report also includes a site plan and cross-section diagram as a design for the sand burrito mitigation option.

Briefly, we understand that the plan at the Day property is to construct a 60 foot long SPS to

protect the property against anticipated ocean processes and from ongoing coastal erosion impacts. It is our opinion that in the absence of permanent shoreline protection, slumping and slope regression will continue; and unless the bluff base is stabilized and shielded from wave attack, this property will be subject to continued undercutting and eventual loss. EEI recommends that a rip-rap revetment structure will provide the most protective, durable, and cost-effective solution feasible under current regulatory constraints. Although a solid seawall might be more protective, such structures are generally not approved in Oregon for protecting residential properties. In addition to its purpose of presenting the geotechnical investigation and design information for the SPS, this report is also presented as supporting information for an Ocean Shore Improvement Permit Application for the State of Oregon Parks and Recreation District (OPRD), and the local permit applications for the City of Cannon Beach.

1.3 Purpose and Scope of Services

The purpose of our services was to explore the subsurface conditions at the site to better define the existing soil, rock, and groundwater properties in order to provide geotechnical related recommendations for the proposed SPS. Our site investigation consisted of advancing 2 test pits (TP-1 and TP-2) with 2 drive probe tests (DP-1 and DP-2) within the subject property.

Grab samples were obtained from each stratum encountered in the test pits for laboratory testing. Laboratory testing was accomplished in general accordance with ASTM procedures.

This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents recommendations regarding the following:

- A discussion of subsurface conditions encountered including pertinent soil and rock properties (and groundwater conditions, if encountered).
- Geotechnical related recommendations and design for the proposed SPS (riprap revetment).
- Qualitative (visual) assessment of bluff slope stability.
- 2019 Oregon Structural Specialty Code seismic design criteria.
- Recommendations for the overall suitability of the in-situ soils for use as backfill and structural fill.
- Structural fill requirements, including gradation and compaction.
- Recommendations for riprap revetment foundation subgrade preparation.
- Wet and dry weather construction recommendations.
- Discussions on geotechnical issues that may impact the project

Our scope of services did not include a global slope stability analysis or a site-specific seismic site hazard analysis.

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 Site Location and Description

The site for the proposed shoreline protection structures is located at 3216 Pacific Avenue, Cannon Beach, Oregon. The property is bordered by residences to the north and south, Pacific Avenue to the east and the beach and the Pacific Ocean to the west. The property is currently occupied by an existing single family residential structure. The existing structure was built in 1931, qualifying the property owners for construction of an SPS under the Oregon Beach Bill requirement that the properties be developed prior to January 1, 1977. Locations of existing Beachfront Protective Structures (also known as SPS) and eligibility for constructing future SPS are depicted on Figure 2.

The area of the site east of the bluff is generally flat. An existing short concrete wall (less than 4 feet tall) is present at the top of the bluff and the horizontal distance from the top of bluff slope to the back of existing house is approximately 25 feet. To the west of the existing concrete wall, the oversteepened bluff slope stands at approximately 1 Horizontal: 1 Vertical (1H:1V) to near-vertical. As shown in the photos above, the current bluff was historically retained and protected by a concrete seawall. However, based on a review of aerial images available on Google Earth, the seawall was visible in a June 2017 image, but was no longer present (removed or destroyed) sometime prior to October 2019.

The approximately 8 feet tall bluff face is composed of light brown decomposed sandstone with silt, which has become over steepened and experienced continuous ocean wave erosion. The materials and condition of the bluff at the time of our field investigation is shown on Photo 1.

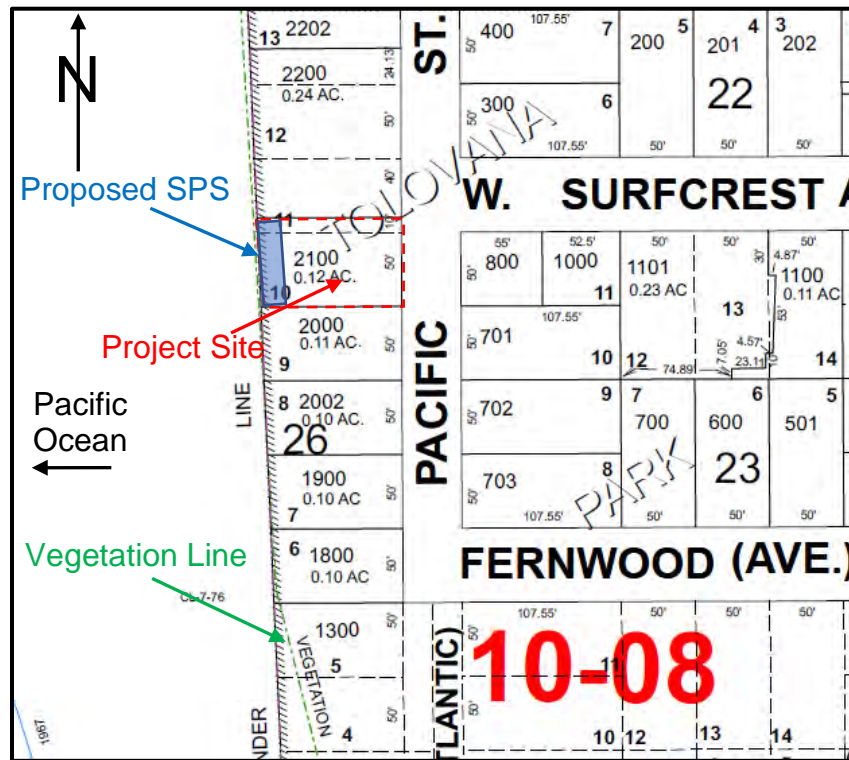


Figure 1: Project site and vicinity (base map source: Clatsop County Taxlot Map).



Photo 3: Looking east at the current bluff slopes from the beach.



Photo 4: Looking northwest at the existing bluff slopes from the top of bluff.

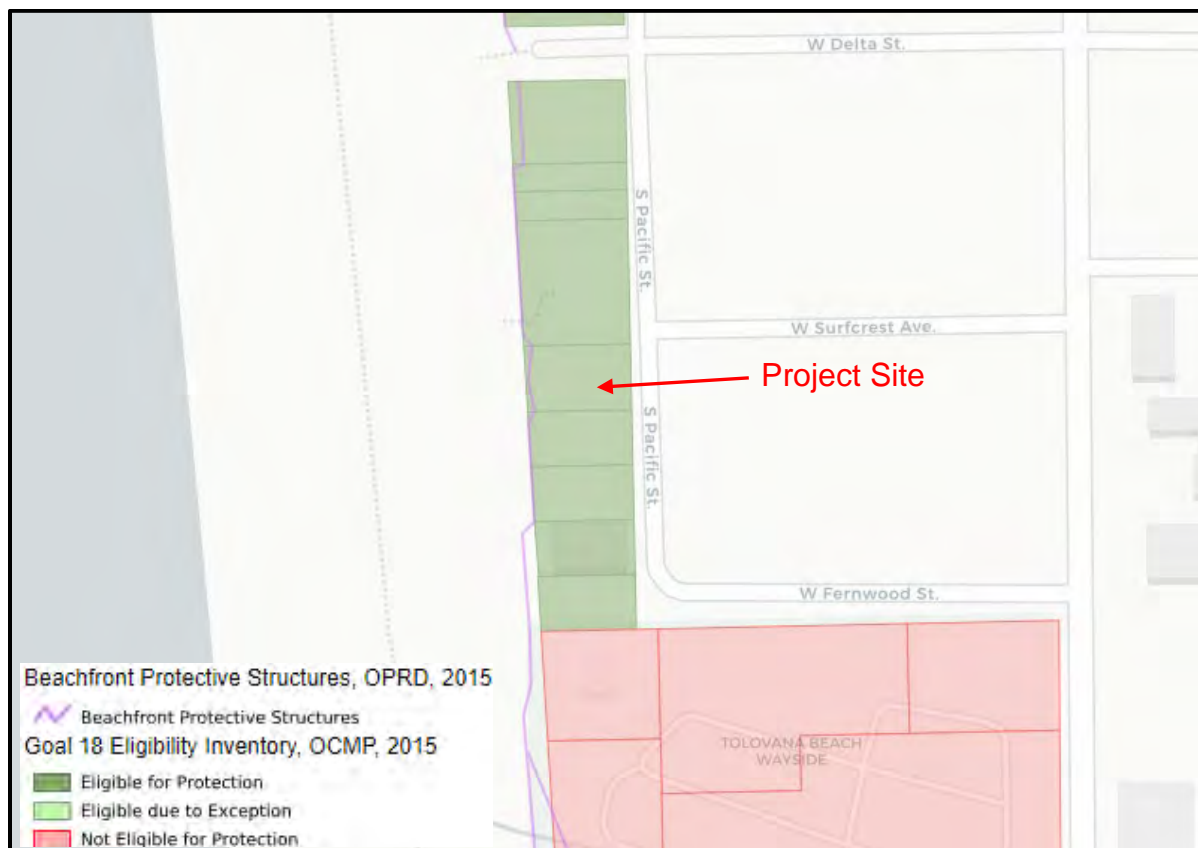


Figure 2: Existing Shoreline Armoring and Goal 18 Eligibility (base map source: Ocean Shores Viewer, Oregon Coastal Atlas; <https://www.coastalatlus.net/oceanshores/>).

2.2 Mapped Soils and Geology

The project site is located on the lower west foothills of the Oregon Coast Range, specifically above Canon Beach and about 1 mile southeast of the iconic Haystack Rock. The Oregon coast range is defined by a 30- to 40-mile-wide swath of moderately high mountains that span approximately 200 miles along the Pacific Coast. In general, the region has been uplifted as a result of plate convergence from the Cascadia subduction zone located about 150 to 200 km west of the coast range¹. The region is underlain by a framework of Miocene aged (23 to 5 million years ago) volcanic rocks and Oligocene (33 to 23 million years ago) to Miocene aged marine sedimentary deposits that have been deposited over a basement rock of Eocene-aged (60 to 33 million years ago) volcanic arc deposits. Overlying this framework are Quaternary-aged (1.8 million years ago to present) marine terrace deposits, beach and dune deposits and landslide deposits.

The project area was mapped by Alan R. Niem and Wendy A. Niem, of the U.S. Geological Survey from 1972 to 1984. Within the project vicinity the underlying geologic unit is mapped as the Cannon Beach member of the Astoria formation (Tac). This unit consists of well-bedded, fine-grained marine sandstone, siltstone, and mudstone from the middle to lower Miocene. Haystack Rock is mapped as Wanapum Basalt and specially Frenchman Springs Member of pillow palagonite complexes (Tfsp). This unit is from the middle Miocene and is composed of isolated pillow breccia associated with autointrusive sills and dikes (igneous intrusions). Quaternary alluvium (unconsolidated flood plain deposits) and beach sand from the Holocene (the past 11,000 years) have also been mapped within the vicinity of the project site².

The United States Department of Agriculture (USDA) Soil Survey provides geographical information of the soils in Clatsop County as well as summarizing various properties of the soils. The USDA shows the native soils on the site mostly mapped as 28 – humitropepts - tropaquepts complex, 0 to 20 percent slopes.³ The humitropepts - tropaquepts silt loam is moderately poorly-drained, forms stream terraces and consists of alluvium deposits derived sedimentary rock.

2.3 Geologic Hazards

The Oregon Department of Geology and Mineral Resources (DOGAMI) maps various geologic hazards such as 100-year flooding, earthquake ground shaking, coastal erosion, tsunamis, and landslides. DOGAMI presents hazard levels derived from this mapping in an interactive geographic information system (GIS), generally referred to as Oregon HazVu.⁴ Hazvu presents

¹ Kelsey, H.M., and J.G. Bockheim, Coastal landscape evolution as a function of eustasy and surface uplift rate, Cascadia margin, southern Oregon, Geol. Soc. Am. Bull., 106, 840-854, 1994.

² Niem, A.R., and Niem, W., 1985, Geologic map of the Astoria Basin, Clatsop and northernmost Tillamook Counties, northwest Oregon: Portland, Ore., Oregon Dept. of Geology and Mineral Industries Oil and Gas Investigation Map OGI-14, Plate 1, scale 1:100,0

³ Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed March 3, 2020.

⁴ Oregon HazVu: Statewide Geohazards Viewer, available online at: <http://www.oregongeology.org/sub/hazvu/> accessed 11/2/2022.

the primary geologic hazard levels associated with the subject property as follows:

- Low to very high (active) coastal erosion hazard zones
- Tsunami inundation hazard area
- Low to moderate landslide hazard area
- Severe Cascadia earthquake expected shaking
- Severe crustal earthquake expected shaking
- High liquefaction (soft soil) hazard area

Pertinent to this study, we describe the coastal erosion hazard in more detail below, as well as discussion of tsunami and landslide hazard risk levels for this property.

Coastal Erosion. Because the primary purpose of this study is to address coastal erosion, we assessed the site location relative to Coastal Erosion Hazard Zones. From east to west, the Oregon HazVu mapping (Figure 3) shows that portions of the site falls within the low, moderate, high, and very high (active) coastal erosion hazard zones.

Erosion Cycles and Current Site Condition. During the past quarter century, there has been a general increase in ocean wave erosion observed along much of the Oregon coast. These conditions have been attributed to an increased frequency of relatively severe global climatic episodes, such as El Niño and La Niña periods. The severe storms along the northern Oregon coast during these extremes have resulted increased wave heights and more substantial beachfront erosion than what has been seen in prior recorded history. The severity and frequency of these episodes is expected to increase in the future, and there is near certainty that the rate of sea-level rise will also increase as a result of global warming.

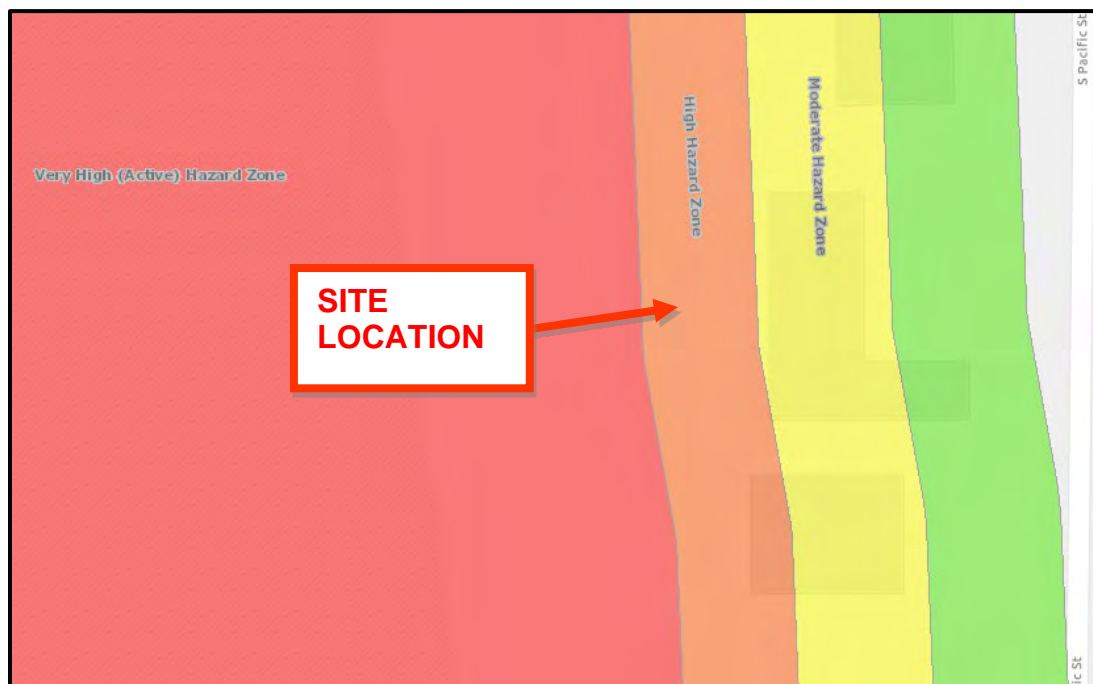


Figure 3: Coastal Erosion Hazard Zone provided by DOGAMI HazVU.

Offsetting recent historical sea level rise, the regional tectonic processes on the northern Oregon coast result in emergence (gradual uplift). This negates the short-term effects of sea-level rise in areas like Cannon Beach. However, the expected accelerated rate of sea level rise is likely to result in a general submergence of the coastline, exacerbating the coastal erosion impacts compared to what has been seen historically.

In addition to the climate changes, the configuration of offshore reefs and currents can direct ocean waves to particular stretches of the beach in the form of rip embayments. Rip embayments can be particularly destructive in that they create deep troughs in the near-shore sand deposits, allowing waves to reach the bluffs and dunes backing the beaches with full energy. Rip embayments can set up at random locations and cause extensive destruction in short periods of time.

Potential shoreline flooding associated with coastal recession and earthquake-generated tsunamis may also affect the site. On a geologic time scale (thousands of years), much of the Oregon coast is in the process of receding eastward, and it should be expected that continued erosion and recession of the coastline will occur in the future. Dune-back beaches, such as the Cannon Beach area including this site location, fluctuate seaward and landward over time, but the net result is a loss of ground to the ocean. Bluff-backed beaches undergo the same erosion cycles but regress more slowly without the seaward fluctuations of dune-backed beaches.

The subject property (TL 2100) has been exposed to the erosion cycles noted above, and in the absence of adequate shoreline protection, the erosion has occurred in the form of episodic bluff undercutting. As shown in Figure 2, nearly all properties in this area of Cannon Beach are protected by an SPS. The erosion at this location has become more severe in recent years, and the destruction of the former seawall has left a near-vertical bluff face. The fine-grained soils will temporarily stand in this configuration; however, without protection, the soils will soon collapse at their natural angle of repose (approximately 2H:1V to 3H:1V) and more substantial recession of the bluff crest (i.e. 5 to 10 feet) will immediately be observed.

As described above, the bluff located at the subject property was historically protected by a low beach-level concrete wall (Photos 2 and 3); however, within the past decade, the concrete wall was undermined by bluff erosion (undercutting) and destroyed due to exposure to ocean waves. The adjacent property to the north (TL 2200) is protected by a sand burrito-type SPS. We understand this adjacent SPS was constructed in 2021. At the time of our site reconnaissance and fieldwork, we observed that the adjacent SPS has already been substantially impacted by erosion. As shown in Photo 5, this includes denuding of the majority of vegetation on the lower half of the structure, and washout of the fine-grained soil within the open-matrix geogrid.

It is our opinion that in the absence of permanent shoreline protection, slumping and slope regression will continue; and unless the bluff base is stabilized and shielded from wave attack, the subject property will be subject to continued undercutting and eventual property loss. The recent impacts to the former seawall on the subject property (TL 2100) and impacts to the recently-installed SPS on the adjacent property (TL 2200) indicate erosion patterns in this location

are at the base of the bluff showed that the While we understand that “softer” SPS structures (such as sand bag/burrito structures) may be preferred by regulating agencies, it is our opinion that the rapid deterioration of the adjacent sand burrito SPS is evidence that a more robust solution is warranted at this location.

Tsunami Hazard. In addition, we reviewed the Tsunami Inundation Map for Cannon Beach, Oregon (reference: https://www.oregongeology.org/pubs/tim/Clat09_CannonBeach_Plate1_print.pdf; 2013 Local Source [Cascadia Subduction Zone]). The map shows that this property, along with nearly all of the other beachfront properties in this part of Cannon Beach, is mapped within the tsunami inundation zone (dark purple, light purple, and yellow shaded area in Figure 4 below) and could be impacted by tsunami waves in the event of even a small (magnitude 8.7 or greater) Cascadia Subduction Zone earthquake.

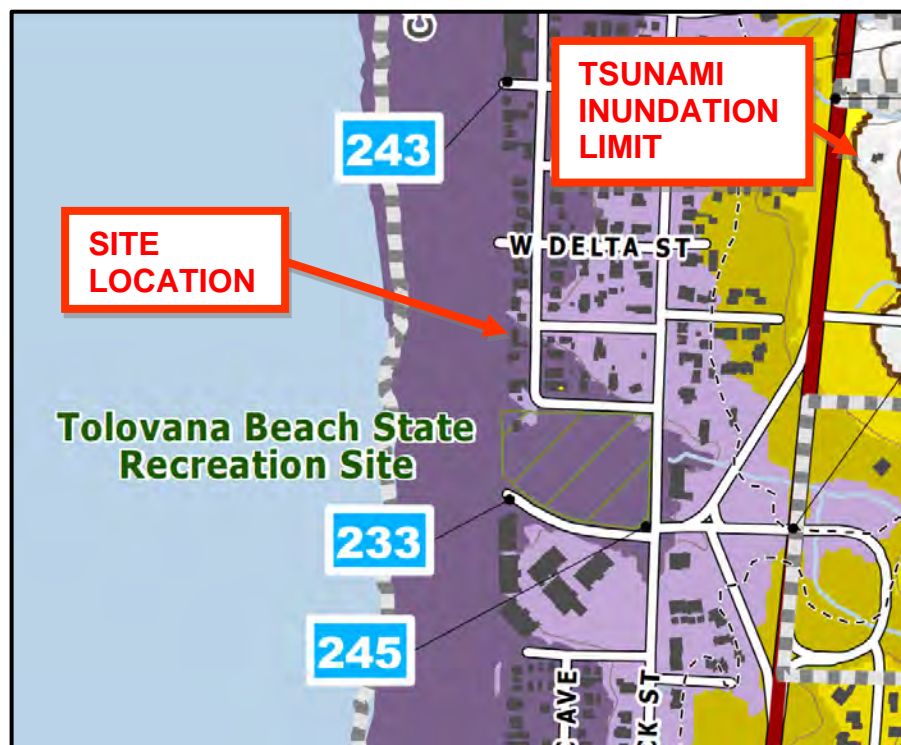


Figure 4: Tsunami hazard map for Cannon Beach provided by DOGAMI. The dark purple shading indicates the area expected to be generated by a “small-sized” Cascadia Subduction Zone Earthquake (earthquake magnitude ~8.7).

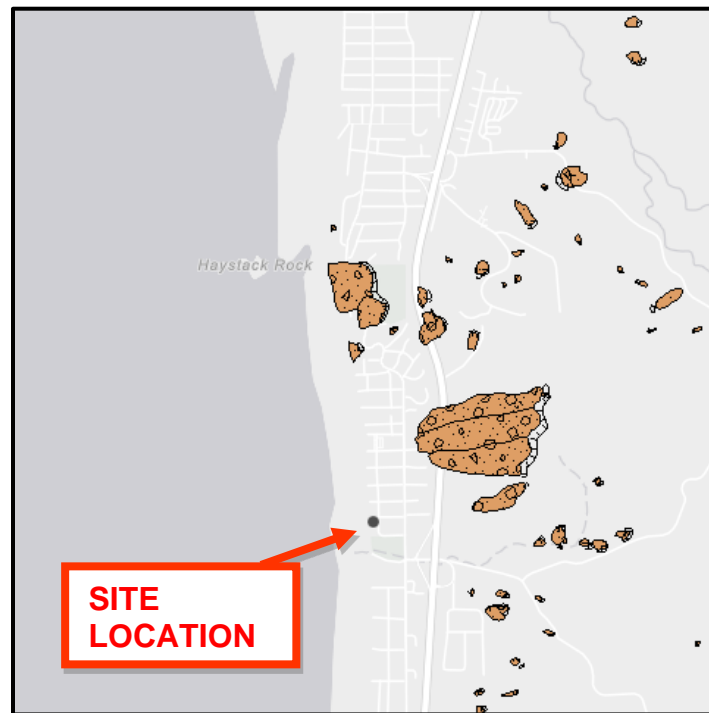


Figure 5: Mapped landslides from DOGAMI's SLIDO (landslides shown as brown notations).

Landslide Hazard. To assess landslide hazard risk for the site, we reviewed the DOGAMI Statewide Landslide Information Database for Oregon (SLIDO) (<https://www.oregongeology.org/slido/>). The SLIDO may shows mapped landslides throughout the state of Oregon, including the Cannon Beach area (Figure 3). The mapping shows that there are mapped landslides to the north, northeast, east, and southeast of the site; however, all of the mapped slides are located at a distance of greater than approximately 700 feet from the site. Given the observed soil and rock units on the property and our visual observations of site conditions, we recommend that landslide risk for this property is relatively low (with the exception of the localized slumping of the bluff due to wave attack and coastal erosion).

2.4 Subsurface Materials

The site was explored with 2 test pits (TP-1 and TP-2). For the approximate exploration locations, see Appendix B. The two test pits were advanced using a CAT 360 excavator from Thoreson Excavation. TP-1 was advanced to a depth of 9.5 feet below existing ground surface (bgs) and accompanied by supplemental drive probe testing. TP-2 was advanced to depth of 7.5 feet bgs. Both test pits were terminated by refusal. In addition, we conducted another drive probe test (DP-2) in the backyard on the east side of the concrete wall, see Table 1 below.

The drive probe test is based on a "relative density" exploration device used to determine the distribution and to estimate strength of the subsurface soil and decomposed rock units. The resistance to penetration is measured in blows-per-foot of an 11-pound hammer, freely falling roughly 39-inches, striking a coupling, and driving a 1-inch diameter solid end area (i.e. pipe cap) into the ground. This measure of resistance to penetration can be used to estimate relative density of soils. For a more detailed description of this geotechnical exploration method, please refer to the Slope Stability Reference Guide for National Forests in the United States, Volume I, United States Department of Agriculture, EM-7170-13, August 1994, P 317-321.

Table 1: Drive Probe Test Results

DEPTH (inches)	DEPTH (feet)	DP-1		DEPTH (inches)	DEPTH (feet)	DP-2
		Blows per 6 inches				Blows per 6 inches
0-6	0-1	7		96-102	8-9	21
6-12		13		102-108		23
12-18	1-2	19		108-114	9-10	24
18-24		9		114-120		24
24-30	2-3	20		120-126	10-11	23
30-36		12		126-132		20
36-42	3-4	11		132-138	11-12	16
42-48		13		138-144		21
48-54	4-5	15		144-150	12-13	24
54-60		13		150-156		28
60-66	5-6	10		156-162	13-14	26
66-72		12		162-168		27
72-78	6-7	12		168-174	14-15	40
78-84		12		174-180		44
84-90	7-8	15		180-186	15-16	47
90-96		19		186-192		50/5.5"

Select soil samples were tested in the laboratory to determine material properties for our evaluation. Laboratory testing was accomplished in general accordance with ASTM procedures. The testing performed included moisture content tests (ASTM D2216), the amount of material in the soils finer than the #200 sieve (ASTM D1140), and Atterberg limits tests (ASTM D4318). The test results have been included on the Exploration Logs in Appendix C.

In general, we encountered a thin layer of dark grey cobbles, underlain by brown to reddish clayey silt with few sand, brown to grey silty sand, and then siltstone. Each of the strata we encountered in our explorations are described below:

FILL

In the beach level near the toe of bluff slope, we encountered a layer of dark grey cobbles. This layer, interpreted to be fill, was approximately 6 inches thick. Presumably this material was placed for limited temporary erosion control, or has been transported and redeposited by wave action from nearby properties.

CLAYEY SILT (MH)

Beneath the fill described above, we encountered native fine-grained soils in both test pits, it consists of brown to reddish clayey silt with few sands (MH), wet, soft to very stiff. This stratum

extended to a depth ranging from 6 to 9 feet bgs. Laboratory moisture content testing on samples obtained within this stratum ranged from 34 to 55 percent, indicating a wet condition. Fines content laboratory testing for samples obtained within this stratum ranged from 59 to 83 percent passing the #200 sieve. An Atterberg limits test was conducted on the most cohesive appearing sample and had a liquid limit of 54, a plastic limit of 36, and a calculated plasticity index of 18.

SILTY SAND (SM)

We encountered native silty sand beneath clayey silt in TP-2. It consists of brown to grey silty sand, wet. This stratum extended to a depth of 7 to 9 feet bgs in our test pits. Laboratory moisture content testing on samples obtained within this stratum was 35 percent, indicating a wet condition. Fines content laboratory testing for samples obtained within this stratum was 48 percent passing the #200 sieve.

SILTSTONE

Beneath the native soils described above, we encountered marine sedimentary bedrock (siltstone) at a depth of 9 feet bgs in TP-1 and 7 feet bgs in TP-2. This rock stratum consisted of grey decomposed siltstone. The measured moisture contents in this stratum ranged from 36 to 53 percent.

The classifications noted above were made in accordance with the Unified Soil Classification System (USCS) as shown in Appendix D. The above subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The exploration logs included in Appendix C should be reviewed for specific information at specific locations. These records include soil descriptions, stratifications, and locations of the samples. The stratifications shown on the logs represent the conditions only at the actual exploration locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual. Water level information obtained during field operations is also shown on these logs. The samples that were not altered by laboratory testing will be retained for 90 days from the date of this report and then will be discarded.

2.5 Groundwater Information

Groundwater was encountered at depth of approximately 8 feet in test pit TP-1 at the time of our explorations, and we did not encounter groundwater in TP-2. The nearest well log (obtained from the State of Oregon Water Resources Department website http://apps.wrd.state.or.us/apps/gw/well_log/) that had a groundwater table reported was drilled 0.2 mile to the north of the site. The depth to groundwater at that location was reported as 9 feet bgs, as shown on the well log presented in Appendix E.

It should be noted that groundwater conditions can fluctuate based on changes in land use, seasonally changing climatic conditions, and/or ocean tidal conditions.

2.6 Seismicity

In accordance with ASCE 7-16 we recommend a Site Class D (stiff soil profile with an average standard penetration resistance of 15 to 50 blows per foot) when considering the average of the upper 100 feet of bearing material beneath the surface. This recommendation is based on the SPT blow counts, as well as our local knowledge of the area geology. Inputting our recommended Site Class as well as the site latitude and longitude into the Structural Engineers Association of California (SEAOC) – OSHPD Seismic Design Maps website (<http://seismicmaps.org>) which is based on the United States Geological Survey, we obtained the seismic design parameters shown in Table 2 below. Note that the values for F_a and F_v in Table 2 were obtained from ASCE's Supplement 3 dated November 5, 2021 and issued for ASCE 7-16 to correct some seismic design issues in the original publication.

Table 2: Seismic Design Parameter Recommendations (ASCE 7-16, including Supplement 3 dated November 5, 2021)

PARAMETER	RECOMMENDATION
Site Class	D
S_s	1.315g
S_1	0.690g
F_a	1.000
F_v	1.700
$S_{MS} (=S_s \times F_a)$	1.315g
$S_{M1} (=S_1 \times F_v)$	1.173g
$S_{DS} (=2/3 \times S_s \times F_a)$	0.877g
$S_{D1} (=2/3 \times S_1 \times F_v)$	0.782g
Design PGA ($=S_{DS} / 2.5$)	0.351g
MCE_G PGA	0.663g
F_{PGA}	1.100
$PGA_M (=MCE_G \text{ PGA} \times F_{PGA})$	0.729g

Note: Site latitude = 45.87377, longitude = -123.96169

The return interval for the ground motions reported in the table above is 2 percent probability of exceedance in 50 years.

Per Section 11.4.8 of ASCE 7-16 a site-specific ground motion hazard analysis shall be performed in accordance with Section 21.2 for the following conditions:

1. Structures on Site Class D sites with S_1 greater than or equal to 0.2g.

Exception: ASCE 7-16 does not require a site-specific ground motion hazard analysis when the value of S_{M1} is elected to be increased by 50% for all applications of S_{M1} by the Structural Engineer. If S_{M1} is increased by 50% to avoid having to perform the seismic response analysis, then the resulting value of S_{D1} shall be equal to $2/3 * [1.5 * S_{M1}]$.

2. Structures on Site Class E sites with values of S_s greater than or equal to 1.0, or values of S_1 greater than or equal to 0.2.

Exception: ASCE 7-16 does not require a site-specific ground motion hazard analysis when:

1. The Structural Engineer uses the equivalent lateral force design procedure and the value of C_s is determined by Eq. 12.8-2 for all values of T , or
2. Where (i) the value of S_{ai} is determined by Eq. 15.7-7 for all values of T_i , and (ii) the value of the parameter S_{D1} is replaced with $1.5 \cdot S_{D1}$ in Eq. 15.7-10 and 15.7-11.

We classified this site as Site Class D. Because the S_1 value is greater than $0.2g$ as shown in Table 1 above, a ground motion hazard analysis is required unless the Structural Engineer elects to increase the S_{M1} value by 50 percent (which results in also increasing the S_{D1} value by 50 percent). **If the Structural Engineer elects not to utilize the 50 percent increase on S_{M1} and S_{D1} , then EEI should be retained to perform a site-specific ground motion hazard analysis in accordance with Section 21.2 of ASCE 7-16. Note that for a revetment project to protect a landscape area, we do not expect that a site-specific ground motion hazard analysis will be necessary.**



Photo 5. Looking north at the sand burrito-type SPS, installed in 2021 on the western edge of TL 2200. Note the substantial observed vegetation denuding and erosion that has occurred in the course of one winter season.

3.0 SHORELINE PROTECTION STRUCTURE RECOMMENDATIONS

3.1 Bluff Slope Erosion Factors of Influence

Based on the information provided to us, as well as our subsurface investigation and literature review, it is our professional opinion that the primary factors influencing the stability of the bluff slope, as well as future impacts to the property and existing structures, include the following:

1. **Erosional Retreat.** As mentioned above, the bluff at the site experiences continuous ocean wave erosion. Witter and others⁵ estimated the rate of bluff retreat could be as high as approximately 5 feet per decade in southern Clatsop County, Oregon. Given that the existing house is approximately 25 feet away from the bluff slope and assuming an average bluff retreat rate of 5 feet per year, it would take about 25 years for the bluff to retreat to within 10 feet of the house. Based on the observed conditions and this potential future retreat rate, we recommend armoring the shoreline with riprap.
2. **Regional Seismic Hazard.** Abundant evidence indicates that a series of large earthquake related to the Cascadia Subduction Zone have occurred along the coastline of the Pacific Northwest over thousands of years. The calculated possibility of a Cascadia earthquake will occur in the next 50 years ranges from 7-15 percent for a great earthquake affecting the entire Pacific Northwest, to about a 37 percent for a major earthquake influencing the southern end of the Cascadia Subduction zone. In general, settlement, liquefaction, and landsliding of earth material (e.g., bluff slopes) are anticipated to occur in conjunction with this type of major seismic event.
3. **Climate Change.** According to most of the recent scientific studies, the earth's climate is changing as the result of human activities, which is altering the chemical composition of the atmosphere through the buildup of greenhouse gases. Global sea-level rise caused by melting polar ice caps and ocean thermal expansion could lead to flooding of low-lying coastal property, loss of coastal wetlands, increased wave heights, erosion of beaches and bluffs, and saltwater contamination of fresh groundwater. Climate change and the resultant sea-level rise are likely to impact the subject site (as well as numerous other developed similar ocean-front properties in Cannon Beach) through accelerated coastal erosion.

With structures on the property dating back to 1931, the property qualifies for such protection under Statewide Planning Goal 18 rules. In the area north of Tolovana Beach State Recreation Area, most of the properties are protected by engineered structures (many with riprap). The subject property has historically been protected by a concrete seawall; however, the former seawall was of insufficient size for permanent protection and was undercut and destroyed by wave erosion. In addition, the recently installed sand burrito structure on TL 2200 to the north appears to be insufficient as constructed for long-term property protection. Finally, with a

⁵ Witter, R.C., Horning, T., and Allan, J.C., 2009, Coastal Erosion Hazard in Southern Clatsop County, Oregon: Seaside to Cape Falcon; Open File Report O 09-06; Oregon Department of Geology and Mineral Industries; 61 p.

projected increase in both seasonal climatic events and sea level rise, the erosive forces impacting the property are generally expected to be more significant than the conditions experienced in the past. When considering these lines of evidence and the above influence factors, it is our professional opinion that the existing bluff slope should be protected by a robust SPS, such as a riprap revetment.

3.2 Riprap Revetment Recommendation

To mitigate future ocean wave erosion and the resulting bluff recession, support the over steepened bluff, and protect the subject house from damage, we recommend that a riprap revetment be constructed. We recommend constructing a rip rap revetment in the area shown in Appendix F as the Proposed Revetment Plan. A typical cross-section and recommended specifications for the proposed revetment are shown in Appendix G as the Typical Cross Section: Revetment and Fill. The elevations used on Appendix G are based upon the nearby elevation points provided by Google Earth and USGS Maps, and should be considered approximate.

The intent of the SPS is to protect only the house and property of TL 2100. The proposed revetment will be approximately 60 feet long (i.e. the width of the property beach frontage), and will be sloped westward at 1 Horizontal to 1 Vertical (1H:1V). The final geometry of the revetment will be shaped to match the existing slopes to the north (TL 2200) and south (TL2002) in order to avoid leaving gaps that could act as funnels to erode the adjacent banks. If there are future modifications to adjacent banks, we recommend that (for the sake of continuity, and for the future safety of the existing structures) the gaps be filled in to act as one continuous SPS covering all the lots.

The proposed revetment will generally be constructed of armor rock (riprap), underlain by filter rock (quarry-run bedding), and filter fabric (a woven geotextile). For the sole purpose of creating aesthetic similarity to undeveloped fore-dune areas, we are recommending that the revetment above the elevation of the beach should be covered with a 1- to 2-foot-thick blanket of sand, then be vegetated with dune grass (or other native plants that are common in Oregon Coast dune environments).

Following removal of existing loose fill soil, excavating to the dense bedrock elevation, and excavating a key trench into the bedrock at the toe of the slope, a woven filter fabric (Mirafi Filterweave® 700 or equivalent) should be installed from the top of the slope to the bottom of the toe trench and wrap the lowermost armor stones placed in the trench. An approximately 6-inch-thick layer of quarry-run bedding rock, consisting of 4-inch minus rock, should be placed on the filter fabric and lightly compacted (with the bucket of a backhoe/excavator or a jumping jack) to prevent the more angular filter rock from puncturing the filter fabric.

Riprap armor rock should consist of hard, durable, non-weathered basaltic rock, approximately 1.5 to 4 feet in diameter, placed in an interlocking state. The armor rock should be embedded into dense bedrock at the approximate elevations shown on the Appendix G cross sections, keyed into the native siltstone at a minimum of 2 feet. Toe trench embedment depths must be approved

by a representative of EEI at the time of construction. When installing the armor rock, we recommend that the largest diameter rocks be placed on the face of the structure, with placement sequenced from the bottom to the top of the revetment. The riprap should not be placed at slopes steeper than 1H:1V. The riprap should be moderately compacted with the bucket of the backhoe/excavator (often referred to as “knuckling” the rock into place) to ensure that good particle to particle contact is made

Following placement of the armor rock, the revetment above the beach elevation should be covered with a 1- to 2-foot-thick blanket of sand. The purpose of this layer is entirely aesthetic (i.e. to give the rip-rap revetment the appearance of a vegetated dune). The sand should then be planted with native beach grass, fertilized, and watered as necessary to establish vegetation growth.

Since the excavation may result in excess sand, we recommend that the leftover sand be added to the beach budget by spreading it uniformly over the beach above the Mean High Water (MHW) Level, not in excess of 1 foot in thickness.

While the proposed riprap revetment is intended to be durable, coastal processes are dynamic and it should be anticipated that revetment will need to be maintained and repaired as necessary. In particular, we anticipate that future wave attack will cause surface erosion of the vegetation and sand blanket material. This surficial layer will periodically need to be regraded (or sand replenished) and replanted when erosion occurs.

3.3 Possible Adverse Impacts

Sand supplies along the Oregon coast are derived primarily from two sources: from erosion of bluffs, headlands and dunes; to a lesser extent from sediments carried by streams and rivers that discharges to coastal areas.

The proposed revetment would prevent erosion along approximately 60 feet of bluff length in subject property. The loss of sand to the beach in the littoral cell at the site during the life of the SPS would be minimal as a result of the construction of a new riprap revetment.

Assuming an average annual erosion rate of 0.5 feet per year, based on nearby unprotected portions of the beach, and an anticipated life of the revetment of 60 years, we estimate that the maximum total loss of sediment supply as a result of the revetment will be approximately 534 cubic yards in 60 years or an annual average loss of 9 cubic yards of material. 60% of this material is sand sized, and 40% is silt and clay.

The revetment has been designed to reduce obstructions to sand movement along the beach. We do not anticipate that sand movement along this dynamic beach will be adversely impacted by the riprap revetment.

The riprap revetment will increase the stability of the bluff slope and will reduce the risk of

continued ocean wave erosion. We anticipate that there could potentially be no erosion below the elevation of the top of the revetment if the revetment is well maintained. However, any exposed bluff above the revetment may continue to recede due to wind and rain erosion and severe wave attack.

3.4 Recommended Geotechnical Inspections of Riprap Construction

EEI should be retained to perform geotechnical construction inspections to verify construction complies with the geotechnical engineering recommendations contained in this report. EEI cannot accept responsibility for any conditions that deviate from those described in this report, if not engaged to also provide construction observation for this project.

At a minimum, we recommend the following geotechnical inspections be performed by EEI during construction.

1. Subgrade preparation beneath the riprap revetment.
2. Verify filter fabric placement.
3. Verify filter rock (quarry-run bedding) placement
4. Verify armor rock placement (verify proper rock, verify proper toe embedment, verify riprap inclination).
5. Final revetment inspection.

Note that the construction team and/or governing jurisdiction may require additional inspections.

3.5 Other Considerations

The following discusses the general concerns that OPRD and the reviewing agencies and groups generally consider when evaluating an SPS Permit Application.

Project Need. Although the bluff has suffered normal ongoing erosion since development of the property, this property has clearly been more severely threatened in recent years. In this area of Tolovana Park, it is apparent that the properties have historically been affected by major storms based on the prevalence of riprap revetments, concrete seawalls, and wooden bulkheads. As a result of recent seasonal storm episodes, the bluff is currently standing at a near-vertical slope (Photo 1). Without a permanent solution, there will be near-term property loss (i.e. the existing concrete wall at the crest of the slope and portions of the small backyard) as the bluff soil reverts to the normal angle of repose and wave action quickly erodes the loose, disturbed soil. Eventually, these conditions will threaten the house on TL 2100 (as well as potentially the adjacent properties to the north and south). Without shoreline protection, the existing home on TL 2100 would be in jeopardy.

Public Rights. The proposed revetment will extend approximately +/-20 feet beyond the face of the existing bluff (Appendix F and G), but in terms of beach loss based on existing conditions, the

SPS footprint will stay within the property boundary and will match the slopes to the north and south of the site. No public beach access will be lost.

Alternatives to Revetment Construction. The presence of numerous existing seawalls and revetments on the beachfront in this part of Cannon Beach has undoubtedly helped to exacerbate the erosion conditions affecting this property and has increased the erosion potential for non-hardened surfaces. Nevertheless, we needed to consider non-structural solutions that in some areas help stabilize bluff slopes. These included vegetative stabilization, sand alteration, and cobble berms. Vegetation on this slope and adjacent properties has been systematically removed by storm events. Due to the high wave energy and relatively steep beach slopes, vegetation has not been effective in this area.

Sand alteration is fairly common on the east coast where the wave climate is significantly milder; however, this has only been attempted in a few areas of the west coast such as San Diego, California. The process involves moving hundreds of thousands of cubic yards of sand within littoral cells or bringing sand from other sources in attempts to encourage dune building and to shore-up erosion-damaged areas. Typically, this involves large amounts of government spending and long-term commitments. The reality is that intense climatic events such as El Niño and La Niña, or in recent cases, an unusually severe storm or rip embayment, can remove hundreds of thousands of cubic yards of material in a few days' time, again exposing the shorelines to intense erosion. The practice of sand alteration usually requires vast areas of beach to be even moderately effective, so this would not be a viable solution for the small subject property.

Cobble berms are similar to sand alteration in that they involve moving material around on the beaches from areas of low potential damage to areas of high potential damage. Normally these require an extensive source of cobbles on the beach, or very close by (not readily available at this site). Cobble berms are constructed at a low slope angle (e.g., on the order of 11 degrees), and therefore require a larger footprint for placement. In this case, the proposed riprap revetment will need to be installed at a 1H:1V (45 degree) slope in order to have a footprint within the site property boundary. The limited amount of property, lack of cobble sources, and high-energy waves in this area combine to eliminate a cobble berm solution. Wave attack could remove the stabilizing effects of the cobbles in a short period of time.

Vegetative stabilization, sand alteration, and cobble berms would not be sufficient to resist wave attack in order to substantially slow or halt erosion, or to stabilize the bluff slope. In addition, the height of the bluff, presence of adjacent revetments, and the close proximity of adjacent structures to the slope crests do not make them conducive to experimentation with solutions having marginal chances of success.

We do not believe dynamic revetments such as sand bags, gravel mounds, logs, or composite revetments would prove effective. Sand tubes have been used on the Atlantic coast with some success by placement offshore, which causes waves to break early and lose energy before reaching the shorelines. However, because of the extremely high wave energy, these structures have not been shown to have acceptable performance during severe storm events and over

longer periods of time along the west coast. We do not believe dynamic revetments have been satisfactorily proven to work in the type of coastal environment found at the site.

Public Costs. In terms of public cost, the structure will not result in any significant loss of public beach. Since maintenance costs and repairs will be borne by the property owner, there is no public cost in dollars.

Scenic Concerns. The project will closely follow existing revetments and bluff profiles in the area and will not alter any major landforms. Although no significant vegetation presently exists at beach level, we are recommending to the property owner that they vegetate the revetment face with naturally occurring plantings. The majority of lots to the north of Tolovana Park already have an SPS in place, therefore this structure will be an aesthetic improvement over the exposed seawalls and exposed riprap structures already existing. The structure will not obstruct views of the ocean or beach from adjacent properties and will be consistent with other revetments immediately adjacent and slightly further to the north and south of the property.

Recreational Usage. During the worst of conditions, high tides and storm waves cover the beach up to the base of the existing revetments and beachfront slopes. During normal and summer conditions, the beach may be as much as 300 yards wide at low tide. This structure will not alter or worsen the existing conditions. During normal seasonal weather patterns, the usage of the beach in this area will not change because of this structure. No important public access routes within the ocean shore area will be blocked.

Neighboring Properties. The majority of lots to the north of Tolovana Park already have an SPS in place. The presence of these revetments have increased the potential for future wave erosion and continued rapid bluff retreat in this zone. Left unchecked, the erosion will continue to erode the bluff below TL 2100. The resulting erosion and bluff recession may later compromise the stability of the SPS and bluff slope of the adjacent properties to the north and south. The proposed revetment will protect the properties and provide a smooth line along the beach front in this area. The composition of the adjacent bluff slope to the south is unknown, so there is potential that this property could be adversely affected by this structure in a similar manner that TL 2100 has likely been affected by the other existing SPS structures in this vicinity.

Sand Source, Supply, and Movement. Sand supplies along the Oregon coast are derived primarily from two sources: (1) from sediments carved by streams and rivers that discharge to coastal areas; and (2) from erosion of bluffs, headlands, and dunes. Due to their relative hardness, the bluff and headland sand supplies are minor compared to those derived from dunes and streams.

During El Niño events, the entire sand supply may be removed from portions of a littoral cell and deposited elsewhere, usually at the northern end, exposing the bluffs and dunes to rapid erosion. The bluff material and talus eroded during the storm events will also disappear, generally by moving offshore, then gradually returning during summer months. When conditions return to normal, it may be several years before the beaches and dunes recover their pre-El Niño configurations. The areal distribution of the bluff and talus material removed during an El Niño

event is nearly impossible to determine, and estimating the amount of sand supply loss to the coastal system by this particular structure is very difficult. Like other areas of the northern coast, the beaches in the Clatsop County area have historically gone through periods of severe erosion and minor dune construction, and the historical record is not sufficient to infer the overall trend. The variability in erosion and deposition of sands is influenced by general ocean currents, waves, rip currents, jetties, spits, and other structures and phenomena, but is ultimately controlled by global climate conditions and the relative elevation of the sea level.

Ultimately, the proposed SPS will reduce the risk of erosion for only 60 feet of property line, and in our estimation the resulting additional loss of sand to the beach will be minimal during the life of the revetment.

Bank or Bluff Stability and Erosion Rates. The State of Oregon DOGAMI has numerous fairly detailed reports and accompanying maps regarding shoreline and bluff retreat in this area. Witter and others (2009) estimated approximately 30 feet of bluff retreat over the next 60 years, or approximately 5 feet per decade, which is much higher than has been observed to date. Retreat rates are not consistent from year to year and are considered long-term averages because erosion occurs in cycles. Generally speaking, a particular bluff may not move for 20 years, and then suddenly lose 15 feet of frontage in one storm event.

In this area, the extensive presence of engineered structures indicates that there has been historical erosion impacts from storms. Within the past half century, much of this shoreline in this part of Cannon Beach has remained relatively stable, with minimal overall erosion or accretion having occurred since the 1960's. However, as pertaining to TL 2100 and adjacent properties, a series of storms in recent winter seasons have resulted in bluff retreat of several feet, likely in excess of all projected annual erosion rates.

The published erosion rates are approximate, and in given areas, the error bar can be vastly inaccurate. Therefore, on a small lot in an area tightly constrained by property boundaries and adjacent SPS, moving a building site a few feet further back than the projected erosion rate dictates (in lieu of providing SPS protection) is not a reasonable alternative. As noted previously, if no SPS is provided, the ongoing process of toe erosion and slope layback to the natural angle of repose of the fine-grained soil (approximately 2H:1V to 3H:1V) may eventually remove the upland backyard on the property and threaten the residential structure.

The published erosion rates do not take into account the presence of existing SPS and their effect on adjacent properties. In our opinion, construction of the revetments to the north and south of this property has helped to accelerate the erosion of the bluff. An SPS at this site will increase the stability of the bluff slope east of the revetment and will help to protect it from continued ocean wave erosion. The structure will be tied into the existing revetment to the south and will be extended on the north side to help mitigate the effects of wave refraction around the end of the structure.

4.0 REPORT LIMITATIONS

As is standard practice in the geotechnical industry, the conclusions contained in our report are considered preliminary because they are based on assumptions made about the soil, rock, and groundwater conditions exposed at the site during our subsurface investigation. A more complete extent of the actual subsurface conditions can only be identified when they are exposed during construction. Therefore, EEI should be retained as your consultant during construction to observe the actual conditions and to provide our final conclusions. If a different geotechnical consultant is retained to perform geotechnical inspection during construction, then they should be relied upon to provide final design conclusions and recommendations, and should assume the role of geotechnical engineer of record.

The subject property is located on a bluff fronting the Pacific Ocean. This property is subject to very dynamic forces (i.e. powerful winter storms, ocean currents, and earthquakes). The conditions of the subject property could change drastically in the future due to these forces and cannot be entirely predicted, nor can they be fully mitigated. These risks are common to other similar properties in the area, which have already been developed with similar residential homes.

The geotechnical recommendations presented in this report are based on the available project information and the subsurface materials described in this report. If any of the noted information is incorrect, please inform EEI in writing so that we may amend the recommendations presented in this report if appropriate and if desired by the client. EEI will not be responsible for the implementation of its recommendations when it is not notified of changes in the project.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

The subsurface explorations performed for this geotechnical study represent the subsurface conditions at discrete locations on the project site. The number of explorations were sufficient to provide geotechnical engineering recommendations for the proposed retaining wall project, but may not be sufficient to eliminate all risk of differing or unanticipated subsurface conditions elsewhere along the proposed retaining wall alignment. When developing the construction schedule and budget, it should be assumed that the subsurface conditions may vary across the site. To reduce the risk of encountering differing or unanticipated conditions during construction, we are available to perform additional subsurface explorations upon request.

This report has been prepared for the exclusive use of Stephen and Laurel Day for the specific application to the proposed riprap revetment within the property located at 3216 Pacific Avenue in Cannon Beach, Oregon. EEI does not authorize the use of the advice herein nor the reliance upon the report by third parties without prior written authorization by EEI.

5.0 REFERENCES

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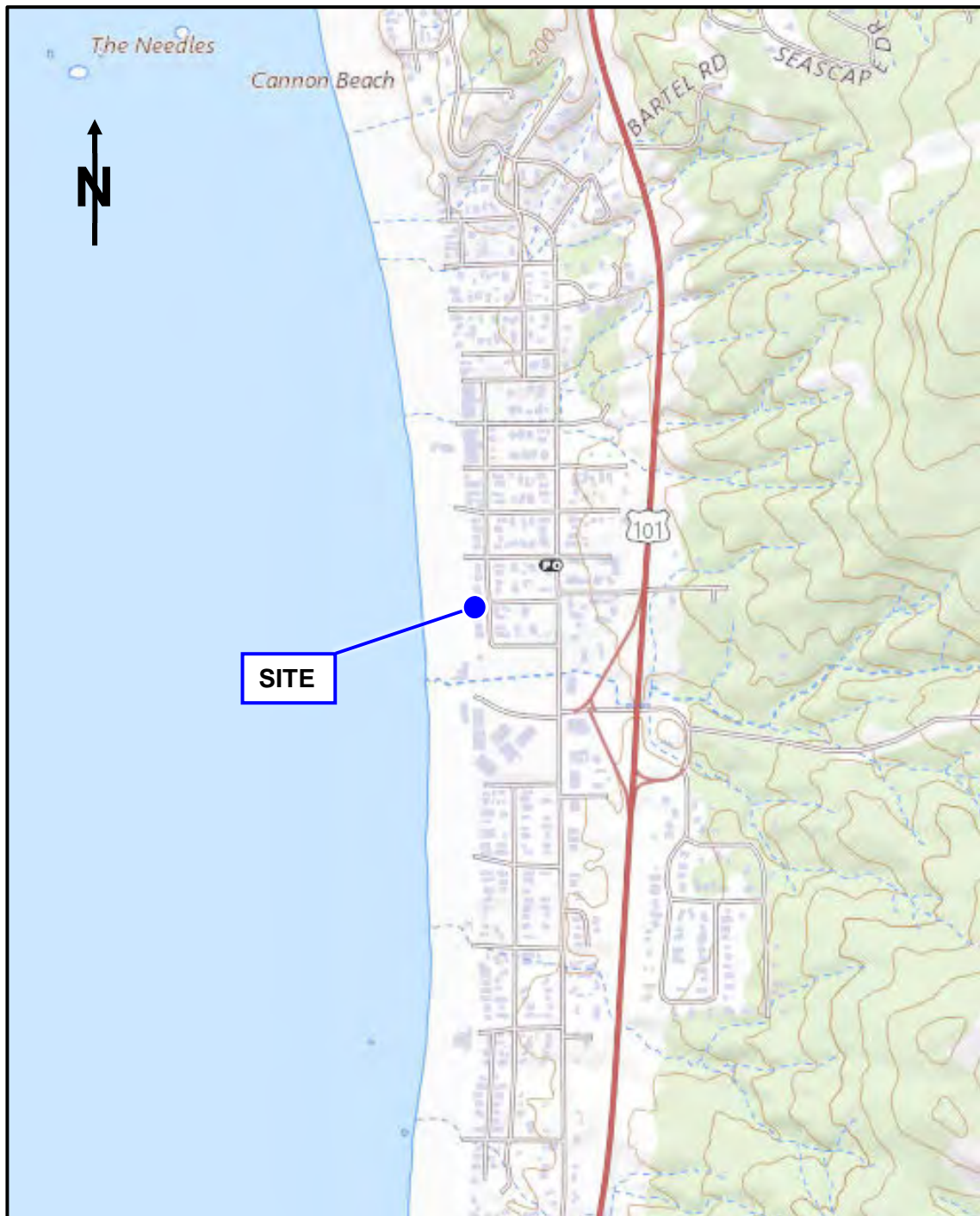
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APPENDICES

APPENDIX A – SITE LOCATION MAP



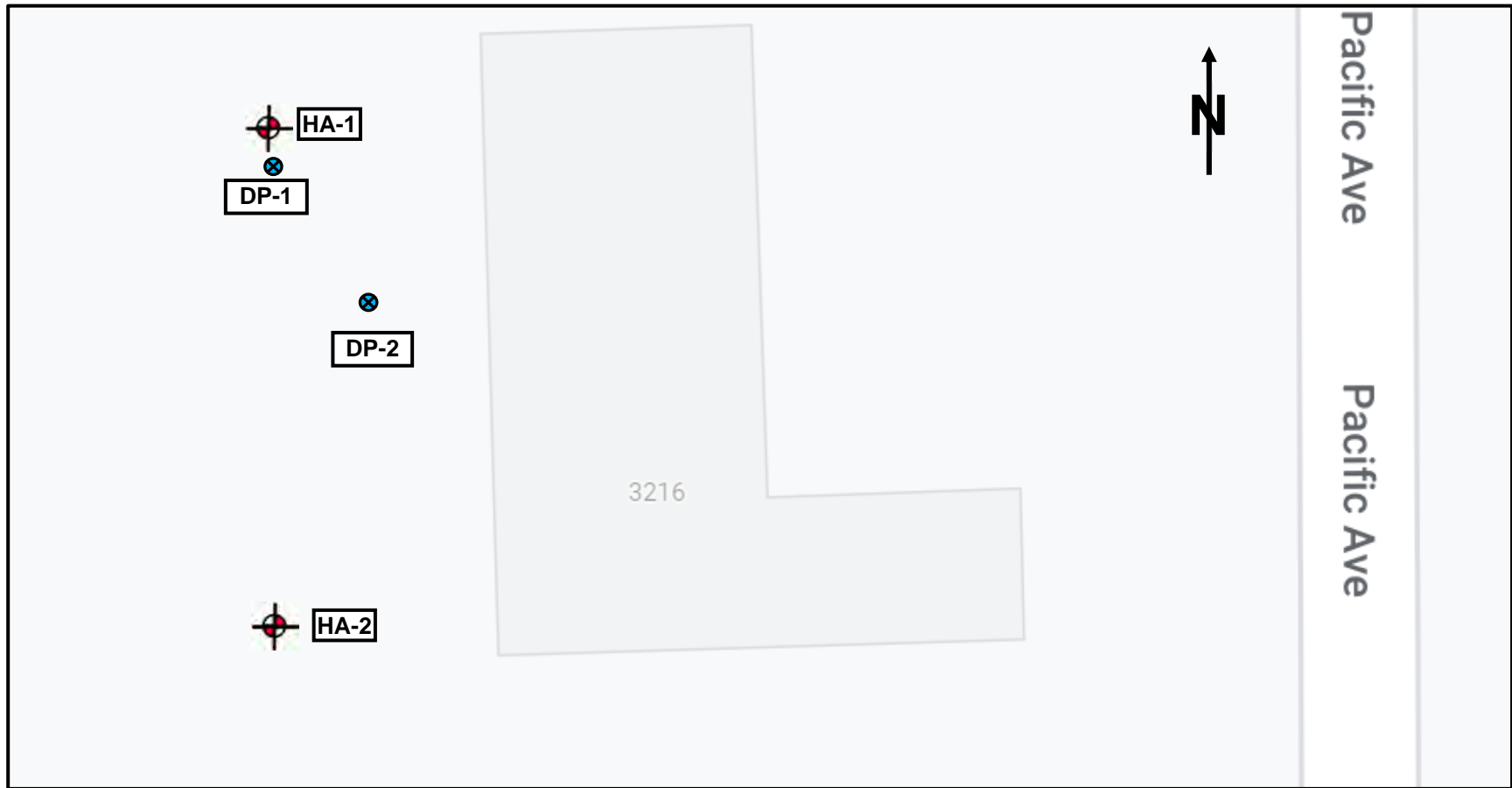
**Earth
Engineers,
Inc.**

**Proposed Shoreline Protection Structure
3216 Pacific Avenue
Cannon Beach, Clatsop County, Oregon**

**Report No.
22-232-1**

November 22, 2022

APPENDIX B – EXPLORATION PLAN



Legend:

-  = Approximate Hand Auger Boring Location
-  = Approximate Drive Probe Test Location

Base Drawing from Google Earth



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Inc.**

**Proposed Shoreline Protection Structure
3216 Pacific Avenue
Cannon Beach, Clatsop County, Oregon**

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November 22, 2022



Earth
Engineers,
Inc.

Appendix C: Test Pit TP-1

Sheet 1 of 1

Client: Stephen and Laurel Day

Project: Proposed Shoreline Protection Structure Construction

Site Address: 3216 Pacific Avenue

Cannon Beach, OR

Location of Exploration: See Exploration Location Plan

Logged By: Yonggui Xie, P.E./ Adam Reese C.E.G.

Report Number: 22-232-1

Excavation Contractor: Thoreson Excavation

Excavation Method: Excavator with 24-inch toothed bucket

Excavation Equipment: CAT 360

Approximate Ground Surface Elevation (ft msl): 16

Date of Exploration: October 13, 2022

Depth (ft)	Water Level	Lithology		Sampling Data								Remarks
		Lithologic Symbol	Geologic Description of Soil and Rock Strata	Sample Number	Digging Effort	Drive Probe Blows Per 6 Inches	Pocket Pen. (tsf)	Moisture Content (%)	% Passing #200 Sieve	Liquid Limit	Plastic Limit	
0			Fill - Dark grey cobbles with few sand, dry			9						
1			MH - Brown to reddish clayey silt with few sand, wet, soft to very stiff			17						
2				GRAB 1		3		54				
3						4						
4				GRAB 2		4		48	83			
5						4						
6			more grey	GRAB 3		4		55	72	54	36	
7						3						
8				GRAB 4		12		55	59			
9			Siltstone - Grey decomposed siltstone	GRAB 5		6						
10						6						
11						8						
12						7						
13						9						
14						15						
15						23						

Notes: Test pit terminated at a depth of approximately 9.5 feet bgs. Groundwater was encountered at depth of 8 feet at the time of our exploration. Test pit loosely backfilled with excavated soil on 10/13/2022. Approximate elevation based on Google Earth.

Exhibit 1



Earth
Engineers,
Inc.

Appendix C: Test Pit TP-2

Sheet 1 of 1

Client: Stephen and Laurel Day

Project: Proposed Shoreline Protection Structure Construction

Site Address: 3216 Pacific Avenue

Cannon Beach, OR

Location of Exploration: See Exploration Location Plan

Logged By: Yonggui Xie, P.E./ Adam Reese C.E.G.

Report Number: 22-232-1

Excavation Contractor: Thoreson Excavation

Excavation Method: Excavator with 24-inch toothed bucket

Excavation Equipment: CAT 360

Approximate Ground Surface Elevation (ft msl): 16

Date of Exploration: October 13, 2022

Depth (ft)	Water Level	Lithology		Sampling Data								Remarks
		Lithologic Symbol	Geologic Description of Soil and Rock Strata	Sample Number	Digging Effort	Drive Probe Blows Per 6 Inches	Pocket Pen. (tsf)	Moisture Content (%)	% Passing #200 Sieve	Liquid Limit	Plastic Limit	
0			Fill - Dark grey cobbles with few sand, dry									
1			MH - Brown to reddish clayey silt with few sand, wet, soft to very stiff									
2				GRAB 1				34	64			
3												
4				GRAB 2				48	71			
5												
6			SM - Brown to grey silty sand, wet,	GRAB 3				35	48			
7			Siltstone - Grey decomposed siltstone	GRAB 4				36				
8												
9												
10												
11												
12												
13												
14												
15												

Notes: Test pit terminated at a depth of approximately 7.5 feet bgs. Groundwater was not encountered at the time of our exploration. Test pit loosely backfilled with excavated soil on 10/13/2022. Approximate elevation based on Google Earth.

Exhibit 1

APPENDIX D: SOIL CLASSIFICATION LEGEND

APPARENT CONSISTENCY OF COHESIVE SOILS (PECK, HANSON & THORNBURN 1974, AASHTO 1988)				
Descriptor	SPT N ₆₀ (blows/foot)*	Pocket Penetrometer, Qp (tsf)	Torvane (tsf)	Field Approximation
Very Soft	< 2	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	2 – 4	0.25 – 0.50	0.12 – 0.25	Easily penetrated several inches by thumb
Medium Stiff	5 – 8	0.50 – 1.0	0.25 – 0.50	Penetrated several inches by thumb w/moderate effort
Stiff	9 – 15	1.0 – 2.0	0.50 – 1.0	Readily indented by thumbnail
Very Stiff	16 – 30	2.0 – 4.0	1.0 – 2.0	Indented by thumb but penetrated only with great effort
Hard	> 30	> 4.0	> 2.0	Indented by thumbnail with difficulty

* Using SPT N₆₀ is considered a crude approximation for cohesive soils.

APPARENT DENSITY OF COHESIONLESS SOILS (AASHTO 1988)	
Descriptor	SPT N ₆₀ Value (blows/foot)
Very Loose	0 – 4
Loose	5 – 10
Medium Dense	11 – 30
Dense	31 – 50
Very Dense	> 50

MOISTURE (ASTM D2488-06)	
Descriptor	Criteria
Dry	Absence of moisture, dusty, dry to the touch, well below optimum moisture content (per ASTM D698 or D1557)
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table, well above optimum moisture content (per ASTM D698 or D1557)

PERCENT OR PROPORTION OF SOILS (ASTM D2488-06)	
Descriptor	Criteria
Trace	Particles are present but estimated < 5%
Few	5 – 10%
Little	15 – 25%
Some	30 – 45%
Mostly	50 – 100%
Percentages are estimated to nearest 5% in the field. Use "about" unless percentages are based on laboratory testing.	

SOIL PARTICLE SIZE (ASTM D2488-06)	
Descriptor	Size
Boulder	> 12 inches
Cobble	3 to 12 inches
Gravel - Coarse Fine	¾ inch to 3 inches No. 4 sieve to ¾ inch
Sand - Coarse Medium Fine	No. 10 to No. 4 sieve (4.75mm) No. 40 to No. 10 sieve (2mm) No. 200 to No. 40 sieve (.425mm)
Silt and Clay ("fines")	Passing No. 200 sieve (0.075mm)

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2488)				
Major Division			Group Symbol	Description
Coarse Grained Soils (more than 50% retained on #200 sieve)	Gravel (50% or more retained on No. 4 sieve)	Clean Gravel	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines	GM	Silty gravels and gravel-sand-silt mixtures
			GC	Clayey gravels and gravel-sand-clay mixtures
	Sand (> 50% passing No. 4 sieve)	Clean sand	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly-graded sands and gravelly sands, little or no fines
		Sand with fines	SM	Silty sands and sand-silt mixtures
			SC	Clayey sands and sand-clay mixtures
Fine Grained Soils (50% or more passing #200 sieve)	Silt and Clay (liquid limit < 50)		ML	Inorganic silts, rock flour and clayey silts
			CL	Inorganic clays of low-medium plasticity, gravelly, sandy & lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silt and Clay (liquid limit > 50)		MH	Inorganic silts and clayey silts
			CH	Inorganic clays or high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils



GRAPHIC SYMBOL LEGEND		
GRAB		Grab sample
SPT		Standard Penetration Test (2" OD), ASTM D1586
ST		Shelby Tube, ASTM D1587 (pushed)
DM		Dames and Moore ring sampler (3.25" OD and 140-pound hammer)
CORE		Rock coring

APPENDIX E

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
 (as required by OAR 690-240-035)

(1) **OWNER/PROJECT:** Hole Number B1
 Name STEVE MARTIN MAG CO.
 Address PO BOX 219
 City CANBY BEACH State OR Zip 97110

(2) **TYPE OF WORK**

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) **CONSTRUCTION:**

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) **TYPE OF HOLE:**

☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) **USE OF HOLE:**

GEOTECH

(6) **BORE HOLE CONSTRUCTION:**

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 30 ft.

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
5"	0	30	BAR CHIPS	30	0	6

Backfill placed from _____ ft. to _____ ft. Material _____
 Filter Pack placed from _____ ft. to _____ ft. Size of pack _____

(7) **CASING/SCREEN:**

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Screen:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slot size								

(8) **WELL TEST:**

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
 Permeability _____ Yield _____ GPM _____
 Conductivity _____ PH _____
 Temperature of water 58 °C Depth artesian flow found _____ ft.
 Was water analysis done? ☐ Yes ☒ No
 By whom? _____
 Depth of strata analyzed. From _____ ft. to _____ ft.
 Remarks: _____

(9) **LOCATION OF HOLE by legal description:**

County CLATSOP Latitude _____ Longitude _____
 Township 5 N or S Range 10 E or W W.M.
 Section 31 32 1/4 SW 1/4
 Tax Lot / 200 Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) INTERSECT. OF
PACIFIC ST & MELCHENA AVE

Map with location identified must be attached

(10) **STATIC WATER LEVEL:**

9 ft. below land surface. Date 7/25/01
 Artesian pressure _____ lb. per square inch. Date _____

(11) **SUBSURFACE LOG:**

Ground Elevation _____

Material Description	From	To	SWL
BE SILT	0	18	9
BE SA	18	30	

Date Started 7/25/01 Date Completed 7/25/01

(12) **ABANDONMENT LOG:**

Material Description	From	To	Sacks or Pounds
BE CHIPS	30	0	6
<div style="border: 1px solid black; padding: 5px; text-align: center;"> RECEIVED AUG 22 2001 WATER RESOURCES DEPT SALEM, OREGON </div>			

Date started 7/25/01 Date Completed 7/25/01

Professional Certification

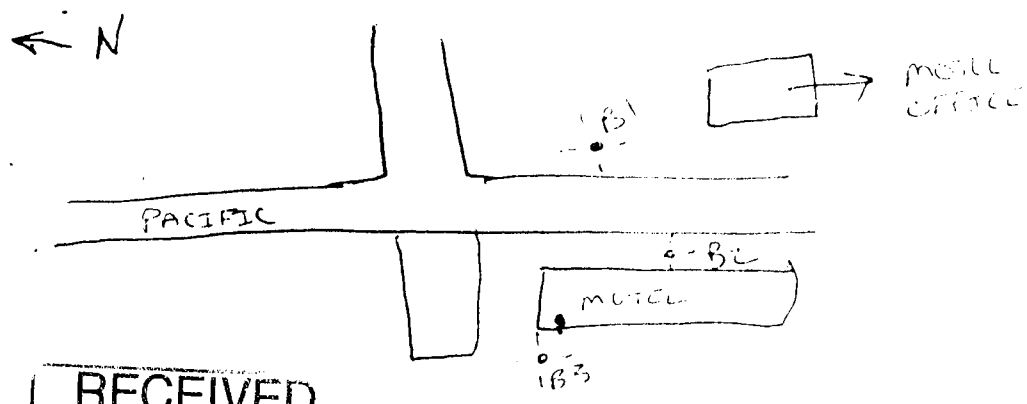
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

Signed [Signature] License or Registration Number 10306
 Date 8-10-01
 Affiliation SUBSURFACE TECH.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER



RECEIVED
AUG 22 2001
WATER RESOURCES DEPT
SALEM, OREGON

OCEAN BEACH

1" = 50'

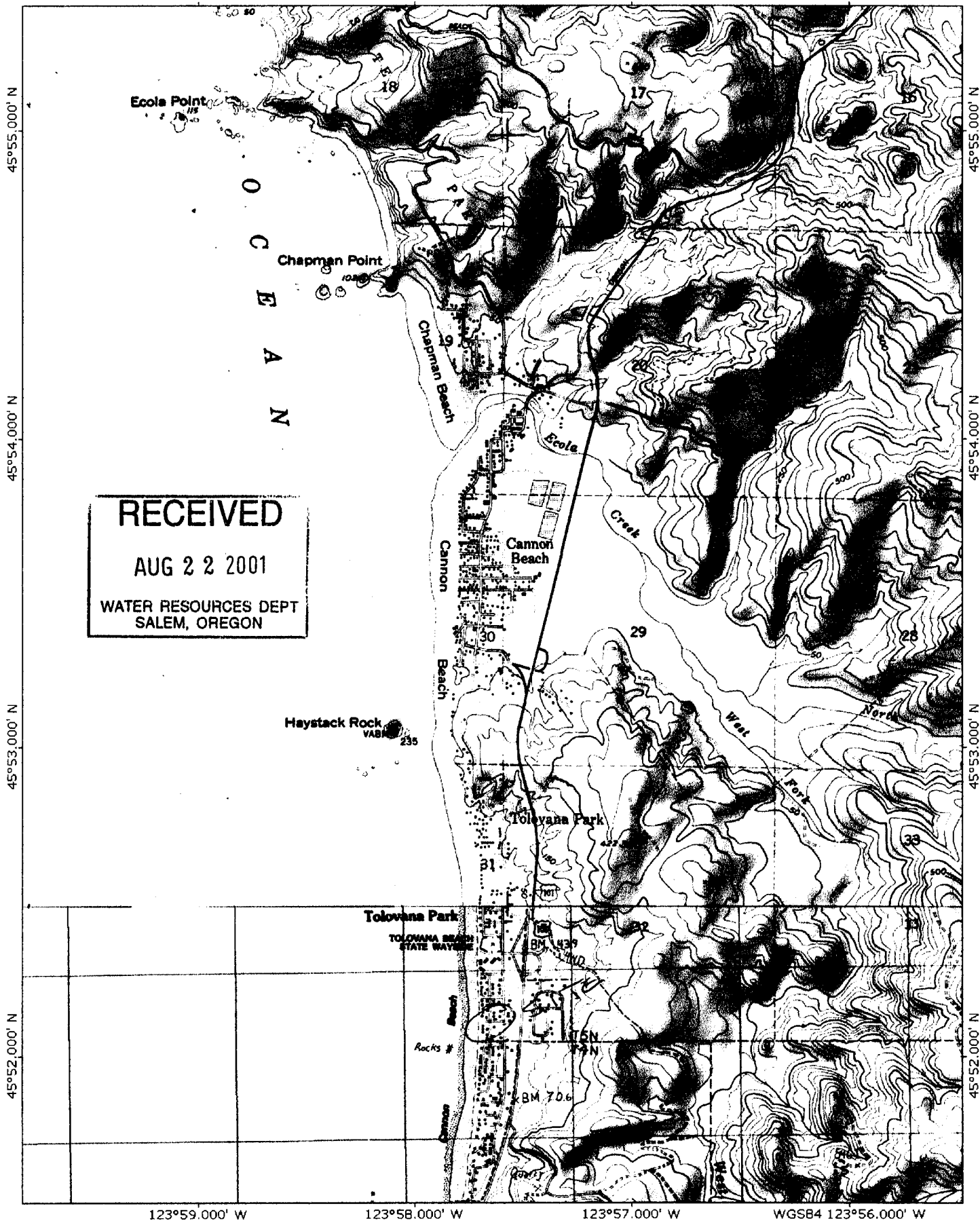
TOPO! map printed on 07/26/01 from "Oregon.tpo" and "Untitled.tpg"

123°59.000' W

123°58.000' W

123°57.000' W

WGS84 123°56.000' W

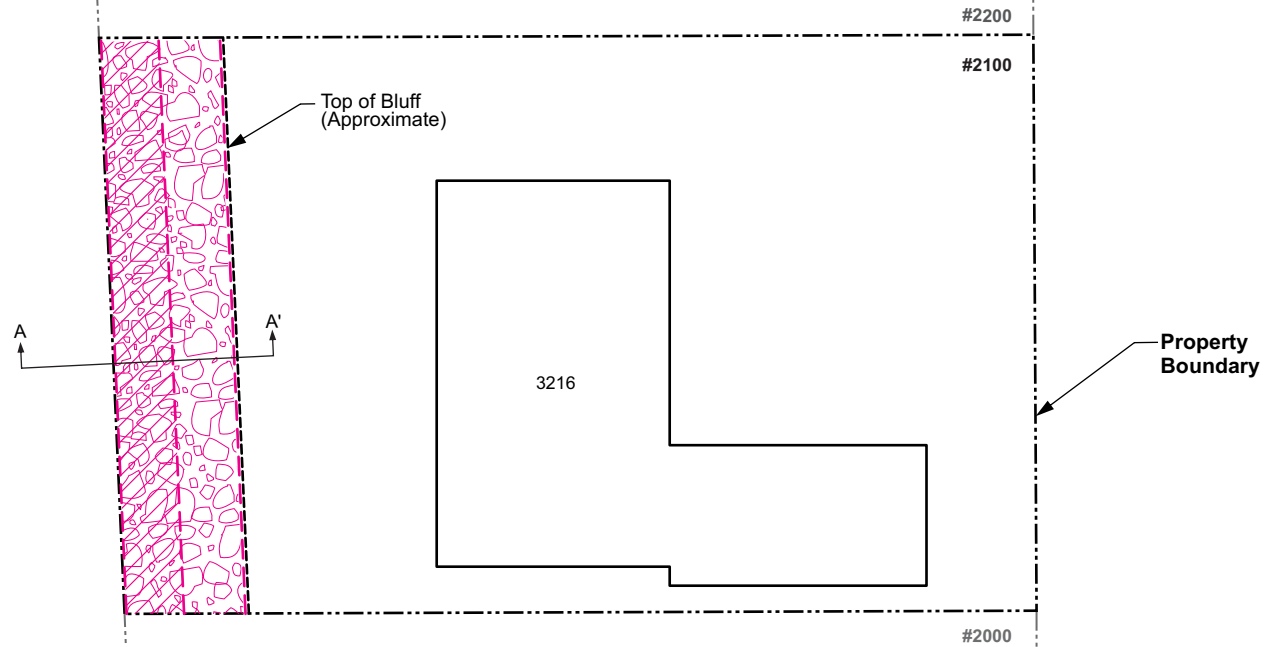
TN
18°

0 1000 FEET 0 500 1000 METERS
MILE
Printed from TOPO! ©2000 National Geographic Holdings (www.topo.com)






APPENDIX F

I:\Client\Earth Engineers\3216 Pacific Avenue\22-232-1 (Proposed Revetment).des

Proposed Revetment



Legend:

-  Proposed Revetment (Above Beach Level)
-  Revetment (Below Beach Level)
-  3216 Building Location and Address
-  #2100 Tax Lot Line and Tax Lot Number
-  Cross-Section Location

NOTE: Base map prepared from Clatsop County Tax Map 51031DA02100 and site reconnaissance by Earth Engineers, Inc.

0 20 40
Approximate Scale in Feet



Earth
Engineers,
Inc.

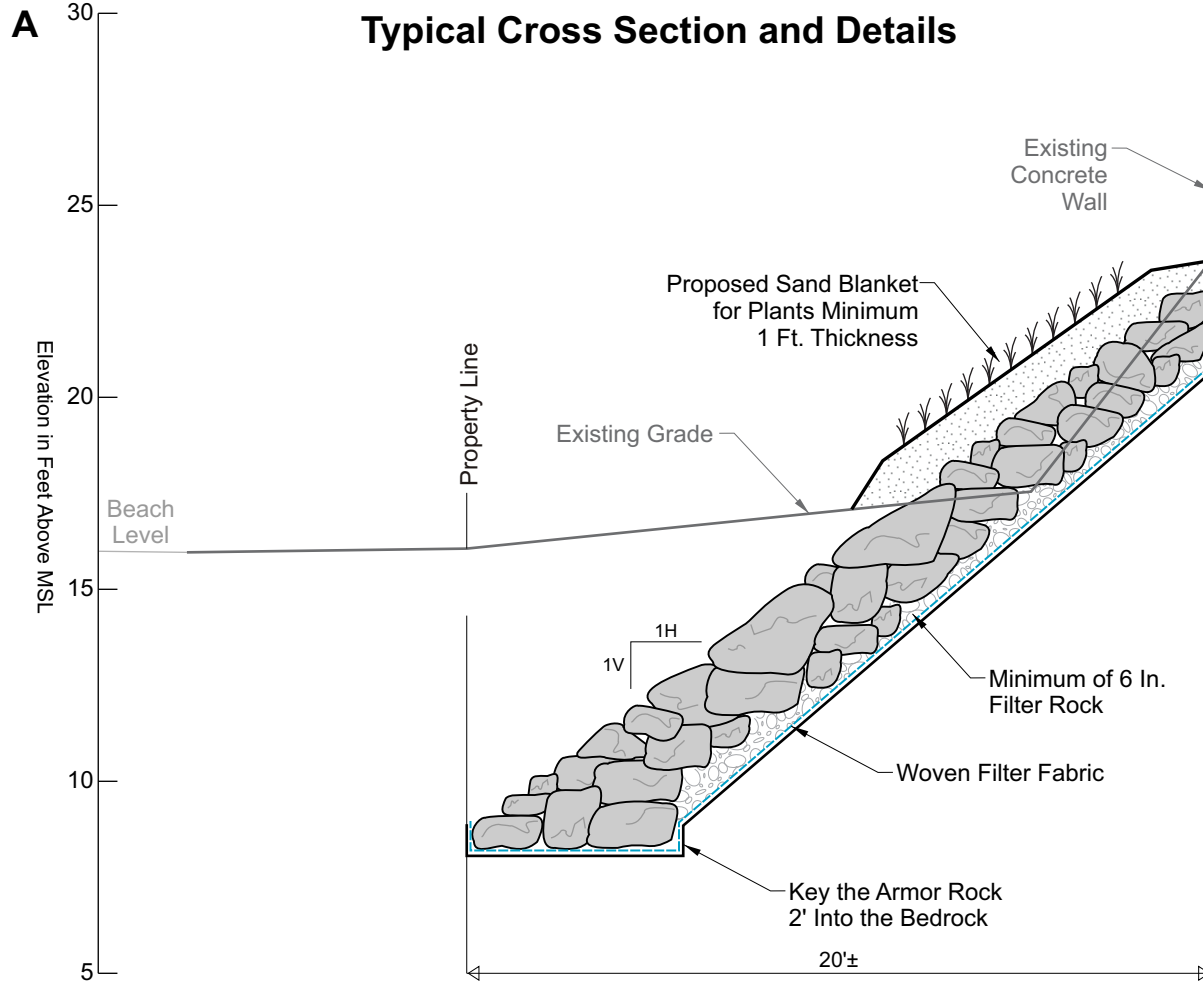
Proposed Shoreline Protection Structure
3216 Pacific Avenue
Cannon Beach, Clatsop County, Oregon

Report No.
22-232-1

November 22, 2022

APPENDIX G

I:\Client\Earth Engineers\3216 Pacific Avenue\22-232-1 (A-A' Revetment and Fill).des

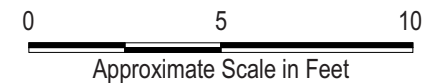
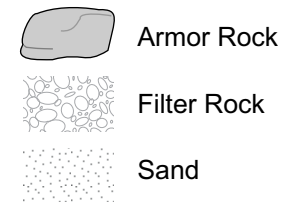


ARMOR ROCK GRADATIONS			FILTER ROCK GRADATIONS		
Minimum Thickness of Armor Rock - 4.0 feet			Minimum Thickness of Filter Blanket - 0.5 Feet		
% Less than by Wt.	Wt. (Lbs.)	Dia. (Ft.)	% Less than by Wt.	Wt. (Lbs.)	Dia. (Ft.)
0	417	1.40	0	1	0.19
15	1,333	2.01	15	2	0.22
50	3,334	2.72	50	6	0.33
80	6,534	3.41	81	21	0.34
100	13,335	4.32	100	35	0.60

A' NOTES:

- The revetment should be tied into existing sand burrito to shoreline protection structure (SPS) to the north and to the existing bank to the south.
- The base of the riprap should be at least 2 feet into bedrock.
- If minimum embedment cannot be achieved due to heaving or flowing sands, then dewatering will be necessary.
- Riprap should consist of hard, durable, non-weathered basalt rock, interlocked with a minimum of three points of contact.
- The filter blanket should consist of 6-inch minus pitrun or similar, placed at a slope angle of approximately 1H:1V.
- Woven filter fabric (Mirafi Filterweave 700, or equivalent) should be placed between the filter rock and the native soils.
- Riprap slopes exposed to wave action should be on the order of 1 horizontal to 1 vertical (1H:1V).
- Following construction, the revetment should be covered with a minimum of one foot of sand and planted with native dune grass.

Legend:



**Earth
Engineers,
Inc.**

**Proposed Shoreline Protection Structure
3216 Pacific Avenue
Cannon Beach, Clatsop County, Oregon**

**Report No.
22-232-1**

November 22, 2022

3216 Pacific St, Cannon Beach OR

Account 6654

Print This Page

- Property Details
- Improvements
- Assessments
- Sales History
- Taxes
- Payments
- Documents

General Information

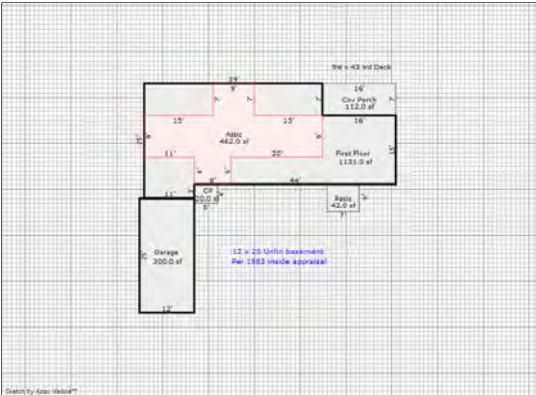
Property Address	3216 Pacific St, Cannon Beach OR
Legal Description	TOLOVANA PARK EXT LT 10, S 10' 11 BLK 26
Account ID	6654
Tax Map Key	51031DA02100
Size in Acres	0.12
Property Status	Active
Property Type	Real Property Residential Improved Residential Land

Owner Information

Owner Name	Day Laurel Day Stephen
Mailing Address	2135 S 2200 E Salt Lake City UT 84109
	Request Change of Address
	Sign up for e-Statements

Year Built	Sq Ft	Type	Stories
1931	1833	1 Story w/ Attic & Bsmt	1.2

Floor Type	Sq Ft	Bedrooms	Bathrooms
Attic	462	2	0.5
Basement	240	0	0
First Floor	1131	1	1



RECORDED BY TICOR
TITLE INS. CO. 360421006403

RECORDING REQUESTED BY:



2263 N Roosevelt Dr.
Seaside, OR 97138

GRANTOR'S NAME:

J. Michael Falk and Teresa A. Falk, Trustees of the J. Michael Falk
and Teresa A. Falk Trust, executed the 10th day of January, 2017

GRANTEE'S NAME:

Laurel Day and Stephen Day

AFTER RECORDING RETURN TO:

Order No.: 360421006403-DP
Laurel Day and Stephen Day
2135 S 2200 E
Salt Lake City, UT 84109

SEND TAX STATEMENTS TO:

Laurel Day and Stephen Day
2135 S 2200 E
Salt Lake City, UT 84109

APN: 6654

Map: 51031DA 02100

3216 Pacific Street, Cannon Beach, OR 97110



Recording Instrument #202110183
Recorded By: Clatsop County Clerk
of Pages: 3 Fee: 97.00
Transaction date: 10/12/2021 14:26:32
Deputy: Stethem-Norris

SPACE ABOVE THIS LINE FOR RECORDER'S USE

STATUTORY WARRANTY DEED

J. Michael Falk and Teresa A. Falk, Trustees of the J. Michael Falk and Teresa A. Falk Trust, executed the 10th day of January, 2017, Grantor, conveys and warrants to Laurel Day and Stephen Day, husband and wife, as tenants by the entirety, Grantee, the following described real property, free and clear of encumbrances except as specifically set forth below, situated in the County of Clatsop, State of Oregon:

Lot 10, and the South 10 feet of Lot 11, Block 26, TOLOVANA PARK EXTENSION, in the City of Cannon Beach, County of Clatsop, State of Oregon.

THE TRUE AND ACTUAL CONSIDERATION FOR THIS CONVEYANCE IS ONE MILLION EIGHT HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS (\$1,850,000.00). (See ORS 93.030).

Subject to:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

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

STATUTORY WARRANTY DEED

(continued)

IN WITNESS WHEREOF, the undersigned have executed this document on the date(s) set forth below.

Dated: 10.5.21

J. Michael Falk and Teresa A. Falk, Trustees of the J. Michael Falk and Teresa A. Falk Trust, executed the 10th day of January, 2017

BY: J. Michael Falk
J. Michael Falk
Trustee

BY: Teresa A. Falk
Teresa A. Falk
Trustee

State of OREGON
County of Multnomah

This instrument was acknowledged before me on 10-5-2021 by J. Michael Falk and Teresa A. Falk, Trustees of the J. Michael Falk and Teresa A. Falk Trust, executed the 10th day of January, 2017.

Judy Faye Ross
Notary Public - State of Oregon

My Commission Expires: 10-8-2023

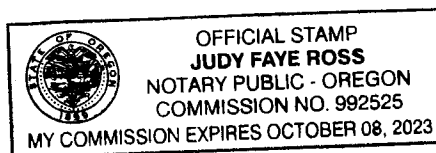


EXHIBIT "A"

Exceptions

Subject to:

1. Rights of the public to any portion of the Land lying within the area commonly known as Pacific Street.
2. Any adverse claim based on the assertion that any portion of the subject land has been removed from or brought within the subject land's boundaries by the process of accretion or reliction or any change in the location of Pacific Ocean.
3. Any adverse claim based on the assertion that any portion of the subject land has been created by artificial means or has accreted to such portions so created, or based on the provisions of ORS 274.905 through 274.940.
4. Rights of public and of governmental bodies in that portion of the subject land lying below the mean high water line of the Pacific Ocean and lying within the ocean shore and the dry sand area as declared under the provisions of ORS 390.605 through 390.770 and as found in Thornton v. Hay, 254 Or 584, 462 P2d 671 (1969).
5. Rights of fishing, navigation, commerce, flood control, propagation of anadromous fish, and recreation, and other rights of the public, Indian tribes or governmental bodies in and to the waters of Pacific Ocean.

Jeffrey Adams

From: Emily Bare
Sent: Thursday, February 09, 2023 4:42 PM
To: Jeffrey Adams; Robert St. Clair
Subject: CU 23-01

I received a phone call from John Parrish 3163 Pacific who received notice on CU 23-01 concerning the vegetative riprap. He would like to be on the record as supporting the project.



Emily Bare

Administrative Assistant - Planning Department

City of Cannon Beach

p: 503.436.8054 | **tty:** 503.436.8097 | **f:** 503.436.2050
a: 163 E. Gower St. | PO Box 368 | Cannon Beach, OR 97110
w: www.ci.cannon-beach.or.us | **e:** bare@ci.cannon-beach.or.us

DISCLOSURE NOTICE: Messages to and from this email address may be subject to Oregon Public Records Law.



CITY OF CANNON BEACH

February 3, 2023

CU 23-01, Joseph Gaon, on behalf of Stephen and Laurel Day, request for a Conditional Use Permit to allow for the placement of vegetated rip-rap for shoreline stabilization. The property is located at 3216 Pacific St in a Residential Moderate Density (R1) and Oceanfront Management Overlay (OM) zone. The request will be reviewed under Cannon Beach Municipal Code 17.12.030 Conditional Uses Permitted, 17.42.060 Specific Standards, and 17.80.230 & 360 Shoreline Stabilization & Preservation Grading.

Dear Property Owner,

Cannon Beach Zoning Ordinance requires notification to property owners within 250 feet, measured from the exterior boundary, of any property which is the subject of the proposed applications. Your property is located within 250 feet of the above-referenced property or you are being notified as a party of record.

Please note that you may submit a statement either in writing or orally at the hearing, supporting or opposing the proposed action. Your statement should address the pertinent criteria, as stated in the hearing notice. Statements in writing must be received by the date of the hearing.

Enclosed are copies of the public hearing notice, a description of how public hearings are conducted and a map of the subject area. Should you need further information regarding the relevant Zoning Ordinance, Subdivision Ordinance or Comprehensive Plan criteria, please contact Cannon Beach City Hall at the address below, or call Emily Bare at (503) 436-8054 or email bare@ci.cannon-beach.or.us.

Sincerely,

Emily Bare
Administrative Assistant
Community Development

Enclosures: Notice of Hearing
 Conduct of Public Hearings
 Map of Subject Area

**NOTICE OF PUBLIC HEARING
CANNON BEACH PLANNING COMMISSION**

The Cannon Beach Planning Commission will hold a public hearing on **Thursday, February 23 at 6:00 p.m.** at City Hall, 163 E Gower Street, Cannon Beach, regarding the following:

CU 23-01, Joseph Gaon, on behalf of Stephen and Laurel Day, request for a Conditional Use Permit to allow for the placement of vegetated rip-rap for shoreline stabilization. The property is located at 3216 Pacific St in a Residential Moderate Density (R1) and Oceanfront Management Overlay (OM) zone. The request will be reviewed under Cannon Beach Municipal Code 17.12.030 Conditional Uses Permitted, 17.42.060 Specific Standards, and 17.80.230 & 360 Shoreline Stabilization & Preservation Grading.

SR 23-01, Mike Morgan, on behalf of Jeff and Miriam Taylor, application to allow a setback reduction to reduce the back yard setback from the required 15'0" to 5' in order to build a small porch of 72 square feet to be used as an emergency access. The property is located at 1956 S Hemlock. (Tax Lot 04300, Map 51030DD), and in a Residential Medium Density (R2) Zone. The request will be reviewed against the Municipal Code, Section 17.645.010, Setback Reduction, Provisions Established.

All interested parties are invited to attend the hearings and express their views. Statements will be accepted in writing or orally at the hearing. Failure to raise an issue at the public hearing, in person or by letter, or failure to provide statements or evidence sufficient to afford the decision maker an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals based on that issue.

Correspondence should be mailed to the Cannon Beach Planning Commission, Attn. Community Development, PO Box 368, Cannon Beach, OR 97110 or via email at planning@ci.cannon-beach.or.us. Written testimony received one week prior to the hearing will be included in the Planning Commissioner's meeting materials and allow adequate time for review. Materials and relevant criteria are available for review at Cannon Beach City Hall, 163 East Gower Street, Cannon Beach, or may be obtained at a reasonable cost. Staff reports are available for inspection at no cost or may be obtained at a reasonable cost seven days prior to the hearing. Questions regarding the applications may be directed to Jeffrey Adams, 503-436-8040, or at adams@ci.cannon-beach.or.us.

The Planning Commission reserves the right to continue the hearing to another date and time. If the hearing is continued, no further public notice will be provided. The hearings are accessible to the disabled. Contact City Manager, the ADA Compliance Coordinator, at (503) 436-8050, if you need any special accommodations to attend or to participate in the meeting. TTY (503) 436-8097. Publications may be available in alternate formats and the meeting is accessible to the disabled.



Jeffrey S. Adams, PhD
Director of Community Development

Posted/Mailed: February 3, 2023

2

NOTICE TO MORTGAGEE, LIEN-HOLDER, VENDOR OR SELLER:
PLEASE PROMPTLY FORWARD THIS NOTICE TO THE PURCHASER

**CONDUCT OF PUBLIC HEARINGS BEFORE
CANNON BEACH CITY COUNCIL and PLANNING COMMISSION**

- A. At the start of the public hearing, the Mayor or Planning Commission Chair will ask the following questions to ensure that the public hearing is held in an impartial manner:
1. Whether there is a challenge to the jurisdiction of the City Council or Planning Commission to hear the matter;
 2. Whether there are any conflicts of interest or personal biases to be declared by a Councilor or Planning Commissioner;
 3. Whether any member of the Council or Planning Commission has had any ex parte contacts.
- B. Next, the Mayor or Planning Commission Chair will make a statement which:
1. Indicates the criteria which apply to the action;
 2. Cautions those who wish to testify that their comments must be related to the applicable criteria or other criteria in the Comprehensive Plan or Municipal Code that the person testifying believes apply;
 3. States that failure to raise an issue in a hearing, or failure to provide statements or evidence sufficient to afford the decision makers an opportunity to respond to the issue precludes appeal based on that issue;
 4. Prior to the conclusion of the initial evidentiary hearing, any participant may request an opportunity to present additional evidence or testimony regarding the application. The City Council or Planning Commission shall grant such request by continuing the public hearing or leaving the record open for additional written evidence or testimony.
- C. The public participation portion of the hearing will then proceed as follows:
1. Staff will summarize the staff report to the extent necessary to enable those present to understand the issues before the Council or Planning Commission.
 2. The Councilors or Planning Commissioners may then ask questions of staff.
 3. The Mayor or Planning Commission Chair will ask the applicant or a representative for any presentation.
 4. The Mayor or Planning Commission Chair will ask for testimony from any other proponents of the proposal.
 5. The Mayor or Planning Commission Chair will ask for testimony from any opponents of the proposal.
 6. Staff will be given an opportunity to make concluding comments or respond to additional questions from Councilors or Planning Commissioners.
 7. The Mayor or Planning Commission Chair will give the applicant and other proponents an opportunity to rebut any testimony of the opponents.
 8. Unless continued, the hearing will be closed to all testimony. The Council or Planning Commission will discuss the issue among themselves. They will then either make a decision at that time or continue the public hearing until a specified time.

NOTE: Any person offering testimony must first state their name, residence, and **mailing address** for the record. If representing someone else, the speaker must state whom he represents.



TAXLOTKEY	SITUS_ADDR	OWNER_LINE	STREET_AC	PO_BOX	CITY	STATE	ZIP_CODE
51031DA00400	3163 Pacific St	Parrish John M	2630 E Evergreen Ave		Salt Lake City	UT	84109
51031DA00701	3231 Pacific St	Draneas John H/Carlyn R	26505 SW Wilken Ln		West Linn	OR	97068-9526
51031DA02000	3264 Pacific St	Isabel House LLC	4919 N Mildred St		Tacoma	WA	98407-1329
51031DA01000	171 W Surfcrest Ave	Hazen John A M	11620 NE 144th Pl		Kirkland	WA	98034
51031DA01100		Spalding Martha J Family Trust	PO Box 32	32	Cannon Beach	OR	97110
51031DA02002	3276 Pacific St	Cady James Arthur	10442 SW Mount Ad		Beaverton	OR	97007
51031DA00200	164 W Surfcrest Ave	Cieloha Leon N	18400 NW Gillihan R		Portland	OR	97231-1512
51031DA01300		Oregon Parks and Recreation Dept	725 Summer St #C		Salem	OR	97301
51031DA00700	164 Fernwood St	Aubert Jack H/Fisher Joan C	2373 NW Overton St		Portland	OR	97210-2928
51031DA00702	3263 Pacific St	Crowley Michael	709 Skyglass Way		Eagle	ID	83616
51031DA02200	3188 Pacific St	S4 Investments LLC	5615 SE Scenic Lane #		Vancouver	WA	98661
51031DA02202		MLRL LLC	10443 N Central Ave		Phoenix	AZ	83020
51031DA02900	163 W Delta St	Simmons/Cramer Real Estate Inc	PO Box 84	84	Tolovana park	OR	97145
51031DA01101	139 W Surfcrest Ave	Spalding Martha J Family Trust	PO Box 32	32	Cannon Beach	OR	97110
51031DA02100	3216 Pacific St	Day Laurel	2135 S 2200 E		Salt Lake City	UT	84109
51031DA02600	179 W Delta St	Neal Charles R	8380 W Stark St		Portland	OR	97229
51031DA02700	3139 Pacific St	Shoemaker Deanna Bitar	1075 NW Northrup St		Portland	OR	97209
51031DA02800		Dorcas Real Estate Inc	PO Box 84	84	Tolovana Park	OR	97145
51031DA03000	139 Delta St	Mennitt Alice F	PO Box 136	1368	Cannon Beach	OR	97110
51031DA00300	3187 Pacific St	Fulkerson Steven W/Darcie A	16915 SE 272nd St #S		Covington	WA	98042-7347
51031DA00800	179 W Surfcrest Ave	Tolovana Van Beek LLC	3963 SE Pine St		Portland	OR	97214
51031DA02400	3140 Pacific St	MLRL LLC	235 E Rose Ln		Phoenix	AZ	85012
51031DA00202	132 W Surfcrest Ave	Matznick Sally G	PO Box 951	951	Cannon Beach	OR	97110-0951
51031DA01800		Spathas ByPass OR Marital Trst	1132 SW 19th Ave Ur		Portland	OR	97205-1742
51031DA02500	3116 Pacific St	Heymann Robert N	PO Box 282	282	Cannon Beach	OR	97110
51031DA00201	140 W Surfcrest Ave	McClung Millard H	3640 SW Mount Adar		Portland	OR	97239-1554
51031DA00600	140 Fernwood	Prapasirikul Thipakorn	PO Box 802	802	Cannon Beach	OR	97110
51031DA00703	188 Fernwood St	Keller Thomas L	1408 Jones Ave NE		Renton	WA	98056
51031DA01900	3288 Pacific St	Spathas Gene T ByPass Trust	1132 SW 19th Ave Ur		Portland	OR	97205-1742



Cannon Beach Planning Commission

Staff Report:

PUBLIC HEARING AND CONSIDERATION OF SR#23-01, MICHAEL MORGAN ON BEHALF OF JEFF AND MIRIAM TAYLOR, REQUESTING A SETBACK REDUCTION AT 1956 S. HEMLOCK ST. (TAXLOT 51030DD04300) FOR A REDUCTION OF THE SIDE YARD SETBACK. THE PURPOSE OF THE SETBACK REDUCTION IS TO ALLOW FOR A GROUND LEVEL EMERGENCY ACCESS ON A PROPOSED NEW SINGLE-FAMILY DWELLING. THE PROPERTY IS IN THE RESIDENTIAL LOWER DENSITY (RL) ZONING DISTRICT. THE REQUEST WILL BE REVIEWED UNDER CANNON BEACH MUNICIPAL CODE, SECTION 17.64.010, SETBACK REDUCTION, PROVISIONS ESTABLISHED.

Agenda Date: February 23, 2023

Prepared By: Robert St. Clair

GENERAL INFORMATION

NOTICE

Public notice for this February 23, 2023 Public Hearing is as follows:

- A. Notice was posted at area Post Offices on February 3, 2023;
- B. Notice was mailed on February 3, 2023 to surrounding landowners within 100' of the exterior boundaries of the property.

DISCLOSURES

Any disclosures (i.e. conflicts of interest, site visits or ex parte communications)?

EXHIBITS

The following Exhibits are attached hereto as referenced. All application documents were received at the Cannon Beach Community Development office on December 28, 2022 unless otherwise noted.

"A" Exhibits – Application Materials

- A-1** Setback Reduction Application SR#23-01, submitted and stamped December 28, 2022;
- A-2** Supplemental narrative, submitted January 31, 2023;

"B" Exhibits – Agency Comments

None received as of this writing;

"C" Exhibits – Cannon Beach Supplements

None received as of this writing;

"D" Exhibits – Public Comment

Non received as of this writing;

SUMMARY & BACKGROUND

Michael Morgan, on behalf of Jeff and Miriam Taylor, is seeking a setback reduction of the required side yard from fifteen feet for a dwelling on a corner lot to five feet to allow for a ground level doorway that would serve as an emergency access for a proposed new single-family dwelling that is intended to replace the existing dwelling. The subject property has significant slopes and the current residence is set into the hillside and is a non-conforming structure as it was built on a retaining wall set twelve feet back from the property line. Plans for the replacement house indicate that it will be built in conformance to current setback standards and this request is for an 84 square foot porch that would extend ten feet into the side yard setback. In the event of a fire or other emergency this would enable direct access to the second floor from Hemlock St.

APPLICABLE CRITERIA

17.10.040, RL Residential Lower Density Zoning District, Standards

In an RL zone, the following standards shall apply except as they may be modified through the design review process pursuant to Chapter 17.44:

- A. *Lot Size. Lot area shall be at least ten thousand square feet. Lots of less than ten thousand square feet may be buildable pursuant to Section 17.82.020; provided, that such lots were not part of an aggregate of contiguous lots with an area or dimension of ten thousand square feet or greater held in a single ownership at the time of enactment of Ordinance 79-4A. Where there are lots held in a single contiguous ownership and one of the lots or combination of lots meets the minimum lot size but the other lot or combination of lots does not meet the minimum lot size, there shall be only one buildable lot. Example: three contiguous lots in a single ownership, each lot with an area of five thousand square feet, constitute one buildable lot. The minimum lot size for all uses, including single-family dwellings, shall be adjusted for average slope using the standards in Section 16.04.310(A).*

The planning commission may authorize the placement of a governmental or municipal structure necessary for public service on a lot of less than ten thousand square feet if it is found that a larger lot is not required and that the smaller lot size will not have a detrimental effect on adjacent areas or uses.

- B. *Lot Dimensions.*

1. *Lot Width. Lot width shall be at least seventy-five feet.*
2. *Lot Depth. Lot depth shall be at least ninety feet.*
3. *Front Yard. A front yard shall be at least fifteen feet.*
4. *Side Yard. A side yard shall be at least five feet, except on a corner or through lot the minimum side yard from the street shall be fifteen feet.*
5. *Rear Yard. A rear yard shall be at least fifteen feet, except on a corner or through lot it shall be a minimum of five feet, except where a rear lot line abuts a street, it shall be a minimum of fifteen feet.*
6. *Yard Abutting the Ocean Shore. For all lots abutting the ocean shore, any yard abutting the ocean shore shall conform to the requirements of Section 17.42.050(A)(6), Oceanfront setback.*

- C. *Lot Coverage. The lot coverage for a permitted or conditional use shall not exceed fifty percent.*

- D. *Floor Area Ratio. The floor area ratio for a permitted or conditional use on a lot of six thousand square feet or more shall not exceed 0.5. The maximum gross floor area for a permitted or conditional use on a lot of more*

than five thousand square feet, but less than six thousand square feet, shall not exceed three thousand square feet. The floor area ratio for a permitted or conditional use on a lot with an area of five thousand square feet or less shall not exceed 0.6.

- E. Building Height. Maximum height of a vertical structure is twenty-four feet, measured as the vertical distance from the average elevation of existing grade to the highest point of a roof surface of a flat roof, to the top of a mansard roof or to the mean height level between the eaves and the ridge for a pitched roof. The ridge height of a pitched roof shall not exceed twenty-eight feet. Pitched roofs are considered those with a 5-12 pitch or greater.*
- F. Signs. As allowed by Chapter 17.56.*
- G. Parking. As required by Section 17.78.020.*
- H. Design Review. All uses except single-family dwellings and their accessory structures are subject to the provisions of Chapter 17.44.*
- I. Geologic or Soils Engineering Study. As required by Chapter 17.50.*
- J. Claims for Compensation Under ORS 197.352. The standards of Section 17.08.040(A) through (K) (Standards), shall apply except as specifically modified pursuant to a development agreement created as part of the city's final action modifying, removing or not applying the city's land use regulation(s) on a demand for compensation under ORS 197.352.*
- K. Site Plan. Except for interior renovation of existing structures and exterior renovations such as siding replacement where there will be no ground disturbance, no new construction shall be approved unless a site plan meeting the requirements of Section 17.90.190 has been submitted and approved.*

Staff Comment: Although full plans have not yet been submitted to the City, information provided by the applicant indicates that the proposed replacement structure will be designed to current standards in the Municipal Code with the exception of the requested setback reduction. Prior to issuance of a building permit City staff will review a development application for compliance with established standards for the zoning district. Meets criteria.

17.64, Setback Reduction

17.64.010.A.1: *Total building coverage shall not exceed forty percent.*

Staff Comment: The subject property measures 7,201 square feet and the applicant's materials state that the total building coverage will be 24% or approximately 1,730 square feet. The applicant states that replacement dwelling will be sited largely within the footprint of the existing house. Meets criteria.

17.64.010.A.2: *Significant view of the ocean, mountains or similar features from nearby properties will not be obstructed any more than would occur if the proposed structure were located as required by the zoning district.*

Staff Comment: There would be no impacts to any significant views as a result of this proposal. Meets criteria.

17.64.010.A.3: *The proposed building location will not interfere with solar access of buildings on adjoining property.*

Staff Comment: There would be no impacts to solar access for adjacent property owners as a result of this proposal. Meets criteria.

17.64.010.A.4: *It is the purpose of setbacks to provide for a reasonable amount of privacy, drainage, light, air, noise reduction and fire safety between adjacent structures. Setback reduction permits may be granted where the Planning Commission finds that the above purposes are maintained, and one or more of the following are achieved by the reduction in setbacks:*

- a. Tree protection,*
- b. The protection of a neighboring property's views of the ocean, mountains or similar natural features,*
- c. The maintenance of a stream corridor or avoidance of geologic hazards or other difficult topography,*
- d. The provision of solar access,*
- e. Permitting construction on a lot with unusual configuration,*
- f. Rehabilitation of existing buildings where other reasonable alternatives do not exist,*
- g. Protection of a wetland or wetland buffer area, or*
- h. Permitting construction on an oceanfront lot where the effect of the application of the oceanfront setback requirement of Section 17.42.050(A)(6) reduces the depth of the lot located within the required setbacks to less than forty percent of the lot's depth. Under this standard, a reduction in the required setback shall be considered only in the setback opposite of the required oceanfront setback.*

Staff Comment: There would be no significant impacts to privacy, drainage, light, air, noise reduction, and fire safety for adjacent property owners as a result of this proposal. As per the application materials the current house and its proposed replacement are positioned in a way two large Sitka Spruce trees on the northern and western portions of the lot will be preserved with minimal potential for damage to their root systems. Meets criteria.

17.64.010.A.5: *Adjacent rights-of-way have sufficient width for utility placement or other public purposes.*

Staff Comment: There would be no impacts to rights-of-way resulting from this proposal. Meets criteria.

17.64.010.A.6: *The reduction would not create traffic hazards; or impinge upon a public walkway or trail.*

Staff Comment: There would be no traffic impacts resulting from this proposal. Condition of approval #1 would prohibit the use of the Hemlock St. frontage for vehicle parking. Additionally, this portion of Hemlock St. is posted as a no parking area. Meets criteria.

17.64.010.A.7: *Any encroachment into the setback will not substantially reduce the amount of privacy which is or would be enjoyed by an abutting property.*

Staff Comment: There would be no changes in the amount of privacy enjoyed by adjacent property owners as a result of this proposal. Meets criteria.

17.64.010.A.8: *The proposed building location will not interfere with the ability to provide fire protection to the building or adjacent buildings.*

Staff Comment: The proposal would not interfere with the ability to provide fire protection to surrounding structures and may enhance fire safety to the proposed dwelling by providing an alternative means of access from Hemlock St in addition to the primary access on Center St. Meets criteria.

PROCEDURAL REQUIREMENTS

This application is subject to ORS 227.178, requiring the City to take final action within 120 days after the application is deemed complete. The application was submitted on December 28, 2022 and determined to be complete on January 6, 2023. Based on this, the City must complete its review of this proposal by May 6, 2023.

The Planning Commission's February 23rd hearing will be the first evidentiary hearing on this request. ORS 197.763(6) allows any party to the hearing to request a continuance. The Planning Commission should grant any request for a continuance of this hearing. The Planning Commission's next regularly scheduled hearing date is March 23, 2023.

RECOMMENDATION

Staff recommends approval, with the conditions below.

DECISION AND CONDITIONS

Motion: Having considered the evidence in the record, based on a motion by Commissioner (Name) seconded by Commissioner (Name), the Cannon Beach Planning Commission moves to (approve/approve with conditions/or deny) the Michael Morgan application for a setback reduction, **SR# 23-01**, as discussed at this public hearing (subject to the following conditions):

1. The portion of the property fronting Hemlock St. shall not be used for vehicle parking.
2. A building permit shall be obtained before starting construction.

Notice of Approval

17.44.140 Final approval expiration.

The final approval of a design review plan shall be void after one year of the date of approval unless a building permit has been obtained. (Ord. 90-3 § 15)

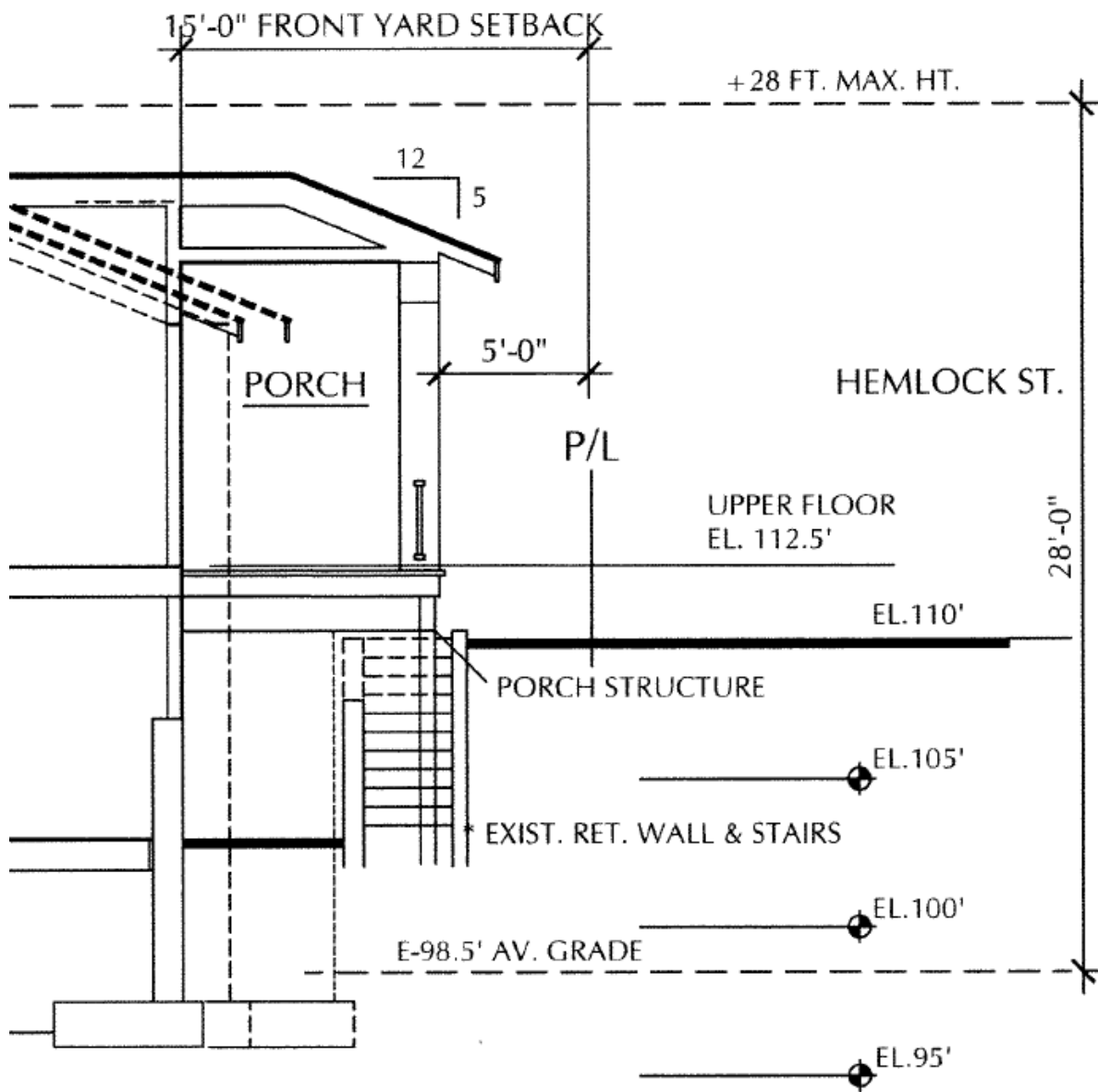
Site Map



Google Street View Image of Existing House and Proposed Setback Area



Applicant Submitted Diagram of Proposed Hemlock St. Access





CITY OF CANNON BEACH

City of Cannon Beach
Finance Department

SETBACK REDUCTION APPLICATION

DEC 28 2022

Received

Please fill out this form completely. Please type or print.

Applicant Name: MIKE MORGAN
 Email Address: HMINCO@PACIFIER.COM
 Mailing Address: PO Box 132 CB 97110
 Telephone: 503 739 0102

Property-Owner Name: JEFF AND MIRIAM TAYLOR
 (if other than applicant)

Mailing Address: 2005 W. HUNTSVILLE ST BROKEN ARROW, OK 74011
 Telephone: (918) 261 9705
 Property Location: 1956 S. HEMLOCK
 (street address)

Map No.: 5 10 30DD Tax Lot No.: 4300

SETBACK REDUCTION REQUEST:

City of Cannon Beach
Finance Department

1. Description of the setback reduction that is being sought.

DEC 28 2022

PLEASE SEE ATTACHED FINDINGS

PAID

2. Description of the proposed building plans pertinent to the setback reduction request.

3. Justification of the setback reduction request. Explain how the request meets each of the following criteria for granting a setback reduction.

(a) Total building coverage shall not exceed forty percent;

City of Cannon Beach
PO Box 368
Cannon Beach OR 97110

503-436-1581

Receipt No: 15.004295

Dec 28, 2022

Mike Morgan

Previous Balance:	.00
Planning Dept - Fees - Planning - Setback Reduc. App. 1956 S. Hemlock	500.00

Total:	500.00
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Check	Check No: 1090	500.00
Payor: Mike Morgan and Beth Holland		

Total Applied:	500.00
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Change Tendered:	.00
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Duplicate Copy

12/28/2022 11:52 AM

(b) Significant views of the ocean, mountains or similar features from nearby properties will not be obstructed any more than would occur if the proposed structure were located as required by the zoning district;

(c) The proposed building location will not interfere with solar access of buildings on adjoining property;

(d) The granting of the setback reduction requires that one or more of the following are achieved by the reduction in setback:

- Tree protection
- The protection of a neighboring property's views of the ocean, mountains or similar natural features,
- The maintenance of a stream corridor or avoidance of geologic hazards or other difficult topography,
- The provision of solar access,
- Permitting construction on a lot with unusual configuration,
- Rehabilitation of existing buildings where other reasonable alternatives do not exist,
- Protection of a wetland or wetland buffer area, or
- Permitting construction on an oceanfront lot where the effect of the application of the oceanfront setback requirement of Section 17.42.050(A)(6) reduces the depth of the lot located within the required setbacks to less than forty percent of the lot's depth. Under this standard, a reduction in the required setback shall be considered only in the setback opposite of the required oceanfront setback.

e) Adjacent rights-of-way have sufficient width for utility placement or other public purposes;

f) The reduction would not create traffic hazards; or impinge upon a public walkway or trail;

g) Any encroachment into the setback will not substantially reduce the amount of privacy which is or would be enjoyed by an abutting property; and

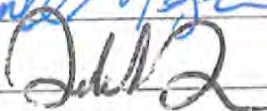
h) The proposed building location will not interfere with the ability to provide fire protection to the building or adjacent buildings.

8. Attach a scale drawing showing the dimensions of the property, adjacent street(s), dimensions of existing structures, and dimensions of proposed development.

Attach additional sheets as necessary.

Setback Application Fee: \$500.00

Applicant Signature:  Date: 12 23 22

Property Owner Signature:  Date: 12/24/2022

If the applicant is other than the owner, the owner hereby grants permission for the applicant to act on his/her behalf. Please attach the name, address, phone number, and signature of any additional property owners.

As Property Owner, my signature or an authorized applicant's signature, allows any duly authorized employee of the City to enter upon all properties affected by this permit for the purpose of follow-up inspection, observation, or measurement.

For Staff Use Only:

Received on: _____ By: _____

Fee Paid: _____ Receipt No.: _____

(Last revised March 2021)

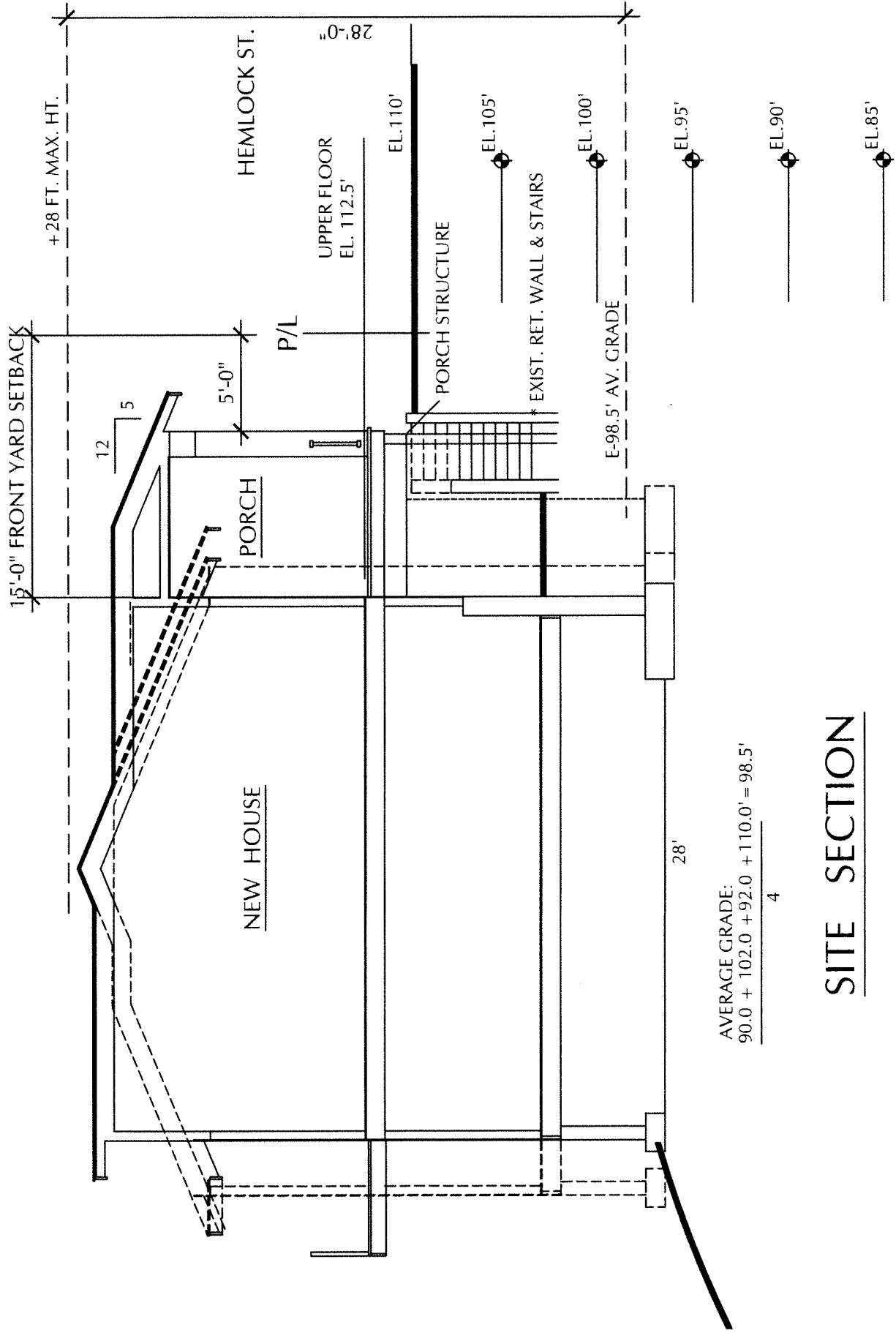
Proposed Findings of Fact Taylor Setback Reduction Request 12/27/22

1. Description: The owners of the property, Jeff and Miriam Taylor, propose to replace an existing house at 1956 S. Hemlock St. with a new retirement home. The proposed dwelling would be built essentially on the footprint of the existing house, which was built in 1969 and is 1,333 square feet. The existing house was built into the 15 foot setback along with a retaining wall and set of concrete steps for access. A portion of the new structure, a small porch of approximately 72 square feet, would if approved extend into the setback a distance of 10'. The purpose of the porch is emergency access. The structure consists of three levels, 1352 square feet on the top floor, 1327 square feet on the middle floor and 201 square feet on the bottom. In the event of fire the proposed exit would enable residents on the top floor to access Hemlock Street without going down to the bottom level. The main portion of the house itself would meet the 15' side yard setback requirement. The concrete steps and retaining wall will remain, as recommended by the geologic report. The primary access for the house is on the north side, as shown on the attached site plan.
2. Description of the proposed building plans pertinent to the setback reduction request: The porch is small, at 84 square feet. The east wall of the new house will be within the 15' setback requirement. The total square footage of the new house is 3,597, although the livable area is 2880 square feet excluding the garage and decks, porches, etc. The lot is 7201 square feet. The floor area ratio is 48%. Due to the steepness of the lot, the house will have three levels, with the garage at grade. The design also incorporates an elevator, which adds to the square footage.
3. Justification of the setback reduction request:
 - (a) Total building coverage or lot coverage would be 24%. The lot is irregular in shape and is steep, over 30%. Therefore, the design is intended to keep the new structure on the footprint of the old house. This will utilize the existing retaining wall and the most stable portion of the lot.

- (b) Significant views of the ocean, mountains or similar features from nearby properties will not be obstructed any more than would occur if the proposed structure were located as required by the zoning district. The property to the east is a parking area used to access the ocean via Center Street, and the land east of that is the State Park. The impact on views will be the same regardless of whether the house meets the setback requirement or not. No adjacent homes will be affected.
- (c) Solar access will not be impacted by the small intrusion into the east setback. The owners' lot extends to Center Street to the north, and contains two large Sitka Spruce trees which will remain.
- (d) The request meets several of the criteria of the code: Rebuilding on the existing footprint will preserve two large Spruce trees to the north. The owners could have designed the house on the northern portion of the lot which would have eliminated these trees, but have decided to preserve them. These trees are two of the largest multi-branched specimens in the area. In terms of avoidance of difficult topography, the lot is quite steep (30%), and has an unusual configuration. The design is intended to utilize the existing footprint as recommended by the geologic report, retaining most of the oversized lot in open space. The design situated on the north end of the lot provides privacy and distance for the home to the west.
- (e) Adjacent rights-of-way have sufficient width for utility placement or other public purpose. Neither Hemlock nor Center Streets will be affected in terms of traffic, utility access, or other public purpose.
- (f) The setback reduction will not create traffic hazards; or impinge on a public walkway or trail. The parking lot east of the Hemlock right-of-way is a popular access for Center Street.

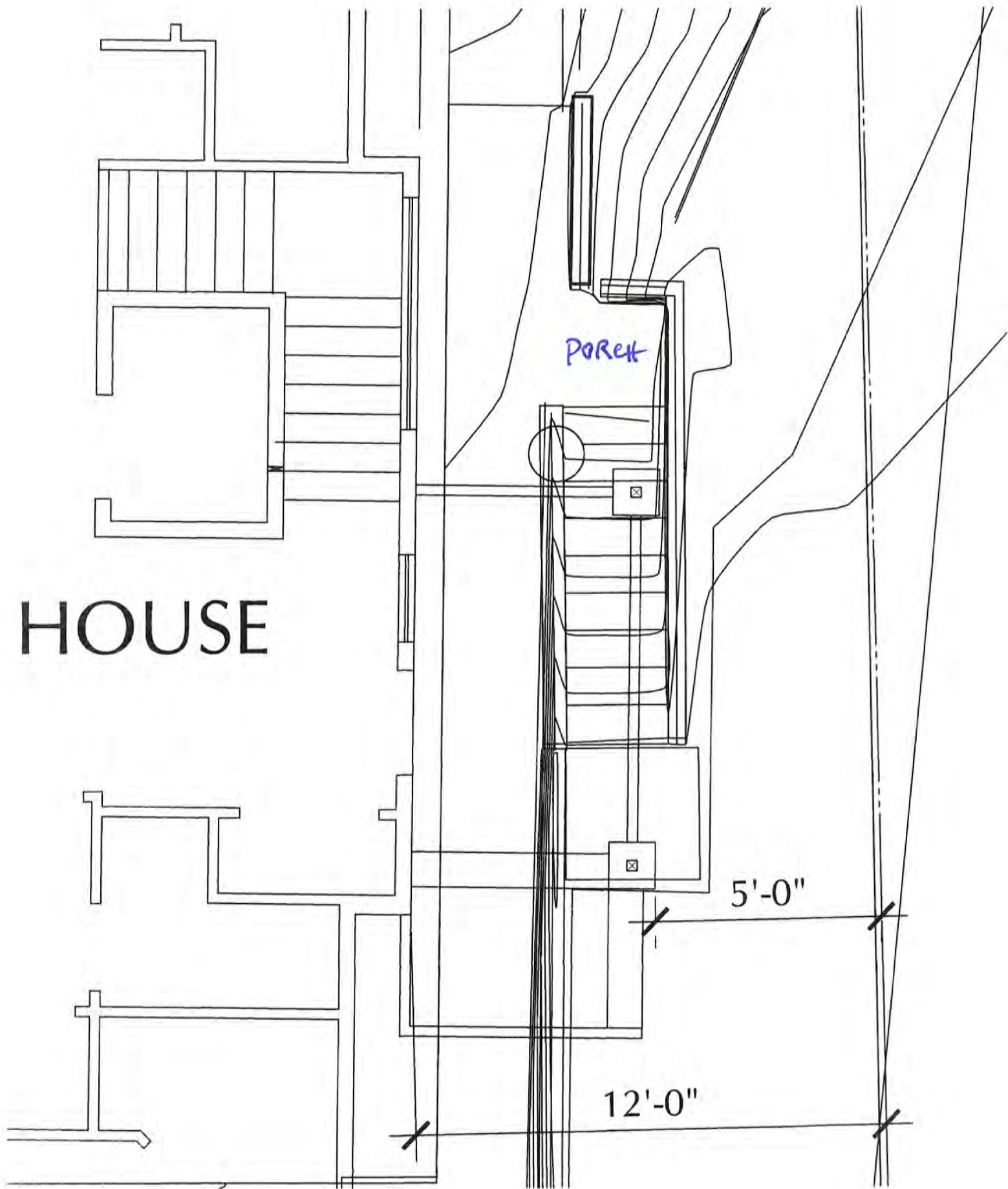
Conclusion

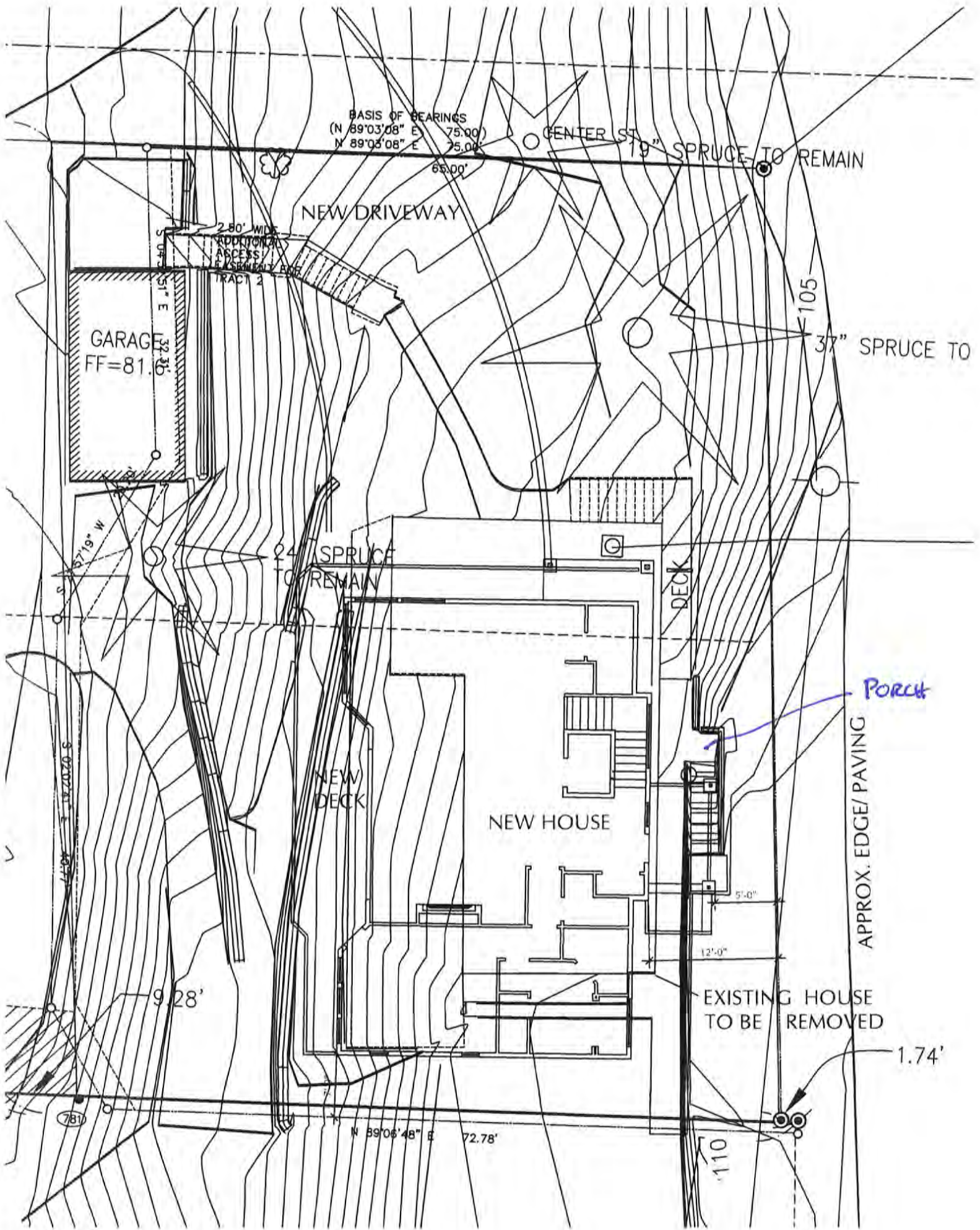
It is the applicant's opinion that the setback reduction meets the criteria of the zoning code, and should be approved.



SITE SECTION

HOUSE





BASIS OF BEARINGS
(N 89°03'08" E 75.00')
(N 89°03'08" E 75.00')

CENTER ST 19" SPRUCE TO REMAIN

NEW DRIVEWAY

2.50' WIDE
ADDITIONAL
ACCESS
TO SEWER

TRACT 2

GARAGE
FF=81.0

37" SPRUCE TO

24" SPRUCE
TO REMAIN

DECK

PORCH

NEW DECK

NEW HOUSE

EXISTING HOUSE
TO BE REMOVED

APPROX. EDGE/PAVING

1.74'

N 89°08'48" E 72.78'

110

Proposed Findings of Fact Taylor Setback Reduction Request 1/30/23

1. Description: The owners of the property, Jeff and Miriam Taylor, propose to replace an existing house at 1956 S. Hemlock St. with a new retirement home. The proposed dwelling would be built essentially on the footprint of the existing house, which was built in 1969 and is 1,333 square feet. The existing house was built into the 15-foot setback along with a retaining wall and set of concrete steps for access. The existing house does not comply with the 15 foot setback as it was built prior to zoning requirements were adopted. At the south end the house is 12.5 feet from the property line and on the north end the house is 11.5 feet from the property line. On the new house, a portion of the new structure, a small porch of approximately 84 square feet, would, if approved, extend into the setback a distance of 10'. The purpose of the porch is emergency access. The structure consists of three levels, 1352 square feet on the top floor, 1327 square feet on the middle floor and 201 square feet on the bottom. In the event of fire the proposed exit would enable residents on the top floor to access Hemlock Street without going down to the bottom level. The south corner of the house meets the 15 foot side yard setback requirement, but because of the angle of the property the northeast corner is 11.5 feet from the property line. The concrete steps and retaining wall will remain, as recommended by the geologic report. The primary access for the house is on the north side, as shown on the attached site plan.
2. Description of the proposed building plans pertinent to the setback reduction request: The porch is small, at 84 square feet. The total square footage of the new house is 3,432, although the livable area is 2880 square feet excluding the garage and decks, porches, etc. The lot is 7201 square feet. The floor area ratio is 48%. Due to the steepness of the lot, the house will have three levels, with the garage at grade.
3. Justification of the setback reduction request:
 - (a) Total building coverage or lot coverage would be 24%. The lot is irregular in shape and is steep, over 30%. Therefore, the design is

- intended to keep the new structure on the footprint of the old house. This will utilize the existing retaining wall and the most stable portion of the lot.
- (b) Significant views of the ocean, mountains or similar features from nearby properties will not be obstructed any more than would occur if the proposed structure were located as required by the zoning district. The property to the east is a parking area used to access the ocean via Center Street, and the land east of that is the State Park. The impact on views will be the same regardless of whether the house meets the setback requirement or not. No adjacent homes will be affected.
 - (c) Solar access will not be impacted by the small intrusion into the east setback. The owners' lot extends to Center Street to the north, and contains two large Sitka Spruce trees which will remain.
 - (d) The request meets several of the criteria of the code: Rebuilding on the existing footprint will preserve two large Spruce trees, one to the north and one to the west. The house is positioned to preserve these trees and not damage the root systems. The owners could have designed the house on the northern portion of the lot which would have eliminated these trees, but have decided to preserve them. These trees are two of the largest multi-branched specimens in the area. In terms of avoidance of difficult topography, the lot is quite steep (30%), and has an unusual configuration. The design is intended to utilize the existing footprint as recommended by the geologic report, retaining most of the oversized lot in open space. Building on the south end of the lot provides privacy and distance from the home to the west.
 - (e) Adjacent rights-of-way have sufficient width for utility placement or other public purpose. Neither Hemlock nor Center Streets will be affected in terms of traffic, utility access, or other public purpose.
 - (f) The setback reduction will not create traffic hazards; or impinge on a public walkway or trail. The parking lot east of the Hemlock right-of-way is a popular access for Center Street.

In addition, the code allows a setback intrusion of three feet into a required yard if it is on the ground floor.

2. A covered entry to a dwelling may project not more than thirty-six inches into a required front yard, rear yard or street side yard where the entry provides access to the first story of the dwelling, as the term story is defined in the building code. The covered entry is limited to no more than ten feet in length and shall be completely open on all sides. The entry may be

accessed by no more than three risers. Covered entries and stairs may not project into a required ocean yard. Sec 17.90.070

While this is not access to the first story, and extends 10 feet into the setback, it serves the same purpose as the entry allowed by this exception.

Conclusion

It is the applicant's opinion that the setback reduction meets the criteria of the zoning code, and should be approved.



Location of east property line on Hemlock Street.



Approximate location (between planters) of east emergency access on Hemlock Street



CITY OF CANNON BEACH

February 3, 2023

SR 23-01, Mike Morgan, on behalf of Jeff and Miriam Taylor, application to allow a setback reduction to reduce the back yard setback from the required 15'0" to 5' in order to build a small porch of 72 square feet to be used as an emergency access. The property is located at 1956 S Hemlock. (Tax Lot 04300, Map 51030DD), and in a Residential Medium Density (R2) Zone. The request will be reviewed against the Municipal Code, Section 17.645.010, Setback Reduction, Provisions Established.

Dear Property Owner,

Cannon Beach Zoning Ordinance requires notification to property owners within 100 feet, measured from the exterior boundary, of any property which is the subject of the proposed applications. Your property is located within 100 feet of the above-referenced property or you are being notified as a party of record.

Please note that you may submit a statement either in writing or orally at the hearing, supporting or opposing the proposed action. Your statement should address the pertinent criteria, as stated in the hearing notice. Statements in writing must be received by the date of the hearing.

Enclosed are copies of the public hearing notice, a description of how public hearings are conducted and a map of the subject area. Should you need further information regarding the relevant Zoning Ordinance, Subdivision Ordinance or Comprehensive Plan criteria, please contact Cannon Beach City Hall at the address below, or call Emily Bare at (503) 436-8054 or email bare@ci.cannon-beach.or.us.

Sincerely,

Emily Bare
Administrative Assistant
Community Development

Enclosures: Notice of Hearing
 Conduct of Public Hearings
 Map of Subject Area

**NOTICE OF PUBLIC HEARING
CANNON BEACH PLANNING COMMISSION**

The Cannon Beach Planning Commission will hold a public hearing on **Thursday, February 23 at 6:00 p.m.** at City Hall, 163 E Gower Street, Cannon Beach, regarding the following:

CU 23-01, Joseph Gaon, on behalf of Stephen and Laurel Day, request for a Conditional Use Permit to allow for the placement of vegetated rip-rap for shoreline stabilization. The property is located at 3216 Pacific St in a Residential Moderate Density (R1) and Oceanfront Management Overlay (OM) zone. The request will be reviewed under Cannon Beach Municipal Code 17.12.030 Conditional Uses Permitted, 17.42.060 Specific Standards, and 17.80.230 & 360 Shoreline Stabilization & Preservation Grading.

SR 23-01, Mike Morgan, on behalf of Jeff and Miriam Taylor, application to allow a setback reduction to reduce the back yard setback from the required 15'0" to 5' in order to build a small porch of 72 square feet to be used as an emergency access. The property is located at 1956 S Hemlock. (Tax Lot 04300, Map 51030DD), and in a Residential Medium Density (R2) Zone. The request will be reviewed against the Municipal Code, Section 17.645.010, Setback Reduction, Provisions Established.

All interested parties are invited to attend the hearings and express their views. Statements will be accepted in writing or orally at the hearing. Failure to raise an issue at the public hearing, in person or by letter, or failure to provide statements or evidence sufficient to afford the decision maker an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals based on that issue.

Correspondence should be mailed to the Cannon Beach Planning Commission, Attn. Community Development, PO Box 368, Cannon Beach, OR 97110 or via email at planning@ci.cannon-beach.or.us. Written testimony received one week prior to the hearing will be included in the Planning Commissioner's meeting materials and allow adequate time for review. Materials and relevant criteria are available for review at Cannon Beach City Hall, 163 East Gower Street, Cannon Beach, or may be obtained at a reasonable cost. Staff reports are available for inspection at no cost or may be obtained at a reasonable cost seven days prior to the hearing. Questions regarding the applications may be directed to Jeffrey Adams, 503-436-8040, or at adams@ci.cannon-beach.or.us.

The Planning Commission reserves the right to continue the hearing to another date and time. If the hearing is continued, no further public notice will be provided. The hearings are accessible to the disabled. Contact City Manager, the ADA Compliance Coordinator, at (503) 436-8050, if you need any special accommodations to attend or to participate in the meeting. TTY (503) 436-8097. Publications may be available in alternate formats and the meeting is accessible to the disabled.



Jeffrey S. Adams, PhD
Director of Community Development

Posted/Mailed: February 3, 2023

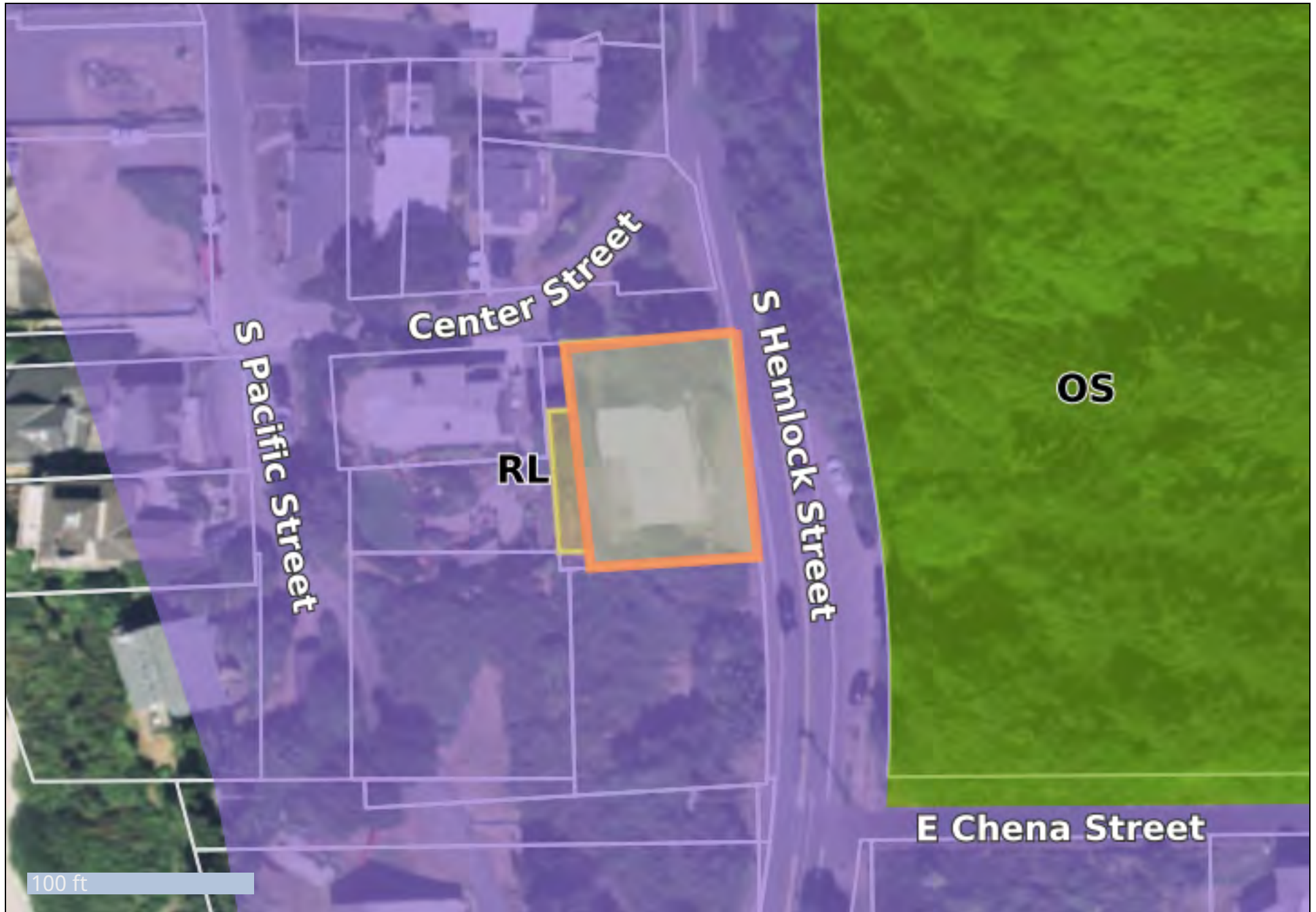
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NOTICE TO MORTGAGEE, LIEN-HOLDER, VENDOR OR SELLER:
PLEASE PROMPTLY FORWARD THIS NOTICE TO THE PURCHASER

**CONDUCT OF PUBLIC HEARINGS BEFORE
CANNON BEACH CITY COUNCIL and PLANNING COMMISSION**

- A. At the start of the public hearing, the Mayor or Planning Commission Chair will ask the following questions to ensure that the public hearing is held in an impartial manner:
1. Whether there is a challenge to the jurisdiction of the City Council or Planning Commission to hear the matter;
 2. Whether there are any conflicts of interest or personal biases to be declared by a Councilor or Planning Commissioner;
 3. Whether any member of the Council or Planning Commission has had any ex parte contacts.
- B. Next, the Mayor or Planning Commission Chair will make a statement which:
1. Indicates the criteria which apply to the action;
 2. Cautions those who wish to testify that their comments must be related to the applicable criteria or other criteria in the Comprehensive Plan or Municipal Code that the person testifying believes apply;
 3. States that failure to raise an issue in a hearing, or failure to provide statements or evidence sufficient to afford the decision makers an opportunity to respond to the issue precludes appeal based on that issue;
 4. Prior to the conclusion of the initial evidentiary hearing, any participant may request an opportunity to present additional evidence or testimony regarding the application. The City Council or Planning Commission shall grant such request by continuing the public hearing or leaving the record open for additional written evidence or testimony.
- C. The public participation portion of the hearing will then proceed as follows:
1. Staff will summarize the staff report to the extent necessary to enable those present to understand the issues before the Council or Planning Commission.
 2. The Councilors or Planning Commissioners may then ask questions of staff.
 3. The Mayor or Planning Commission Chair will ask the applicant or a representative for any presentation.
 4. The Mayor or Planning Commission Chair will ask for testimony from any other proponents of the proposal.
 5. The Mayor or Planning Commission Chair will ask for testimony from any opponents of the proposal.
 6. Staff will be given an opportunity to make concluding comments or respond to additional questions from Councilors or Planning Commissioners.
 7. The Mayor or Planning Commission Chair will give the applicant and other proponents an opportunity to rebut any testimony of the opponents.
 8. Unless continued, the hearing will be closed to all testimony. The Council or Planning Commission will discuss the issue among themselves. They will then either make a decision at that time or continue the public hearing until a specified time.

NOTE: Any person offering testimony must first state their name, residence, and **mailing address** for the record. If representing someone else, the speaker must state whom he represents.



TAXLOTKEY	SITUS_ADDR	OWNER_LINE	STREET_ADD	PO_BOX	CITY	STATE	ZIP_CODE
51030DD04300	1956 S Hemlock St	Taylor Jeffery	2005 W Huntsville St		Broken Arrow	OK	74011
51030DD04302	1980 S Hemlock St	Wicher Donna C	PO Box 1938	1938	North Plains	OR	97133-1938
51030DD04200	1927 Pacific St	Clarke Leslie F/Valarie L	7900 NW North Vale Way		Portland	OR	97225
51030DD04205	108 Center St	Horner Trust Partnership	15778 NW Clubhouse Dr		Portland	OR	97229
51030DD04701		Oregon Parks and Recreation Dept	725 Summer St #C		Salem	OR	97301
51030DD04400	1963 Pacific St	Silvester Family Trust	PO Box 1385	1385	Cannon Beach	OR	97110
51030DD04600	159 Center St	Silvester Family Trust	PO Box 1385	1385	Cannon Beach	OR	97110
51030DD04203	1939 Pacific St	Kelley Tamara L fna	924 SW Palatine St		Portland	OR	97219-7638
51030DD04500		Neupert K J Beach House Trust	4075 SW Charming Way		Portland	OR	97225
51030DD04202	1935 S Pacific St	Chambers Beachhouses LLC	9250 W Bay Harbor Dr #7C		Bay Harbor Island	FL	33154
51031AA07800		Haystack Rock LLC	4332 SW Semler Way		Portland	OR	97221
51030DD08900		Neupert Beach House Trust	4075 SW Charming Way		Portland	OR	97225
51031AA07700		Haystack Rock LLC	4332 SW Semler Way		Portland	OR	97221
51030DD04301		Taylor Jeffery	2005 W Huntsville St		Broken Arrow	OK	74011



CITY OF CANNON BEACH

February 22, 2023

The City of Cannon Beach Public Works department is asking that the Planning Commission please deny the setback reduction request submitted for 1956 S. Hemlock Street.

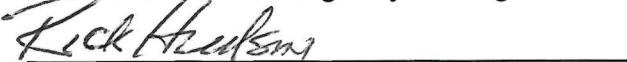
Over the past year, Windsor Engineering has worked with the Public Works department to design and engineer the plan for the construction to install seismic valves on each of our drinking water reservoir's as well as placing them in strategic locations within town. These valves will allow the water system to detect seismic activity and automatically shut off the valves on our reservoirs to save the loss of our drinking water supply should we experience any type of seismic activity. The area along south Hemlock where this address is located has been identified for the positioning and constructing of one of the seismic valves. By allowing this setback reduction, it will restrict access and limit the area of our right-of-way for the city's ability to complete this critical project.

Public Works is asking the Planning Commission to deny this request based on this critical project.

Karen La Bonte – Director, Public Works



Rick Hudson – Emergency Manager



Marc Reckmann – Fire Chief



